TEST REPORT

Applicant:	HNC ELECTRIC LIMITED
Address of Applicant:	Unit 04, 7/F., Bright Way Tower, No. 33 Mong Kok Road.Kl, Hongkong

Equipment Under Test (EUT)

Product Name:	FREQUENCY INVERTER
Brand Name:	HNC Electric
Model No.:	Please refer to page 6
Applicable standards:	EN 61800-3:2004+A1:2012
Date of sample receipt:	September 10, 2019
Date of Test:	September 10, 2019 To September 20, 2019
Date of report issued:	September 20, 2019
Test Result :	PASS*

*In the configuration tested, the EUT complied with the standards specified above.

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

Authorized Signature

Kevin Wang
Laboratory Manager

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

2 Version

Version No.	Date	Description
00	*September 20, 2019*	*Original*

Prepared By: Gary Wang ***Date:*** *September 20, 2019*

Project Engineer

Reviewed By: Kevin Wang ***Date:*** *September 20, 2019*

Reviewer

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

3 Contents

Page

1 COVER PAGE 1
2 VERSION 2
3 CONTENTS 3
4 TEST SUMMARY 4
5 GENERAL INFORMATION 5
5.1 CLIENT INFORMATION 5
5.2 GENERAL DESCRIPTION OF E.U.T 5
5.3 TEST MODE AND TEST VOLTAGE 5
5.4 DESCRIPTION OF SUPPORT UNITS 5
5.5 DEVIATION FROM STANDARDS 5
5.6 ABNORMALITIES FROM STANDARD CONDITIONS 5
5.7 MONITORING OF EUT FOR ALL IMMUNITY TEST 5
6 TEST INSTRUMENTS LIST 6
7 EMISSION TEST RESULTS 9
7.1 RADIATED EMISSION 9
7.2 CONDUCTED EMISSION 12
8 IMMUNITY TEST RESULTS 16
8.1 PERFORMANCE CRITERIA DESCRIPTION IN EN 61800-3 16
8.2 ELECTROSTATIC DISCHARGE 17
8.3 RADIATED IMMUNITY 19
8.4 ELECTRICAL FAST TRANSIENTS 21
8.5 SURGES 23
8.6 CONDUCTED IMMUNITY 25
9 PHOTOGRAPHS OF THE EUT 27

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

4 Test Summary

Test Item	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission	EN 61800-3	CISPR 11	Table 15	PASS
Conducted Emission	EN 61800-3	CISPR 11	Table 14	PASS
Electrostatic discharges	EN 61800-3	EN 61000-4-2	Contact ±4 kV Air ±8 kV	PASS
Radiated Immunity	EN 61800-3	EN 61000-4-3	10V/m, 80%, 1kHz Amp. Mod.	PASS
Electrical Fast Transients	EN 61800-3	EN 61000-4- 4	±2.0kV	PASS
Surges	EN 61800-3	EN 61000-4-5	1kV Line to Line 2kV Line to Ground	PASS
Conducted Immunity	EN 61800-3	EN 61000-4-6	10Vrms (emf), 80%, 1kHz Amp. Mod.	PASS

Remark:
Pass: Comply with the essential requirements in the standard.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

5 General Information

5.1 Client Information

Applicant:	HNC ELECTRIC LIMITED
Address of Applicant:	Unit 04, 7/F., Bright Way Tower, No. 33 Mong Kok Road.Kl, Hongkong
Manufacturer:	HNC ELECTRIC LIMITED
Address of Manufacturer:	Unit 04, 7/F., Bright Way Tower, No. 33 Mong Kok Road.Kl, Hongkong

5.2 General Description of E.U.T

Product Name:	FREQUENCY INVERTER
Brand Name:	HNC Electric
Model No.:	Please refer to page 6
Test Model No.:	HV480-1R5G3x
Power Supply:	Input :AC 380V 50Hz/60Hz Output :AC 380V 3.8A

5.3 Test mode and Test Voltage

On mode:	Keep the EUT in the operation status.
Test Voltage:	AC 380V, 50Hz

5.4 Description of Support Units

None.

5.5 Deviation from Standards

None.

5.6 Abnormalities from Standard Conditions

None.

5.7 Monitoring of EUT for All Immunity Test

Visual:	Monitor the EUT operating status.
Audio:	N/A

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Model No:

HV480-1R5G3	HV480-1R5G3x	HV480−R40G1x	HV480−R75G1x	HV480−1R5G1x
HV480−2R2G1x	HV480−R40G2x	HV480−R75G2x	HV480−1R5G2x	HV480−2R2G2x
HV480-004G2x	HV480-5R5G2x	HV480-7R5G2x	HV480-011G2x	HV480-015G2x
HV480-018G2x	HV480-022G2x	HV480-030G2x	HV480-037G2x	HV480-045G2x
HV480-055G2x	HV480-075G2x	HV480-093G2x	HV480-110G2x	HV480−R40G3x
HV480−R75G3x	HV480-2R2G3x	HV480-004G3x	HV480-5R5G3x	HV480-7R5G3x
HV480-011G3x	HV480-015G3x	HV480-018G3x	HV480-022G3x	HV480-030G3x
HV480-037G3x	HV480-045G3x	HV480-055G3x	HV480-075G3x	HV480-093G3x
HV480-110G3x	HV480-132G3x	HV480-160G3x	HV480-185G3x	HV480-200G3x
HV480-220G3x	HV480-250G3x	HV480-280G3x	HV480-315G3x	HV480-355G3x
HV480-400G3x	HV480-450G3x	HV480-500G3x	HV480-560G3x	HV480-630G3x
HV480−R40G4x	HV480−R75G4x	HV480-1R5G4x	HV480-2R2G4x	HV480-004G4x
HV480-5R5G4x	HV480-7R5G4x	HV480-011G4x	HV480-015G4x	HV480-018G4x
HV480-022G4x	HV480-030G4x	HV480-037G4x	HV480-045G4x	HV480-055G4x
HV480-075G4x	HV480-093G4x	HV480-110G4x	HV480-132G4x	HV480-160G4x
HV480-185G4x	HV480-200G4x	HV480-220G4x	HV480-250G4x	HV480-280G4x
HV480-315G4x	HV480-355G4x	HV480-400G4x	HV480-450G4x	HV480-500G4x
HV480-560G4x				
HV480-630G4x	HV480x−R40G1x	HV480x−R75G1x	HV480x−1R5G1x	HV480x−2R2G1x
HV480x−R40G2x	HV480x−R75G2x	HV480x−1R5G2x	HV480x−2R2G2x	HV480x-004G2x
HV480x-5R5G2x	HV480x-7R5G2x	HV480x-011G2x	HV480x-015G2x	HV480x-018G2x
HV480x-022G2x	HV480x-030G2x	HV480x-037G2x	HV480x-045G2x	HV480x-055G2x
HV480x-075G2x	HV480x-093G2x	HV480x-110G2x	HV480x−R40G3x	HV480x−R75G3x
HV480x-1R5G3x	HV480x-2R2G3x	HV480x-004G3x	HV480x-5R5G3x	HV480x-7R5G3x
HV480x-011G3x	HV480x-015G3x	HV480x-018G3x	HV480x-022G3x	HV480x-030G3x
HV480x-037G3x	HV480x-045G3x	HV480x-055G3x	HV480x-075G3x	HV480x-093G3x
HV480x-110G3x	HV480x-132G3x	HV480x-160G3x	HV480x-185G3x	HV480x-200G3x
HV480x-220G3x	HV480x-250G3x	HV480x-280G3x	HV480x-315G3x	HV480x-355G3x
HV480x-400G3x	HV480x-450G3x	HV480x-500G3x	HV480x-560G3x	HV480x-630G3x
HV480x−R40G4x	HV480x−R75G4x	HV480x-1R5G4x	HV480x-2R2G4x	HV480x-004G4x
HV480x-5R5G4x	HV480x-7R5G4x	HV480x-011G4x	HV480x-015G4x	HV480x-018G4x
HV480x-022G4x	HV480x-030G4x	HV480x-037G4x	HV480x-045G4x	HV480x-055G4x
HV480x-075G4x	HV480x-093G4x	HV480x-110G4x	HV480x-132G4x	HV480x-160G4x
HV480x-185G4x	HV480x-200G4x	HV480x-220G4x	HV480x-250G4x	HV480x-280G4x
HV480x-315G4x	HV480x-355G4x	HV480x-400G4x	HV480x-450G4x	HV480x-500G4x
HV480x-560G4x	HV480x-630G4x			
(Note: suffix x in HV610x = A~Z(including 26 letters);All models are suffix x= A~Z(including 26 letters), or x is blank)				
Remark: All models are identical in the same PCB layout, interior structure and electrical circuits. The only differences are the model name and appearance color for commercial purpose				

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

6 Test Instruments List

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	Jul. 3 2015	Jul. 2 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	Jun. 24 2019	Jun. 23 2020
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	Jun. 24 2019	Jun. 23 2020
5	Double-ridged horn antenna	SCHWARZBECK	9120D	GTS208	Jun. 24 2019	Jun. 23 2020
6	RF Amplifier	HP	8347A	GTS204	Jun. 24 2019	Jun. 23 2020
7	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	Jun. 24 2019	Jun. 23 2020
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial cable	GTS	N/A	GTS210	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS211	N/A	N/A
11	Thermo meter	KTJ	TA328	GTS256	Jun. 24 2019	Jun. 23 2020

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2015	May.15 2020
2	EMI Test Receiver	R&S	ESCI 7	GTS552	Jun. 24 2019	Jun. 23 2020
3	Pulse Limiter	R&S	ESH3-Z2	GTS224	Jun. 24 2019	Jun. 23 2020
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jun. 24 2019	Jun. 23 2020
5	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	Jun. 24 2019	Jun. 23 2020
6	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Thermo meter	KTJ	TA328	GTS233	Jun. 24 2019	Jun. 23 2020
9	ISN	EMTEST	FCC-TLISN-T8-02	GTS563	Jun. 24 2019	Jun. 23 2020

EFT, Surge:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	EMTEST system	EMTEST	UCS500N	GTS239	Jun. 24 2019	Jun. 23 2020
2	Thermo meter	KTJ	TA328	GTS233	Jun. 24 2019	Jun. 23 2020
3	capacitive Clamp	EMTEST	HFK	GTS557	Jun. 24 2019	Jun. 23 2020

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

ESD:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	ESD Simulator	KIKUSUI	KES4021A	GTS242	Jun. 24 2019	Jun. 23 2019
2	Thermo meter	KTJ	TA328	GTS243	Jun. 24 2019	Jun. 23 2019

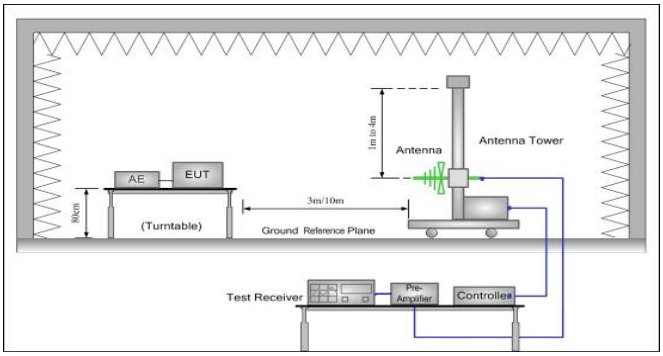
Conducted Immunity:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Signal Generator	SCHLODER	CDG-6000-25	GTS553	Jun. 24 2019	Jun. 23 2020
2	CDN	SCHLODER	CDN-M2+3	GTS554	Jun. 24 2019	Jun. 23 2020
3	EM-Clapm	SCHLODER	EMCL-20	GTS555	Jun. 24 2019	Jun. 23 2020
4	ATT	SCHLODER	ATT-6DB-100	GTS556	Jun. 24 2019	Jun. 23 2020

Radiated Immunity:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Signal Generator	Rohde & Schwarz	SMT03	100059	Jan. 16 2019	Jan. 15 2020
2	Power Amplifier	AR	150W1000	300999	Jan. 16 2019	Jan. 15 2020
3	Power Amplifier	AR	25S1G4AM1	305993	Jan. 16 2019	Jan. 15 2020
4	Power Amplifier	AR	150A220M6	305965	Jan. 16 2019	Jan. 15 2020
5	Broadband antenna	CHASE	CBL6111C	2576	Jan. 16 2019	Jan. 15 2020
6	Horn Antenna	AR	AT4002A	2783	Jan. 16 2019	Jan. 15 2020

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

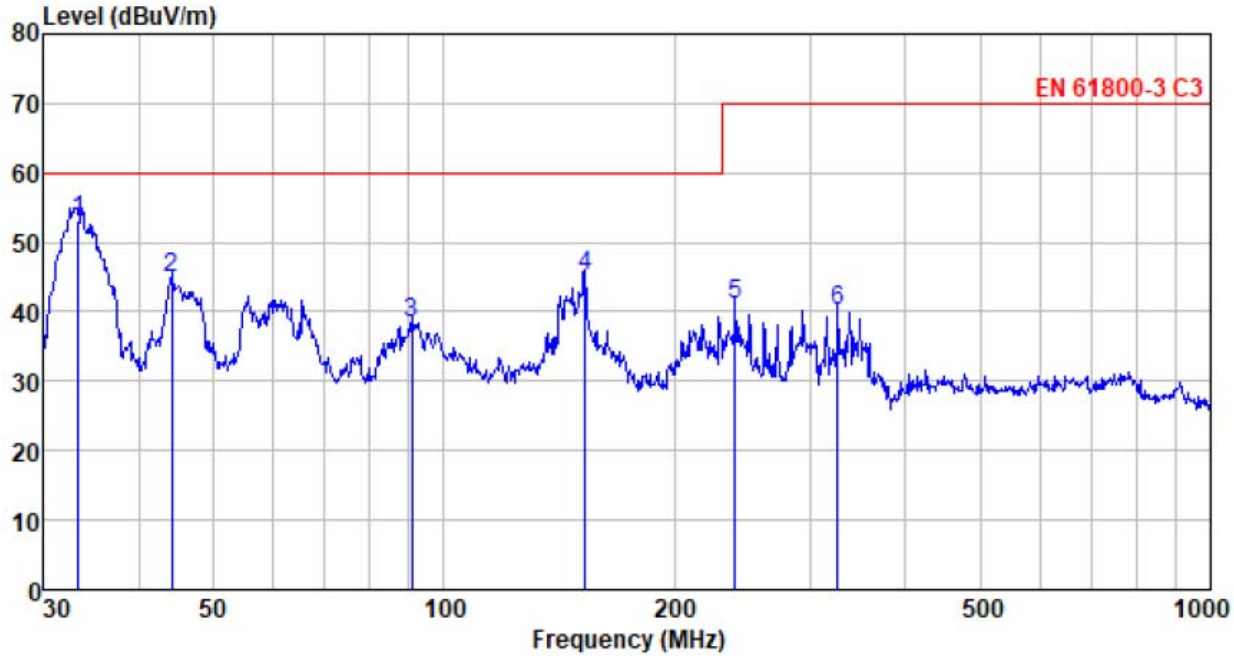
7 Emission Test Results

7.1 Radiated Emission

Test Requirement:	EN 61800-3
Test Method:	CISPR 11
Test Frequency Range:	30MHz to 1GHz
Measurement Distance:	3 m
Limit:	Frequency / Limit (dBμV/m) / Value 30MHz-230MHz / 60.00 / Quasi-peak 230MHz-1GHz / 70.00 / Quasi-peak
Test setup:	
Test Procedure:	1. The radiated emissions test was conducted in a semi-anechoic chamber. 2. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation. 3. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT. 4. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1 012mbar
Measurement Record:	**Uncertainty: ± 4.50dB**
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Measurement Data
Horizontal

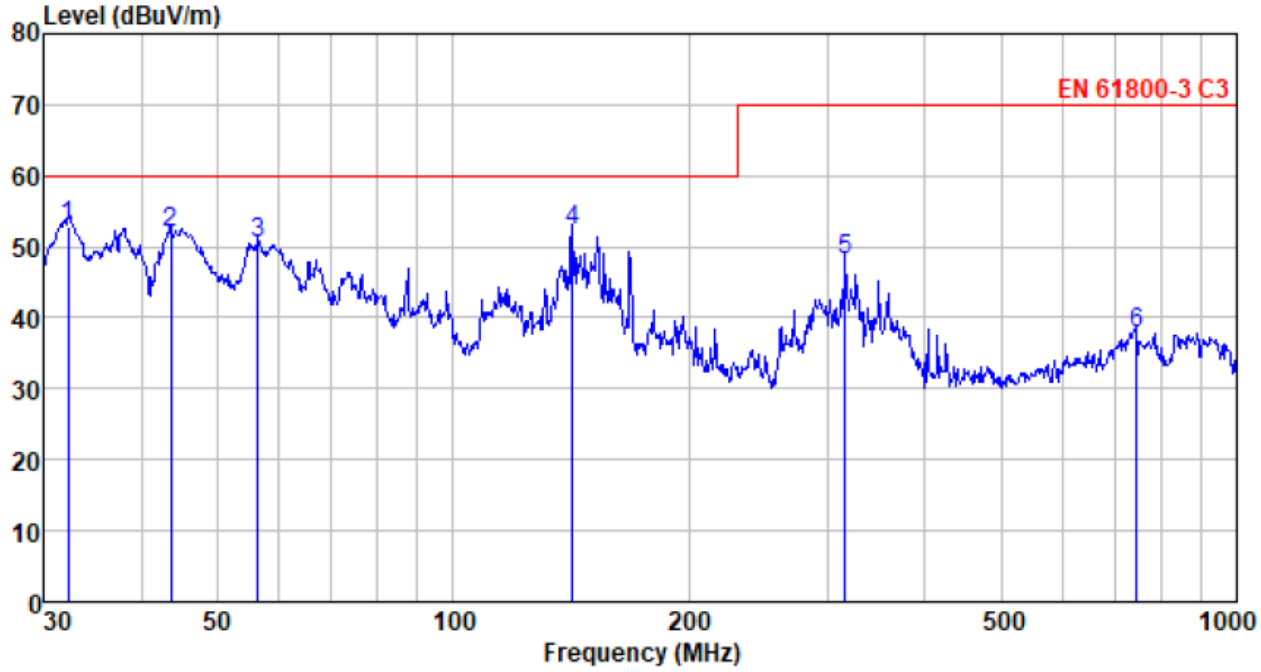


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
33.328	76.40	11.27	0.59	35.24	53.02	60.00	-6.98	QP
44.120	67.95	12.24	0.71	35.89	45.01	60.00	-14.99	QP
90.855	63.00	10.84	1.12	36.65	38.31	60.00	-21.69	QP
152.664	72.78	7.80	1.59	37.09	45.08	60.00	-14.92	QP
239.987	64.44	11.85	2.07	37.37	40.99	70.00	-29.01	QP
326.740	61.07	14.12	2.50	37.45	40.24	70.00	-29.76	QP

Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Vertical

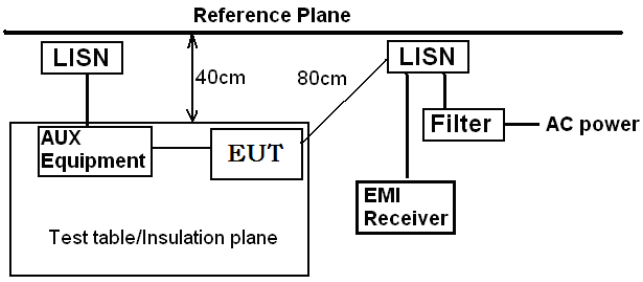


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
32.293	76.13	11.25	0.58	35.17	52.79	60.00	-7.21	QP
43.659	74.96	12.24	0.70	35.87	52.03	60.00	-7.97	QP
56.395	74.23	11.65	0.83	36.27	50.44	60.00	-9.56	QP
141.826	80.30	7.43	1.52	37.03	52.22	60.00	-7.78	QP
316.589	69.21	13.93	2.45	37.44	48.15	70.00	-21.85	QP
744.866	50.76	20.41	4.26	37.63	37.80	70.00	-32.20	QP

Remarks: level = Reading level + Antenna factor + Cable loss - Preamp Factor

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

7.2 Conducted Emission

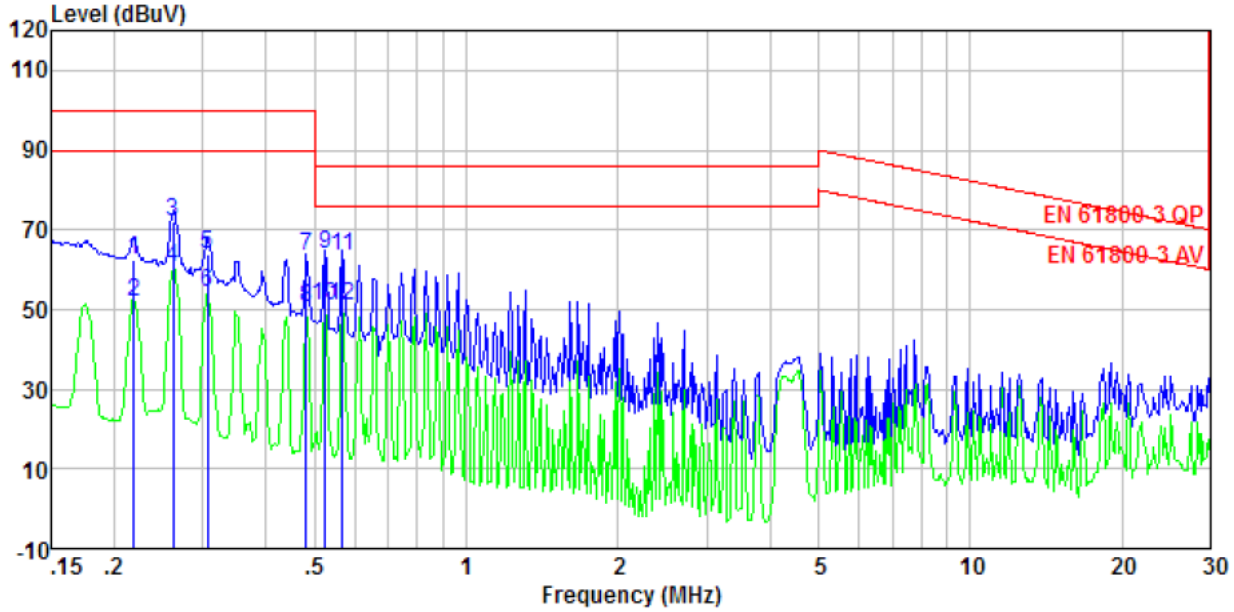
<table>
<tr><td>Test Requirement:</td><td colspan="3">EN 61800-3</td></tr>
<tr><td>Test Method:</td><td colspan="3">CISPR 11</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="3">150kHz to 30MHz</td></tr>
<tr><td>Limit:</td><td colspan="3">
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBμV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15 - 0.50</td><td>100</td><td>90</td></tr>
<tr><td>0.50 - 5</td><td>86</td><td>76</td></tr>
<tr><td>5 - 30</td><td>90
Decreases with log of frequency down to 70</td><td>80
Decreases with log of frequency down to 60</td></tr>
</table>
NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 5MHz to 30MHz.
</td></tr>
<tr><td>Test setup:</td><td colspan="3">

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test procedure:</td><td colspan="3">3. The EUT was placed 0.4 meters from the conducting wall of shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). The LISN provide 50Ω/50μH of coupling impedance for the measuring instrument.
4. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
5. The frequency range from 150 kHz to 30MHz was searched. Emission levels over 10dB under the prescribed limits are not reported.</td></tr>
<tr><td>Test environment:</td><td>Temp.: 24 °C</td><td>Humid.: 51%</td><td>Press.: 1012mbar</td></tr>
<tr><td>Measurement Record:</td><td colspan="3">Uncertainty: ±3.45dB</td></tr>
<tr><td>Test Instruments:</td><td colspan="3">Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td colspan="3">Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td colspan="3">Pass</td></tr>
</table>

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Measurement Data

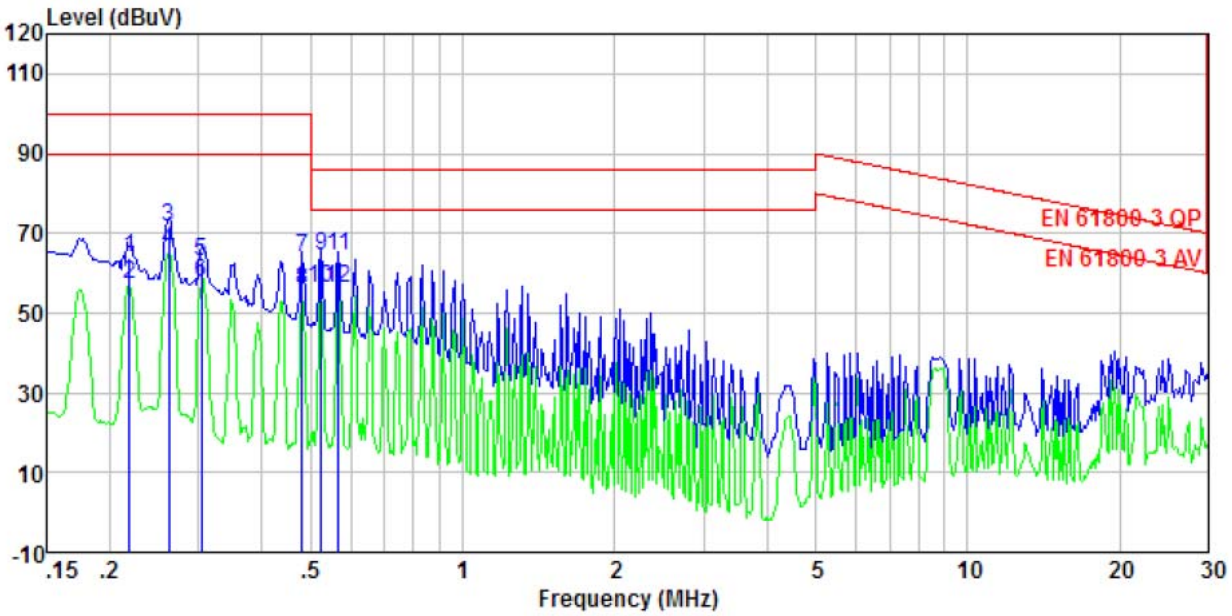
L1:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.22	61.74	0.40	0.11	62.25	100.00	-37.75	QP
0.22	51.61	0.40	0.11	52.12	90.00	-37.88	Average
0.26	71.67	0.40	0.10	72.17	100.00	-27.83	QP
0.26	60.14	0.40	0.10	60.64	90.00	-29.36	Average
0.31	63.40	0.40	0.10	63.90	100.00	-36.10	QP
0.31	53.60	0.40	0.10	54.10	90.00	-35.90	Average
0.48	62.97	0.32	0.11	63.40	100.00	-36.60	QP
0.48	49.78	0.32	0.11	50.21	90.00	-39.79	Average
0.52	63.36	0.31	0.11	63.78	86.00	-22.22	QP
0.52	50.40	0.31	0.11	50.82	76.00	-25.18	Average
0.57	63.17	0.29	0.12	63.58	86.00	-22.42	QP
0.57	50.68	0.29	0.12	51.09	76.00	-24.91	Average

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

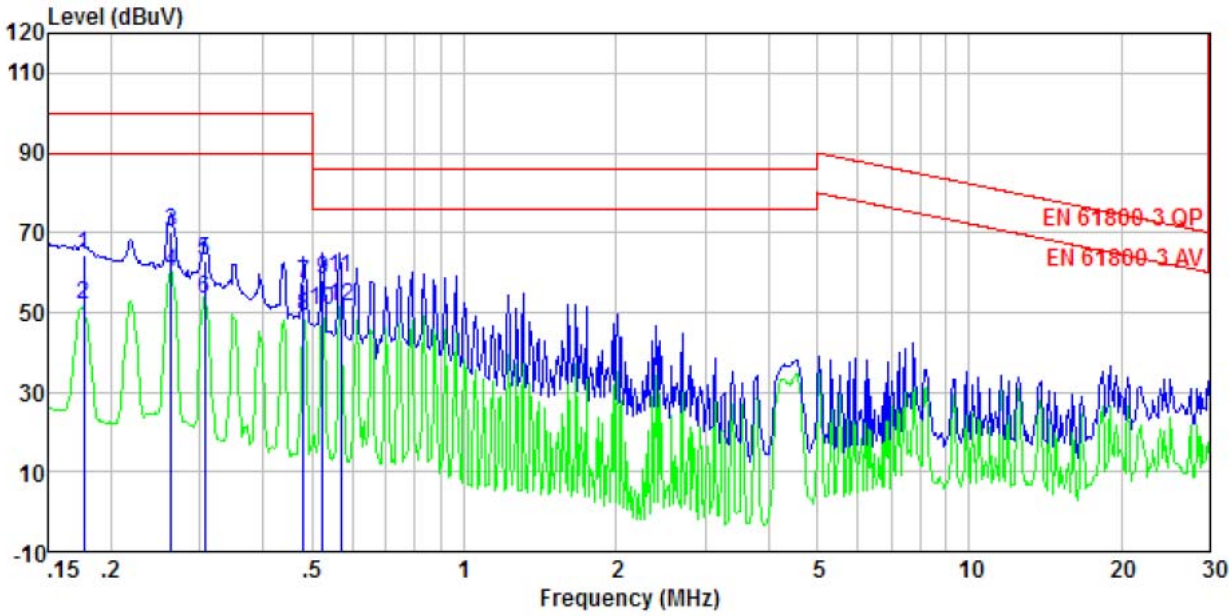
L2:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.22	63.24	0.40	0.11	63.75	100.00	-36.25	QP
0.22	56.58	0.40	0.11	57.09	90.00	-32.91	Average
0.26	71.04	0.40	0.10	71.54	100.00	-28.46	QP
0.26	65.35	0.40	0.10	65.85	90.00	-24.15	Average
0.30	62.42	0.40	0.10	62.92	100.00	-37.08	QP
0.30	56.93	0.40	0.10	57.43	90.00	-32.57	Average
0.48	63.36	0.32	0.11	63.79	100.00	-36.21	QP
0.48	55.41	0.32	0.11	55.84	90.00	-34.16	Average
0.52	64.13	0.31	0.11	64.55	86.00	-21.45	QP
0.52	55.91	0.31	0.11	56.33	76.00	-19.67	Average
0.57	64.01	0.29	0.12	64.42	86.00	-21.58	QP
0.57	55.93	0.29	0.12	56.34	76.00	-19.66	Average

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

L3:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.18	63.77	0.40	0.09	64.26	100.00	-35.74	QP
0.18	51.37	0.40	0.09	51.86	90.00	-38.14	Average
0.26	69.49	0.40	0.10	69.99	100.00	-30.01	QP
0.26	59.41	0.40	0.10	59.91	90.00	-30.09	Average
0.31	62.38	0.40	0.10	62.88	100.00	-37.12	QP
0.31	52.68	0.40	0.10	53.18	90.00	-36.82	Average
0.48	56.81	0.32	0.11	57.24	100.00	-42.76	QP
0.48	48.51	0.32	0.11	48.94	90.00	-41.06	Average
0.52	57.68	0.31	0.11	58.10	86.00	-27.90	QP
0.52	49.82	0.31	0.11	50.24	76.00	-25.76	Average
0.57	58.12	0.29	0.12	58.53	86.00	-27.47	QP
0.57	50.83	0.29	0.12	51.24	76.00	-24.76	Average

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

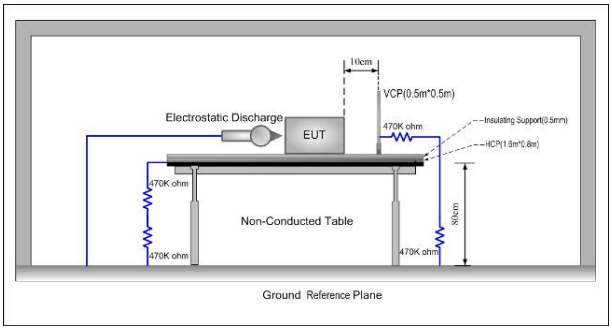
8 Immunity Test Results

8.1 Performance Criteria Description in EN 61800-3

Criterion A:	The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
Criterion B:	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
Criterion C:	Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

8.2 Electrostatic Discharge

Test Requirement:	EN 61800-3
Test Method:	EN 61000-4-2
Discharge Voltage:	Contact Discharge:±4kV Air Discharge: ±8kV HCP/VCP:±4kV
Polarity:	Positive & Negative
Number of Discharge:	Minimum 10 times at each test point.
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum
Performance Criterion:	B
Test setup:	
Test Procedure:	**1. Air discharge:** The test was applied on non-conductive surfaces of EUT. The round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT. After each discharge, the discharge electrode was removed from the EUT. The generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure was repeated until all the air discharge completed **2. Contact Discharge:** The test was applied on conductive surfaces of EUT. the generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. the tip of the discharge electrode was touch the EUT before the discharge switch was operated. **3. Indirect discharge for horizontal coupling plane** At least 10 single discharges shall be applied at the front edge of each HCP opposite the centre point of each unit of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge. Consideration should be given to exposing all sides of the EUT. **4. Indirect discharge for vertical coupling plane** At least 10 single discharges were applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

	0.5m, was placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges were applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.		
Test environment:	Temp.: 24 °C	Humid.: 51%	Press.: 1012mbar
Test mode:	Refer to section 6 for details		
Test Instruments:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Record:

Test points:	I: N/A
	II: Seams, Knob, Display

Direct discharge

Discharge Voltage (KV)	**Type of discharge**	**Test points**	Observations **(Performance Criterion)**	**Result**
± 4	Contact	I	N/A	N/A
± 8	Air	II	A	Pass

Indirect discharge

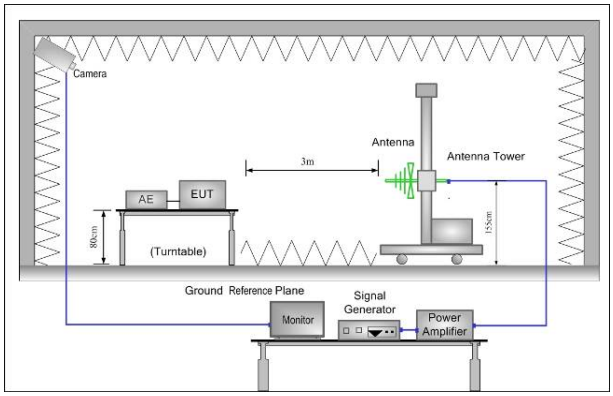
Discharge Voltage (KV)	**Type of discharge**	**Test points**	**Observation Performance**	**Result**
± 4	HCP-Bottom/Top/ Front/Back/Left/Right	Edge of the HCP	A	Pass
± 4	VCP-Front/Back /Left/Right	Center of the VCP	A	Pass

Remark:

A: No degradation in performance of the EUT was observed.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

8.3 Radiated Immunity

Test Requirement:	EN 61800-3
Test Method:	EN 61000-4-3
Frequency range:	80MHz to 1GHz
Test Level:	10V/m
Modulation:	80%, 1kHz Amplitude Modulation
Performance Criterion:	A
Test setup:	
Test Procedure:	1. For table-top equipment, the EUT was placed in the chamber on a non-conductive table 0.8m high. For arrangement of floor-standing equipment, the EUT was mounted on a non-conductive support 0.1m above the supporting plane. For human body-mounted equipment, the EUT may be tested in the same manner as table top items. 2. If possible, a minimum of 1 m of cable is exposed to the electromagnetic field. Excess length of cables interconnecting units of the EUT shall be bundled low-inductively in the approximate center of the cable to form a bundle 30 cm to 40 cm in length. 3. The EUT was initially placed with one face coincident with the calibration plane. The EUT face being illuminated was contained within the UFA (Uniform Field Area). 4. The frequency ranges to be considered were swept with the signal modulated and pausing to adjust the RF signal level or to switch oscillators and antennas as necessary. Were the frequency range was swept incrementally, the step size was not exceed 1 % of the preceding frequency value. 5. The dwell time of the amplitude modulated carrier at each frequency was not be less than the time necessary for the EUT to be exercised and to respond, and was not less than 0,5 s. 6. The test normally was performed with the generating antenna facing each side of the EUT. 7. The polarization of the field generated by each antenna necessitates testing each selected side twice, once with the antenna positioned vertically and again with the antenna positioned horizontally. 8. The EUT was performed in a configuration to actual installation

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

	conditions, a video camera and/or a audio monitor were used to monitor the performance of the EUT.		
Test environment:	Temp.: 25°C	Humid.: 52%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Record:

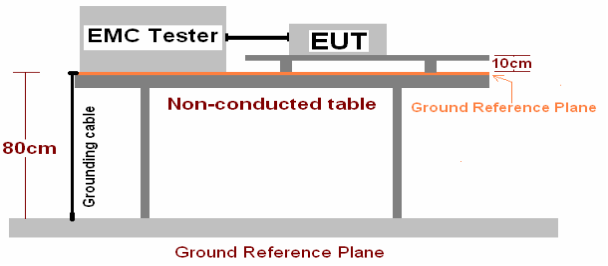
Frequency	Level (V/m)	EUT Face	Dwell time	Observations	Result
80MHz-1GHz	10	Front	2s	A	Pass
		Back		A	Pass
		Left		A	Pass
		Right		A	Pass
		Top		A	Pass
		Underside		A	Pass

Remarks:

A: No degradation in the performance of the E.U.T. was observed.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

8.4 Electrical Fast Transients

Test Requirement:	EN 618000-3		
Test Method:	EN 61000-4-4		
Test Level:	a.c. power port – 2 kV, Control lines – 1 kV		
Polarity:	Positive & Negative		
Repetition Frequency:	5kHz		
Burst Period:	300ms		
Test Duration:	2 minute per level & polarity		
Performance Criterion:	B		
Test setup:			
Test Procedure:	1. The EUT was tested with 1000 volt discharges to the AC power input leads. 2. Both positive and negative polarity discharges were applied. 3. The length of the “hot wire” from the coaxial output of the EFT generator to the terminals on the EUT should not exceed 1 meter. 4. The duration time of each test sequential was 1 minute. 5. The transient/burst waveform was in accordance with IEC 61000-4-4, 5/50ns.		
Test environment:	Temp.: 26 °C	Humid.: 54%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant’s information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Measurement Record:

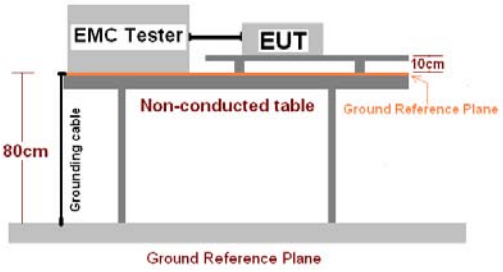
Lead under Test	Level (kV)	Coupling Direct/Clamp	Observations (Performance Criterion)	Result
L1	± 2.0	Direct	A	Pass
L2	± 2.0	Direct	A	Pass
L3	± 2.0	Direct	A	Pass
PE	± 2.0	Direct	A	Pass
L1+PE	± 2.0	Direct	A	Pass
L123	± 2.0	Direct	A	Pass
L123+PE	± 2.0	Direct	A	Pass
Control Lines	± 1.0	Clamp	A	Pass

Remark:

A: No degradation in the performance of the E.U.T. was observed.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

8.5 Surges

Test Requirement:	EN 618000-3		
Test Method:	EN 61000-4-5		
Test Level:	1kV line to line 2kV line to earth		
Polarity:	Positive & Negative		
Generator source impedance:	2Ω (line-line coupling) 12Ω (line-earth coupling)		
Test signal specification:	Rise time=1.2us, Duration time=50us; Test Interval: 60s between each surge;		
No. of surges:	5 positive, 5 negative at 0°, 90°, 180°, 270°.		
Performance Criterion:	B		
Test setup:			
Test Procedure:	1. The EUT and the auxiliary equipment were placed on a table of 0.8m heights above a metal ground reference plane. The size of ground plane is greater than 1m×1m and project beyond the EUT by at least 0.1m on all sides. The ground plane is connected to the protective earth. The length of power cord between the coupling device and the EUT was less than 2 meters (provided by the manufacturer). 2. The EUT was connected to the power mains through a coupling device that directly couples the surge interference signal. The surge noise was applied synchronized to the voltage phase at the zero crossing and the peak value of the AC voltage wave (positive and negative). 3. The surges were applied line to line and line(s) to earth. When testing line to earth the test voltage was applied successively between each of the lines and earth. Steps up to the test level specified increased the test voltage. All lower levels including the selected test level were tested. The polarity of each surge level included positive and negative test pulses.		
Test environment:	Temp.: 26 °C	Humid.: 53%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.2 for details		
Test results:	Pass		

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Measurement Record:

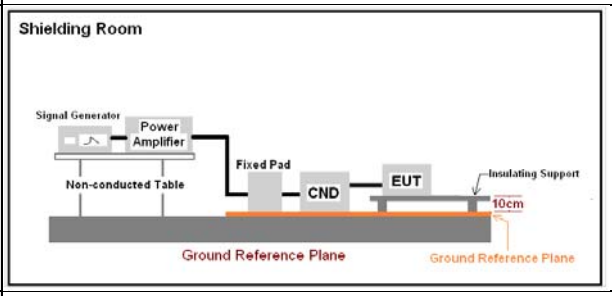
Location	Level(kV)	Pulse No	Surge Interval	Phase(deg)	Observations (Performance Criterion)
L1-PE	± 2 kV	5	60s	0, 90, 180, 270	A
L2- PE	± 2 kV	5	60s	0, 90, 180, 270	A
L3- PE	± 2 kV	5	60s	0, 90, 180, 270	A
L1-L2	±1 kV	5	60s	0, 90, 180, 270	A
L1-L3	± 1 kV	5	60s	0, 90, 180, 270	A
L2-L3	± 1 kV	5	60s	0, 90, 180, 270	A

Remark:

A: No degradation in the performance of the E.U.T. was observed.

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

8.6 Conducted Immunity

Test Requirement:	EN 61800-3		
Test Method:	EN 61000-4-6		
Frequency range:	0.15MHz to 80MHz		
Test Level:	10V rms		
Modulation:	80%, 1kHz Amplitude Modulation		
Performance Criterion:	A		
Test setup:			
Test Procedure:	1. The EUT shall be tested within its intended operating and climatic conditions. 2. The test shall be 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 are terminated by a 50-ohm load resistor. 3. The frequency range is swept from 150 kHz to 80 MHz, using the signal level established during the setting process and with a disturbance signal of 80% amplitude. The signal is modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. The sweep rate shall not exceed 1.5×10-3 decades/s. The step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value where the frequency is swept incrementally. 4. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies such as clock frequencies and harmonics or frequencies of dominant interest, shall be analyzed separately. 5. Attempts should be made to fully exercise the EUT during test, and to fully interrogate all exercise modes selected for susceptibility.		
Test environment:	Temp.: 24 °C	Humid.: 51%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

Measurement Record:

Frequency	Injected Position	Test Level	Modulation	Step Size	Dwell Time	Observations (Performance Criterion)
150kHz to 80MHz	AC Main	10Vrms	80%, 1kHz Amp. Mod.	1%	2s	A
150kHz to 80MHz	Control Lines	10Vrms	80%, 1kHz Amp. Mod.	1%	2s	A

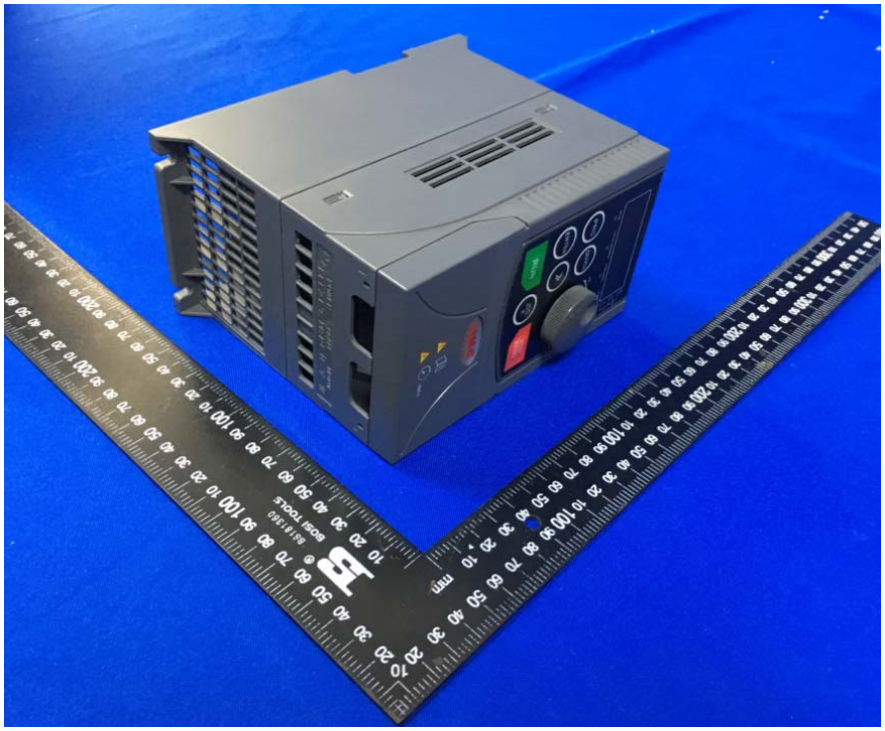
Remark:

A: No loss of function was observed.

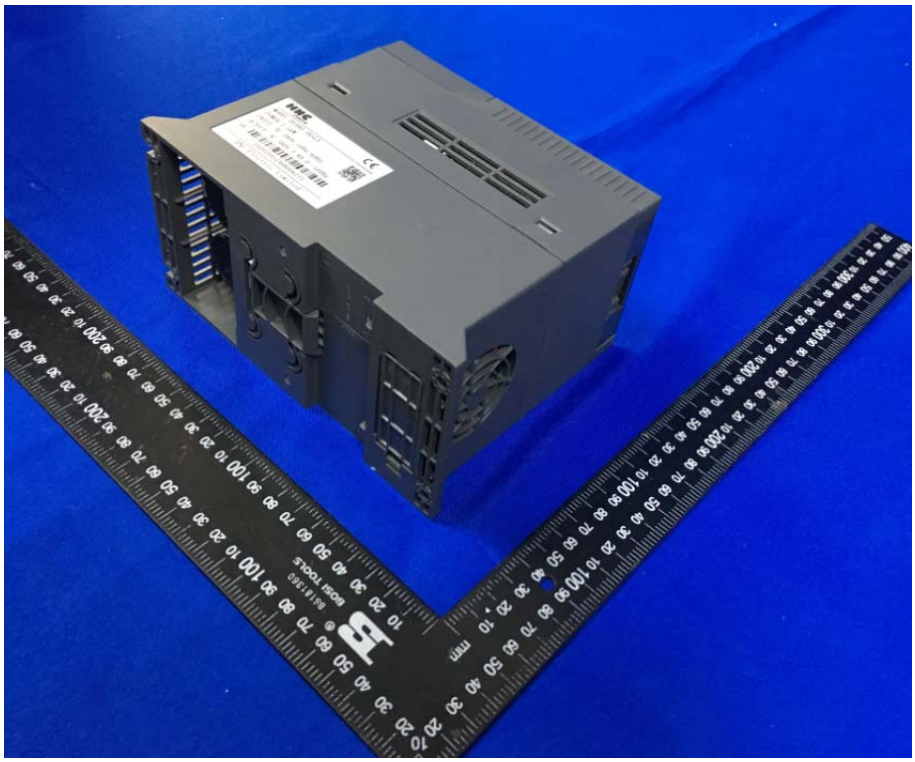
EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.

9 Photographs of the EUT



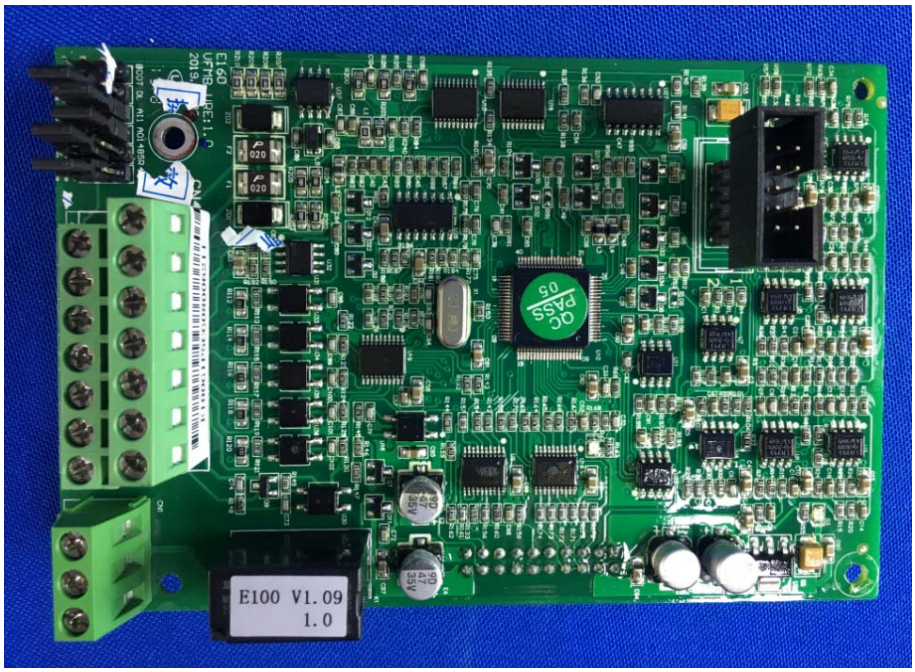


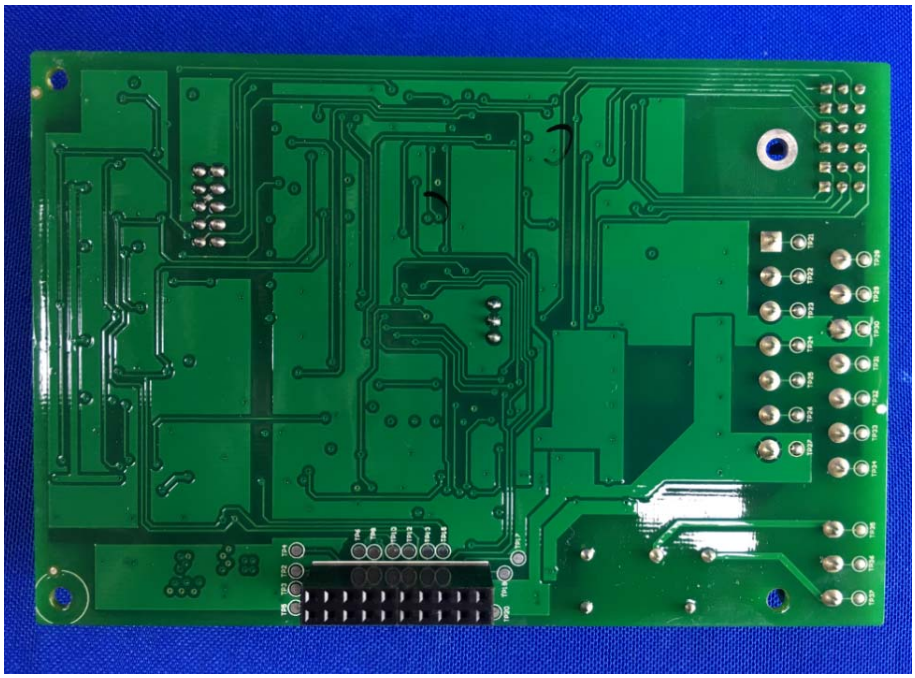
EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.



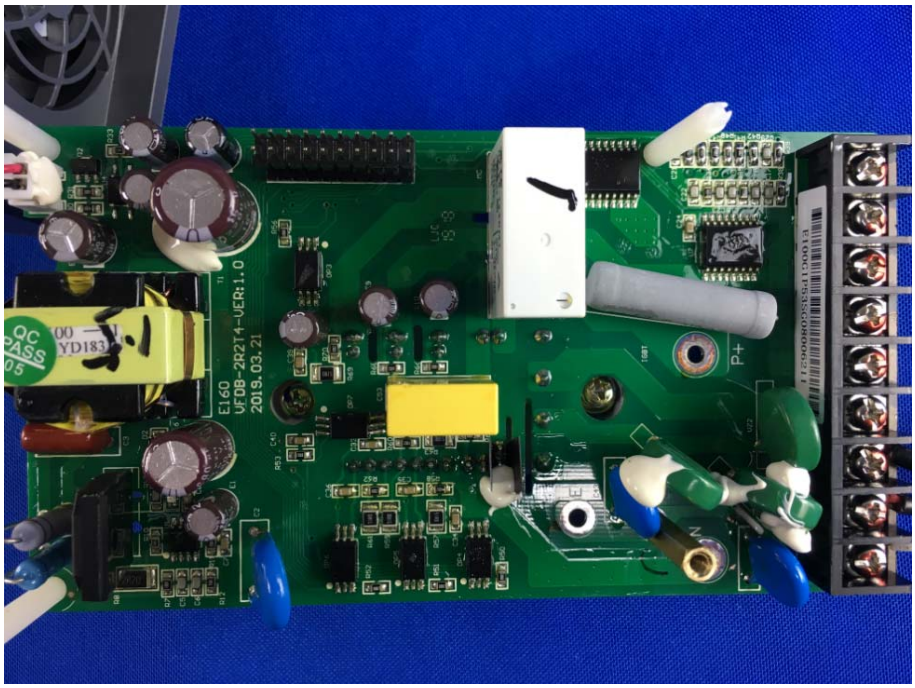


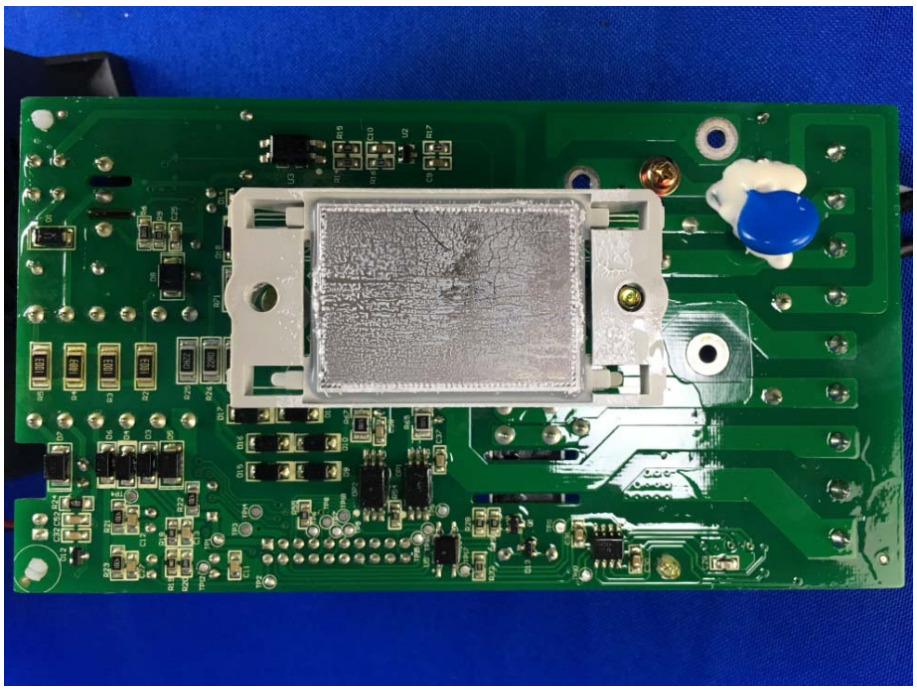
EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.



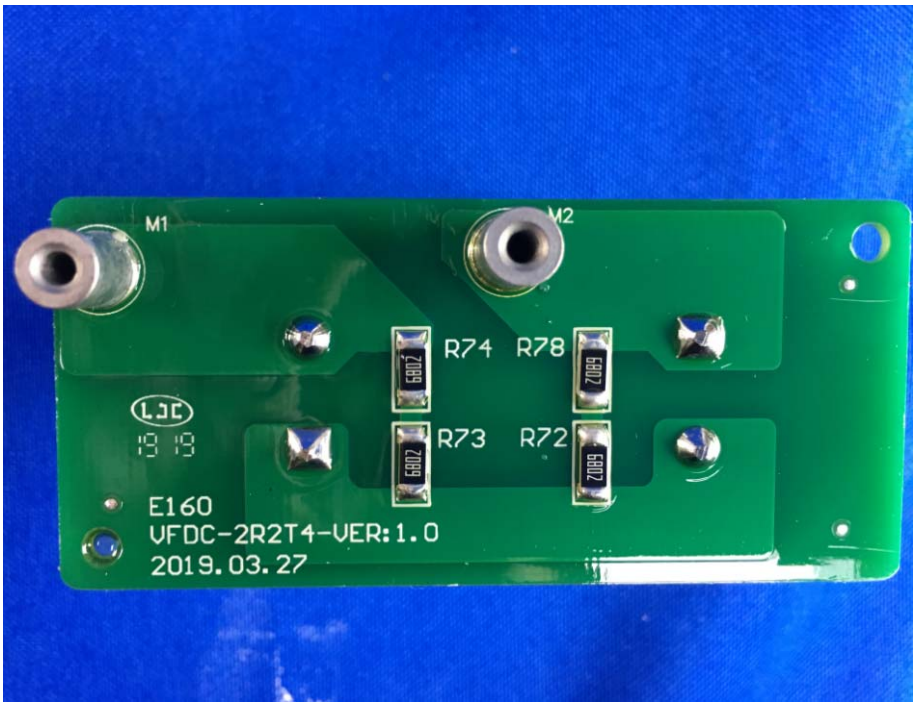


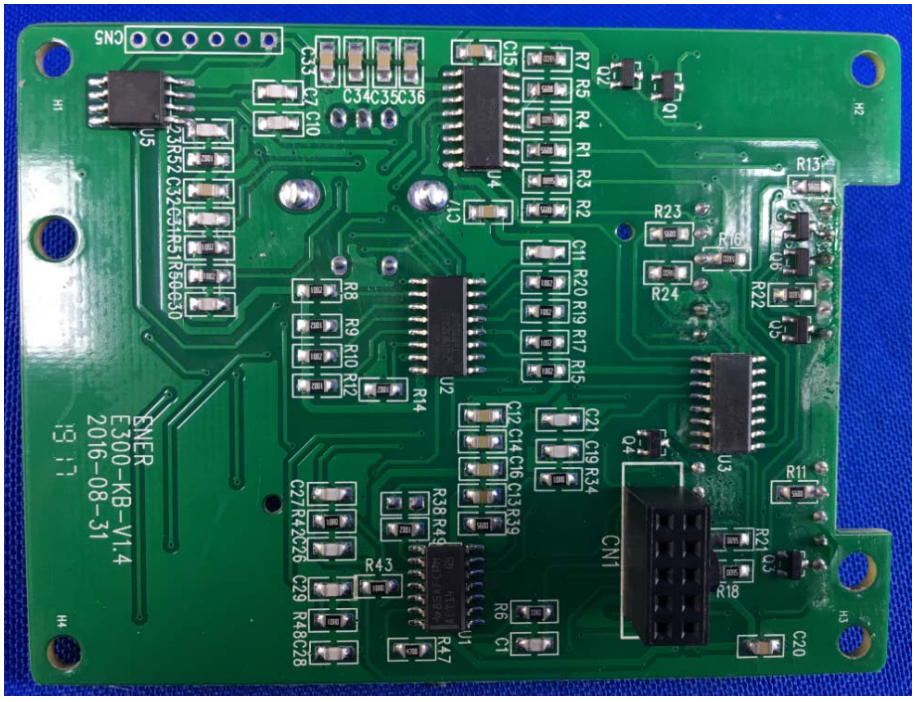
EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.



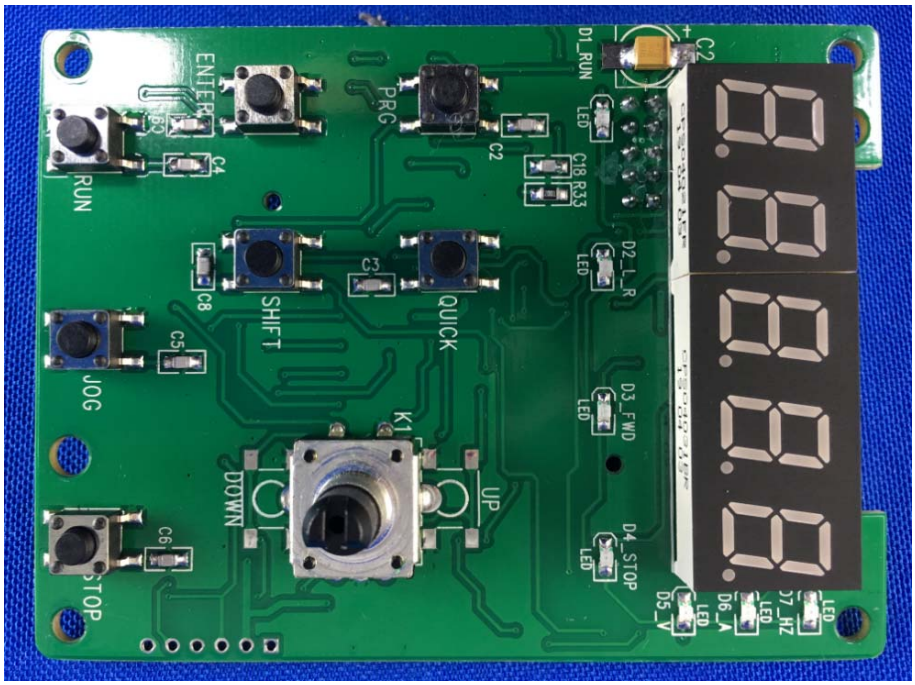


EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.





EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.



------End------

EBO assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. The result(s) shown in this report refer only to the sample(s) tested. The test results only reflect the evaluation of the sample under test and are not authorized for other purposes. EBO do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise. This report is invalid without signatures of approver and special seal for inspection of EBO, or it has been reproduced in full or part. This report shall not be published as advertisement without the approval of EBO. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document is issued by the company under its General Conditions of Service accessible at http://www.ebotest.com/zjyb/318.html.