TEST REPORT

This Report is To Supersede Test Report RCO15CE040025.

Report No. :	RCO15CE040025A
Applicant:	ELETTRONICA SANTERNO SPA
Address of Applicant:	Via della Concia 7 - 40023 Castel Guelfo Di Bologna -Italy
EUT Name:	FREQUENCY INVERTER
Brand Name:	SANTERNO CARRARO GROUP
Model No.:	Please refer to the page 6.
Test Model No.:	SINUS VEGA 0007 4T
Standards:	EN 61800-3: 2004+A1:2012
Date of Test:	May 4, 2015 To May 8, 2015
Date of Issue:	August 10, 2015
Test Result :	PASS

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.

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Table of Contents

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1 Test Report Certification

Product:	FREQUENCY INVERTER
Brand Name:	SANTERNO CARRARO GROUP
Model No.:	Please refer to the page 6.
Test Model No.:	SINUS VEGA 0007 4T
Applicant:	ELETTRONICA SANTERNO SPA
Applicant Address:	Via della Concia 7 - 40023 Castel Guelfo Di Bologna -Italy
Manufacturer:	ELETTRONICA SANTERNO SPA
Manufacturer Address:	Via della Concia 7 - 40023 Castel Guelfo Di Bologna –Italy
Test Standards:	EN 61800-3: 2004+A1:2012
Test Result:	**PASS**

We, Shenzhen RCO Testing Center, hereby certify that the Equipment Under Test (EUT) described above has been tested in our facility. The test record, data evaluation and EUT configuration represented herein are true and accurate accounts of measurements of the sample's EMC characteristics under the conditions herein specified.

Tested by: Michael, **Date:** May 8, 2015

Approved by: Jason, **Date:** August 10, 2015

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2 General Information

2.1 Description of EUT

Product: FREQUENCY INVERTER

Brand Name: SANTERNO CARRARO GROUP

Model No.: Please refer to the page 6.

Test Model No.: SINUS VEGA 0007 4T

Serial No.: N/A

Rating: AC 3PH 380V~, 50/60Hz

Accessories: N/A

NOTE:

1. For a more detailed features description about the EUT, please refer to User's Manual.

Model No.:

SINUS VEGA 0001 2S	SINUS VEGA 0002 2S	SINUS VEGA 0003 2S	SINUS VEGA 0004 2S
SINUS VEGA 0002 4T	SINUS VEGA 0003 4T	SINUS VEGA 0004 4T	SINUS VEGA 0005 4T
SINUS VEGA 0007 4T	SINUS VEGA 0011 4T	SINUS VEGA 0015 4T	SINUS VEGA 0018 4T
SINUS VEGA 0022 4T	SINUS VEGA 0030 4T	SINUS VEGA 0037 4T	SINUS VEGA 0045 4T
SINUS VEGA 0055 4T	SINUS VEGA 0075 4T	SINUS VEGA 0090 4T	SINUS VEGA 0110 4T
SINUS VEGA 0132 4T	SINUS VEGA 0160 4T	SINUS VEGA 0185 4T	SINUS VEGA 0200 4T
SINUS VEGA 0220 4T	SINUS VEGA 0250 4T	SINUS VEGA 0280 4T	SINUS VEGA 0315 4T
SINUS VEGA 0355 4T	SINUS VEGA 0400 4T	SINUS VEGA 0450 4T	SINUS VEGA 0500 4T
SINUS VEGA 0560 4T	SINUS VEGA 0630 4T	SINUS VEGA 0800 4T	SINUS VEGA 1000 4T

2.2 Objective

Perform ElectroMagnetic Interference (EMI) and ElectroMagnetic Susceptibility (EMS) tests for CE Marking.

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2.3 Test Standards and Results

The EUT has been tested according to the following specifications:

EMISSION		
Standard	**Test Type**	**Result**
EN 61800-3:2004+A1:2012	Mains terminal disturbance voltage	PASS
	Radiated disturbance	PASS
IMMUNITY (EN 61800-3:2004+A1:2012)		
Basic Standard	**Test Type**	**Result**
Immunity to Low-frequency disturbances		
IEC 60146-1-1	Commutation notches immunity	PASS
IEC 61000-2-4	Harmonics and interharmonics voltages	PASS
IEC 61000-2-4	Voltage changes, fluctuations,	PASS
IEC 61000-2-4	Voltage unbalance and Frequency variations	PASS
IEC 61000-2-1	Voltage dips and short interruptions interruption	PASS
Immunity to High-frequency disturbances		
IEC 61000-4-2	Electrostatic discharge immunity	PASS
IEC 61000-4-3	Radiated, radio frequency electromagnetic field immunity	PASS
IEC 61000-4-4	Electrical fast transient/burst immunity	PASS
IEC 61000-4-5	Surge immunity	PASS
IEC 61000-4-6	Immunity to conducted disturbances induced by RF fields	PASS

NOTE: Equipments listed above have been calibrated and are in the period of validation.

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2.4 List of Equipments Used

Description	Manufacturer	Model No.	Serial No.
Test Receiver	ROHDE&SCHWARZ	ESCS30	A0304260
LISN	ROHDE&SCHWARZ	ESH2-Z5	A0304211
Broadband Ant.	ROHDE&SCHWARZ	HL562	A0304224
EMS Antenna	Amplifier Research	AR AT1080	A0304249
ESD Test System	HAEFELY	FESD16000	A0103108
EFT Test System	HAEFELY	PEFT JUNIOR	A0103110
Surge Test System	HAEFELY	PSurge8000	A0103107
Capacitive clamp	ROHDE&SCHWARZ	F2301	A0304258
Signal Generator	ROHDE&SCHWARZ	SML02	A0304261
Power Amplifier	Amplifier Research	AR 150W1000	A0304247
Power Amplifier	Amplifier Research	AR 75A250M	A0304255
Field Monitor	Amplifier Research	AR FM5004	305128
Shield Room	Nanbo Tech	Site 2	A0301188
Anechoic Chamber	Albatross	H249	A0304210
AC Power Source	Pacific Power	320AMX	A0412388

NOTE: Equipments above have been calibrated and are in the period of validation.

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3 Emission Test

3.1 EUT Setup and Operating Conditions

The EUT was powered by 380V AC Mains and connected to a motor with unload.

3.2 Mains Terminal Disturbance Voltage Measurement

3.2.1 Limits of Mains Terminal Disturbance Voltage

Frequency range (MHz)	Limits (dBuV)	
	Quasi-peak	Average
0.15 - 0.50	100	90
0.50 - 5	86	76
5 - 30	90 Decreases with log of frequency down to 70	80 Decreases with log of frequency down to 60

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.

3.2.2 Test Procedure

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits are not reported.

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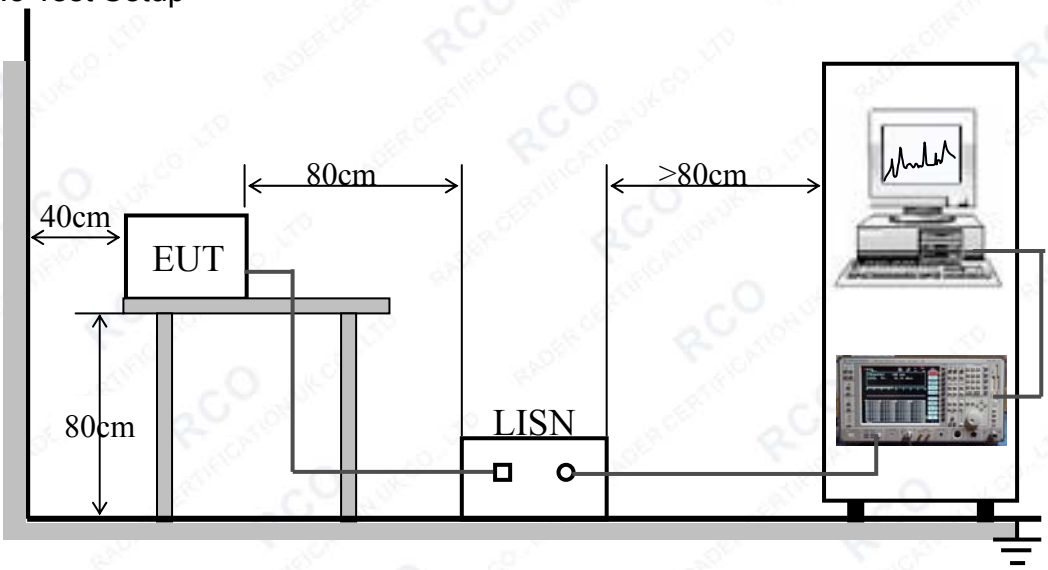
3.2.3 Test Setup



3.2.4 Test Result

No.	Freq. (MHz)	Limit Value (dBuV)		Emission Level (dBuV)	
		QP	AV	QP	AV
1	1.9500	86.0	76.0	76.5	67.1
2	3.2055	86.0	76.0	68.4	58.5
3	10.0140	85.9	75.9	68.1	58.6
4	10.4775	85.6	75.6	68.4	58.5

NOTE:

1. QP and AV are abbreviations of the quasi-peak and average individually.
2. If the emission levels measured with QP detector are lower than AV limits, there is unnecessary to measure with AV detector.
3. The emission levels recorded above is the larger ones of both L phase and N phase.

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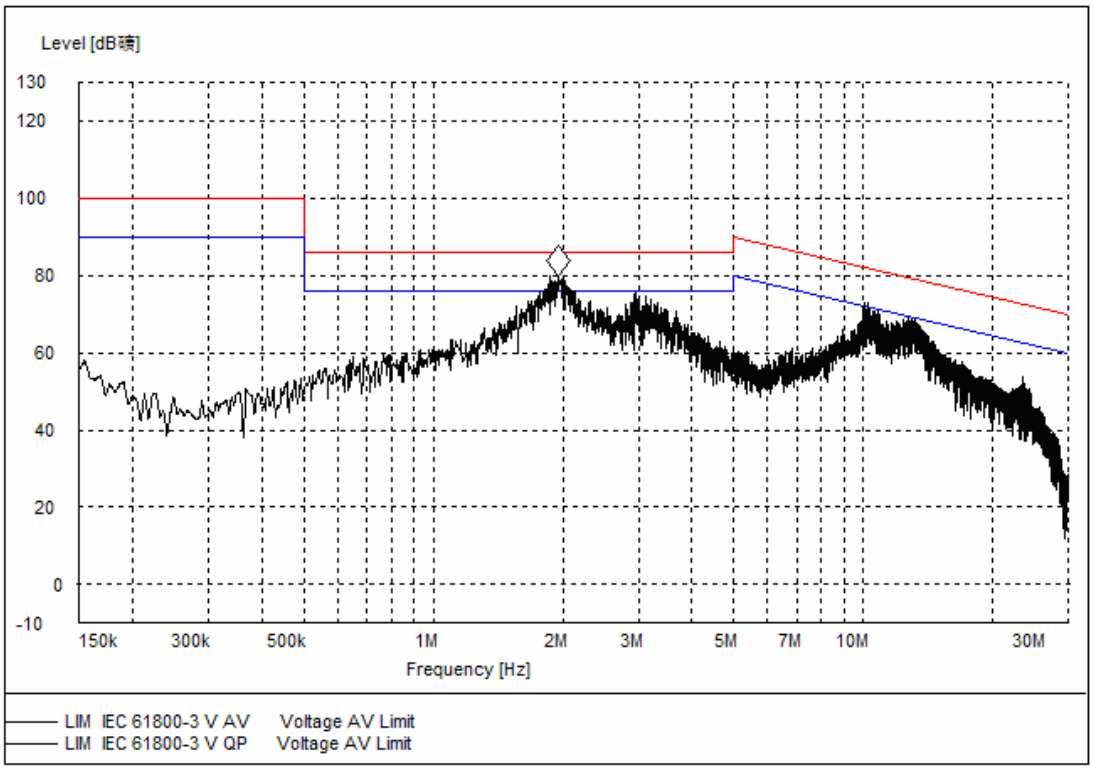
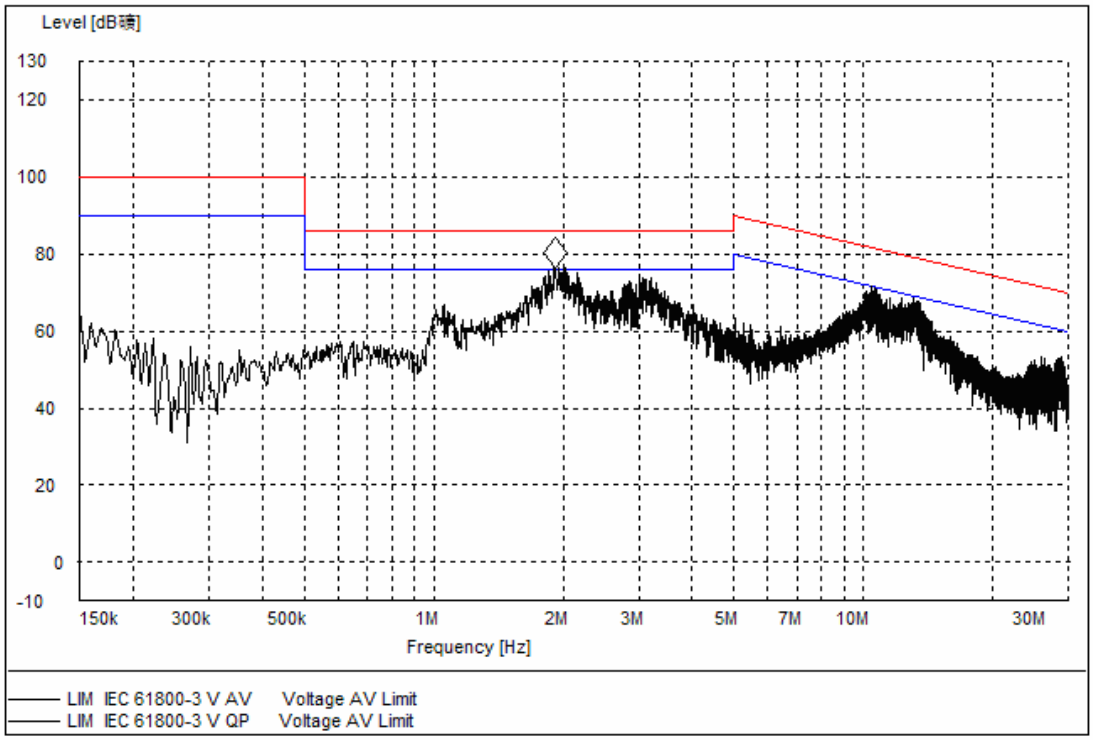
1. Mains terminal disturbance voltage，L1 phase



2. Mains terminal disturbance voltage，L2 phase



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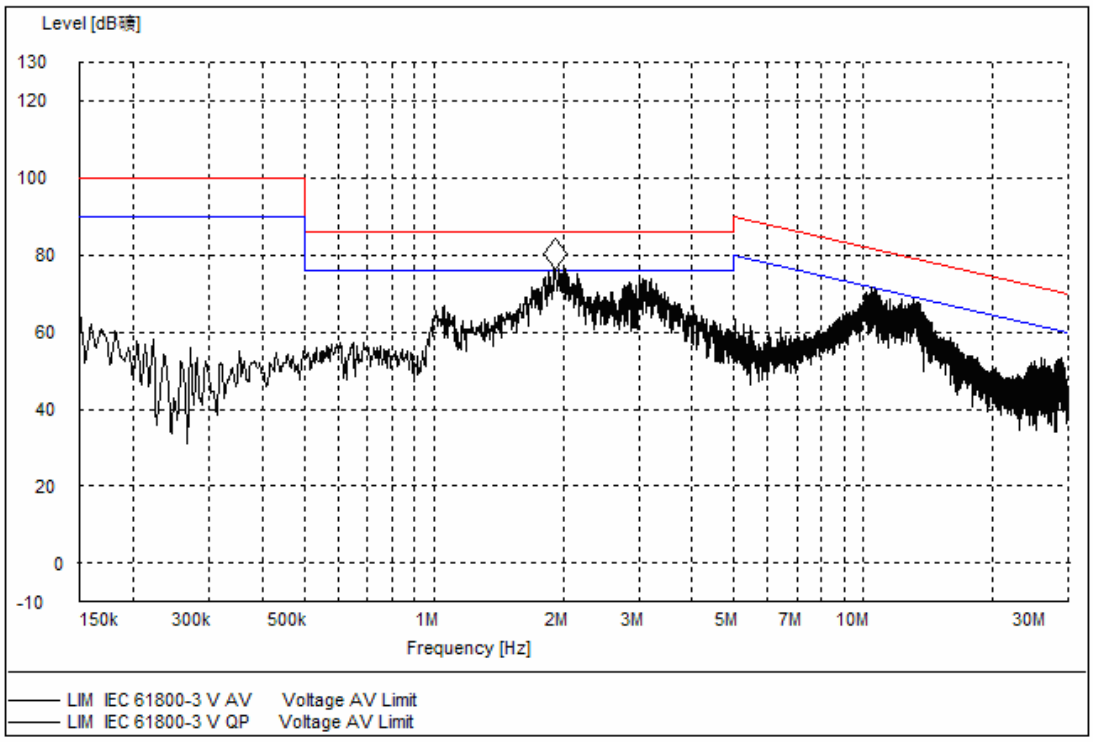
3. Mains terminal disturbance voltage，L3 phase



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3.3 Radiated Disturbance Measurement

3.3.1 Limits of Radiated Disturbance

Frequency range (MHz)	Quasi peak limits(dBuV/m), at 5m measurement distance
30 – 230	60
230 - 1000	70

Notes:

(1) The lower limit shall apply at the transition frequency.

(2) Additional provisions may be required for cases where interference occurs.

3.3.2 Test Procedure

a. The EUT was placed on the top of an insulating table 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 5 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from 1 to 4 meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emission that did not have 10dB margin would be retested one by one using the quasi-peak method.

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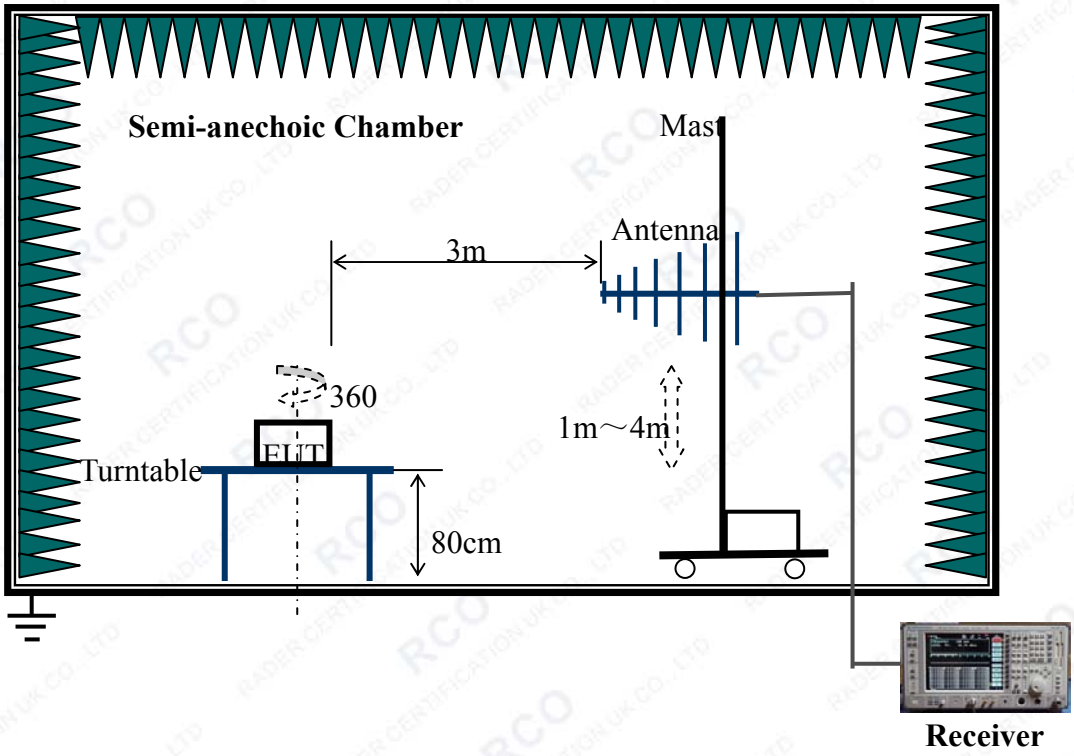
3.3.3 Test Setup



3.3.4 Test Result

No.	Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	QP Limits (dBuV/m)	Emission Level (dBuV/m)
1	39.16	Horizontal	200	0	6	28.27
2	38.08	Vertical	100	0	60	43.11
3	40.32	Vertical	100	90	60	44.88
4	43.32	Vertical	100	90	60	46.04

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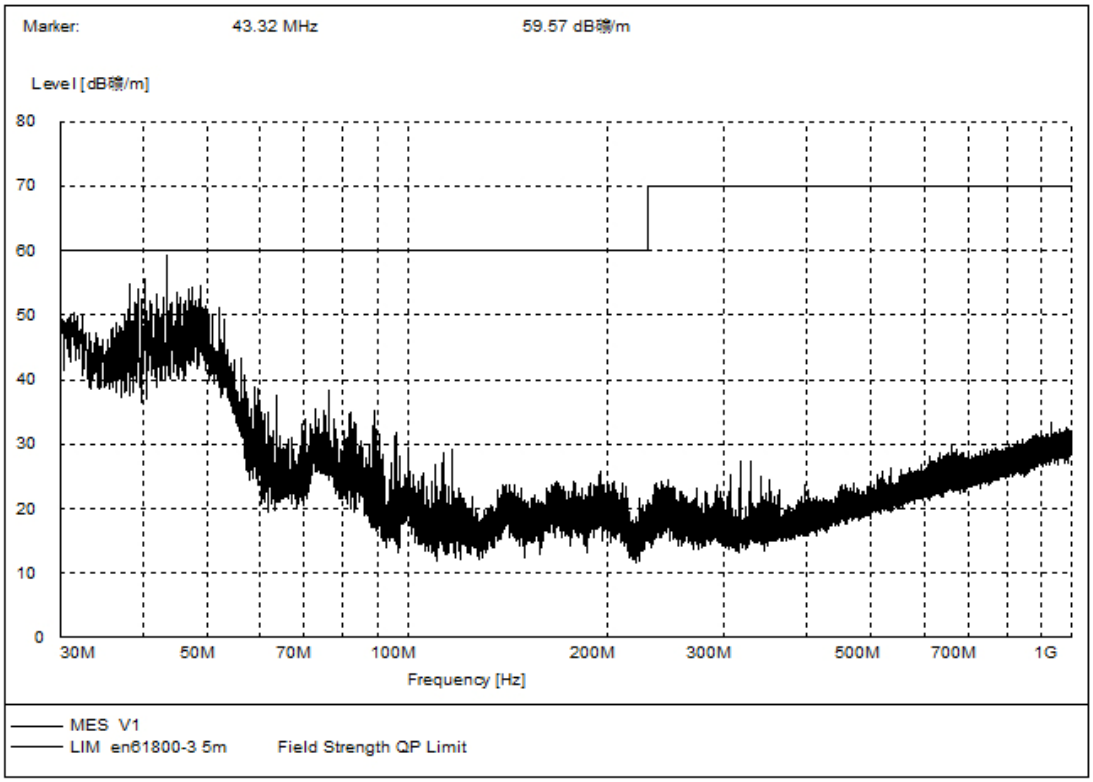
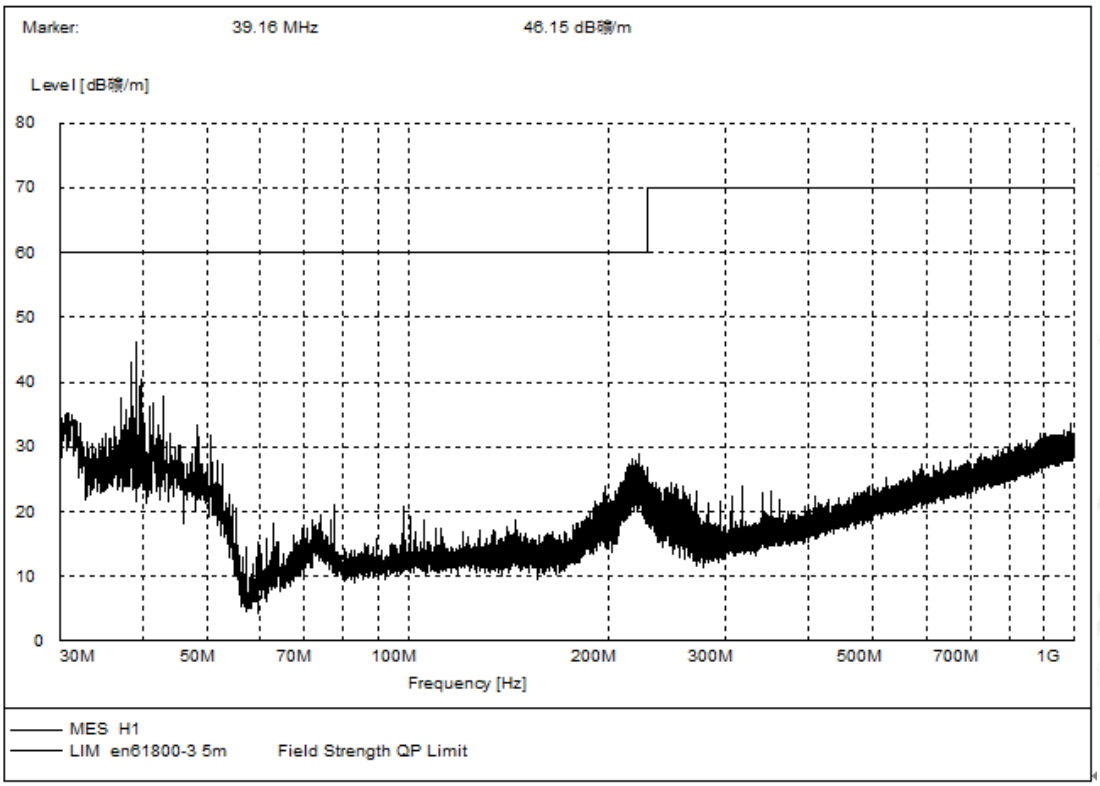
1. Antenna polarization: Vertical



2. Antenna polarization: Horizontal



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4 Immunity Test

4.1 Performance Criteria

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.

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4.2 Immunity tests to low-frequency disturbance

4.2.1 EUT Setup and Operating Conditions

The EUT was powered by 380V AC Mains and connected to a motor with light load.

4.2.2 Voltage Dips and Short Interruptions Immunity Test

4.2.2.1 Test Specification

Basic Standard:	IEC 61000-2-1
Voltage Dips:	10-100% reduction, 1-300 half-cycle
Voltage Interruptions:	100% reduction, <60 seconds

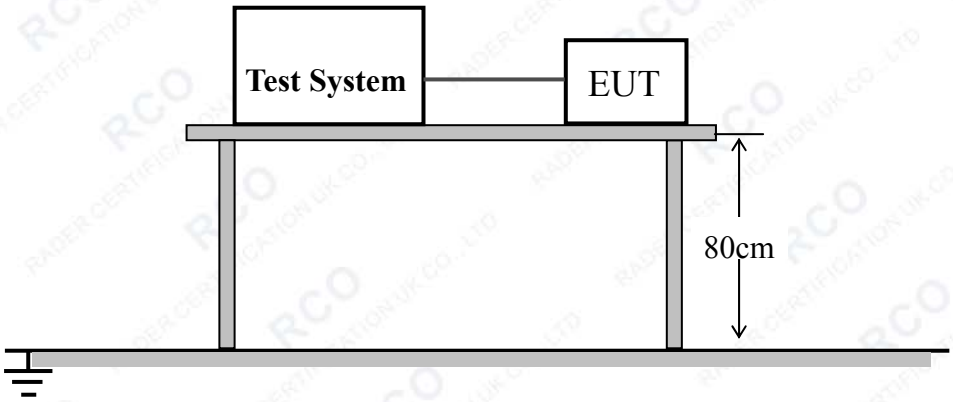
4.2.2.2 Test Procedure

a. The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.

b. The EUT was tested for (I) 10-100% voltage dip of supplied voltage with duration of 1-300 half-cycles.

c. 100% voltage short-time interruption of supplied voltage with duration of 60000ms was followed.

4.2.2.3 Test Setup



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4.2.2.4 Test Result

Test Mode	Voltage Reduction	Duration (ms)	Operating time (minute)	Observation	Comply with Criterion
Voltage dips	100%	100	10	Note (1)	B
	30%	500	10	Note (1)	B
Short-time Interruptions	100%	60000	10	Note (1)	B

Note:

(1). The EUT continued to operate as intended after test. Loss of function was observed.

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4.2.3 Voltage Changes, Fluctuations Test

4.2.3.1 Test Specification

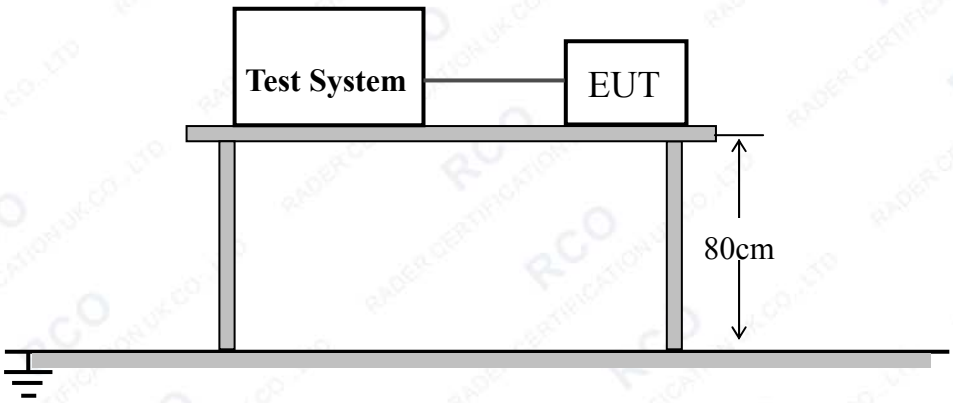
Basic Standard:	IEC 61000-2-4-Class 3
Voltage changes, deviation with respect to nominal Voltage Un:	+10% to -15%, 0.85 to 0.90Un no longer than 60s; 0.90Un to 1.1Un, longer durations.

4.2.3.2 Test Procedure

a. The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.

b. The Generator generates the typical shapes of the voltage fluctuations given in Figures 3 to 6 of IEC 61000-2-1. The values of the voltages in the range of 0.85 Un to 0.90Un keep no longer than 60 s, longer durations for the range 0.90Un to 1.1Un applies.

4.2.3.3 Test Setup



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4.2.3.4 Test Result

Phenomenon	Reference document and level	Operating time (min.)	Observation	Comply with Criterion
Voltage variations and fluctuations	IEC 61000-2-4 +10% to -15%	10	Note (1)	A(2)

Note:

(1) The EUT continued to operate as intended. No degradation of performance was observed.

(2) When the voltage is below nominal, the max output power ratings-speed and/or torque may be reduced.

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4.2.4 Voltage unbalance and frequency variations Test

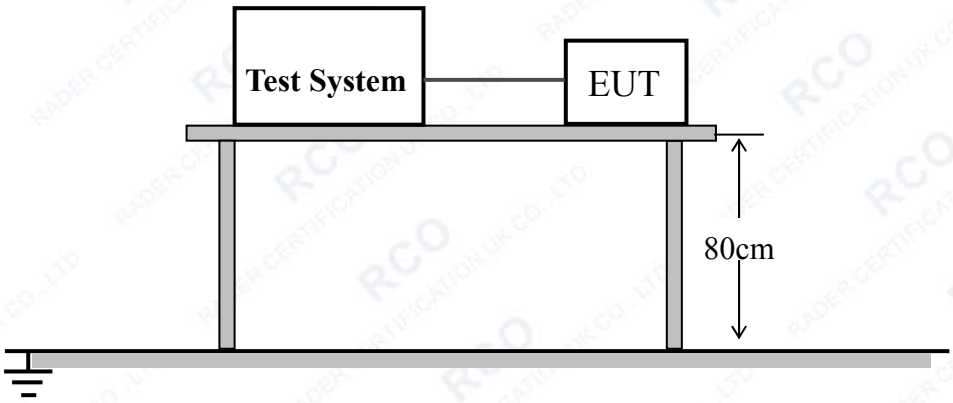
4.2.4.1 Test Specification

Basic Standard:	IEC 61000-2-4
Voltage unbalance:	Level-Class 3, 3% negative sequence component, 10 min durations
Power frequency variation:	±2%

4.2.4.2 Test Procedure

The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.

4.2.4.3 Test Setup



4.2.4.4 Test Result

Phenomenon	Reference document and level	Operating time (min.)	Observation	Comply with Criterion
Voltage unbalance	IEC 61000-2-4 3% negative sequence component	10	Note (1)	A
Power frequency variation $\Delta f/f_N$	IEC 61000-2-4 ±2%	10	Note (1)	A

Note:

(1) The EUT continued to operate as intended. No degradation of performance was observed.

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4.2.5 Harmonics and interharmonics voltages Test

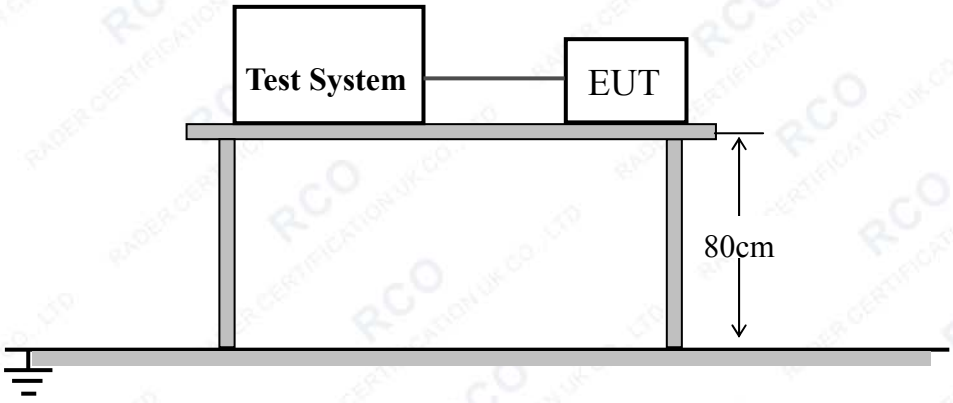
4.2.5.1 Test Specification

Basic Standard:	IEC 61000-2-4
Total Harmonics distrotion:	Level-Class 3, THD=10%

Harmonic voltage components						**interharmonics voltage components**	
Excluding multiples of 3, odd Order h	**Uh (%)**	**multiples of 3, odd Order h**	**Uh (%)**	**Even Order h**	**Uh (%)**	**Order h**	**Uh (%)**
5	8	3	6	2	3	<11	2.5
7	7	9	2.5	4	1.5	11-13 included	2.25
11	5	15	2	6	1	13-17 included	2
13	4.5	21	1.75	8	1	17-19 included	2
17	4	>21	1	10	1	19-23 included	1.75
19	4			>10	1	23-25 included	1.5
23	3.5					>25	1
25	3.5						
>25	$5\times\sqrt{11/h}$						

4.2.5.2 Test Setup

1. The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.



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4.2.5.3 Test Result

Phenomenon	Reference document and level	Operating time (min.)	Observation	Comply with Criterion
Harmonics and Interharmonics	IEC 61000-2-4 THD=10%	2.5	Note (1)	A

Note:

(1) The EUT continued to operate as intended. No degradation of performance was observed

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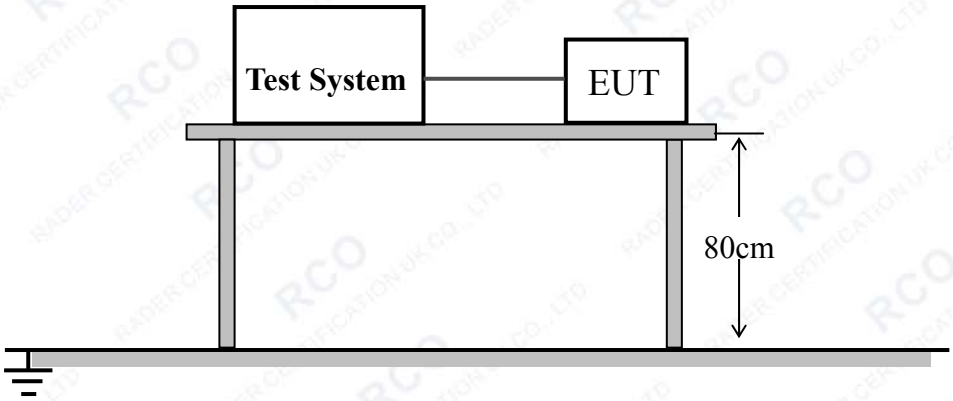
4.2.6 Commutation Notches Test

4.2.6.1 Test Specification

Basic Standard:	IEC 60146-1-1
Voltage unbalance:	Level-Class B, depth=40%, total area=250%*degrees

4.2.6.2 Test Setup

The power cord was used as supplied by the manufacturer. The EUT was connected to the line output of the Voltage Dips and Interruption Generator.



4.2.6.3 Test Result

Phenomenon	Reference document and level	Operating time (min.)	Observation	Comply with Criterion
Commutation notches	IEC 60146-1-1 Level-Class B, depth=40%, total area=250%*degrees	10	Note (1)	A

Note:

1. The EUT continued to operate as intended. No degradation of performance was observed

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4.3 Immunity tests to high-frequency disturbance

4.3.1 EUT Setup and Operating Conditions

The EUT was powered by 380V AC Mains and connected to a motor with unload. The EUT operated in V/F control and max carrier frequency mode.

4.3.2 Electrostatic Discharge Immunity Test

4.3.2.1 Test Specification

Basic Standard:	IEC 61000-4-2
Discharge Impedance	330Ω / 150 pF
Discharge Voltage:	Air Discharge – 8 kV Contact Discharge – 4 kV
Polarity:	Positive / Negative
Number of Discharge:	Minimum 20 times at each test point
Discharge Mode:	Single discharge
Discharge Period:	1-second minimum

4.3.2.2 Test Procedure

The discharges shall be applied in two ways:

a. Contact discharges to the conductive surfaces and coupling planes:

The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three contact test points shall each receive at least 50 direct contact discharges. If no direct contact test points are available, at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.

b. Air discharges at slots and apertures and insulating surfaces:

On those parts of the EUT where it is not possible to perform contact discharge testing, the equipment should be investigated to identify user accessible points where breakdown may occur. Such points are tested using the air discharge method. This investigation should be restricted to those area normally handled selected test point for each such area.

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The basic test procedure was in accordance with IEC 61000-4-2:

a. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.

b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.

c. The time interval between two successive single discharges was at least 1 second.

d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the EUT.

e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.

f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were completed.

g. At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the EUT. The ESD generator was positioned vertically at a distance of 0.1 meters from the EUT with the discharge electrode touching the HCP.

h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the EUT were completely illuminated. The VCP (dimensions 0.5m×0.5m) was placed vertically to and 0.1 meters from the EUT.

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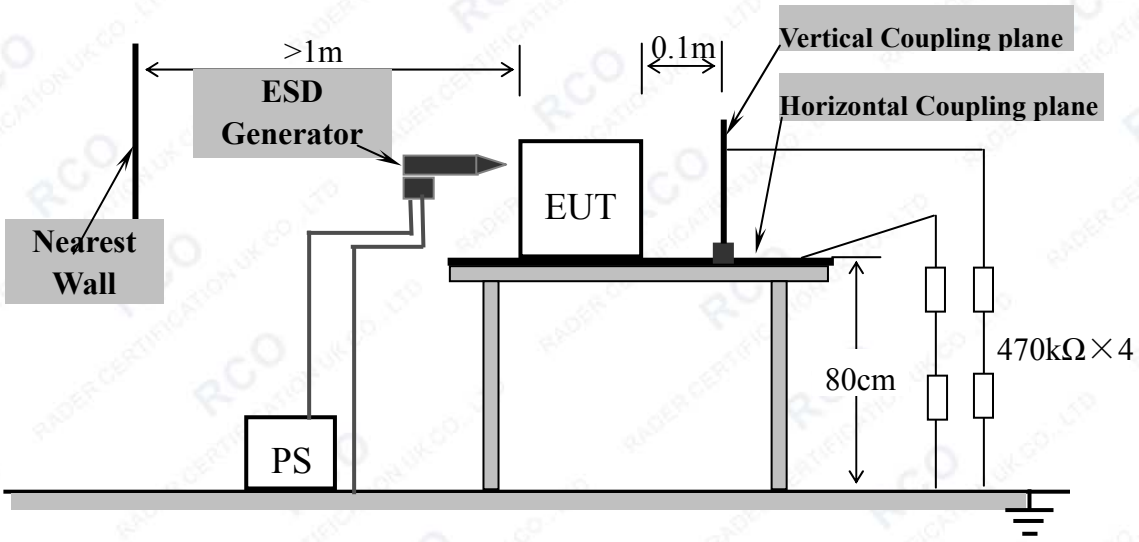
4.3.2.3 Test Setup



4.3.2.4 Test Result

Test Points	Discharge Level (kV)	Discharge Mode	Observation	Comply with Criterion
Display panel	±8	Air	Note(1)	A
Aperture of the cover	±8	Air	Note(1)	A
Buttons	±8	Air	Note(1)	A
Screws	±4	Contact	Note(1)	A
HCP	±4	Contact	Note(1)	A
VCP	±4	Contact	Note(1)	A

NOTE:

(1). The EUT continued to operate as intended. No degradation of performance was observed.

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4.3.3 Radiated, Radio Frequency Electromagnetic Field Immunity Test

4.3.3.1 Test Specification

Basic Standard:	IEC 61000-4-3
Frequency Range:	80 MHz – 1000MHz
Field Strength:	10V/m
Modulation:	1kHz sine wave, 80%, AM modulation
Frequency Step:	1% of fundamental
Polarity of Antenna	Horizontal and Vertical
Test Distance:	3m
Antenna Height:	1.5m
Dwell Time:	3 seconds

4.3.3.2 Test Procedure

The test procedure was in accordance with IEC 61000-4-3.

a. The testing was performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

b. The frequency range is swept from 80 MHz to 1000MHz with the signal 80% amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed 1.5×10^{-3} decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.

c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

d. The field strength level was 10V/m.

e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

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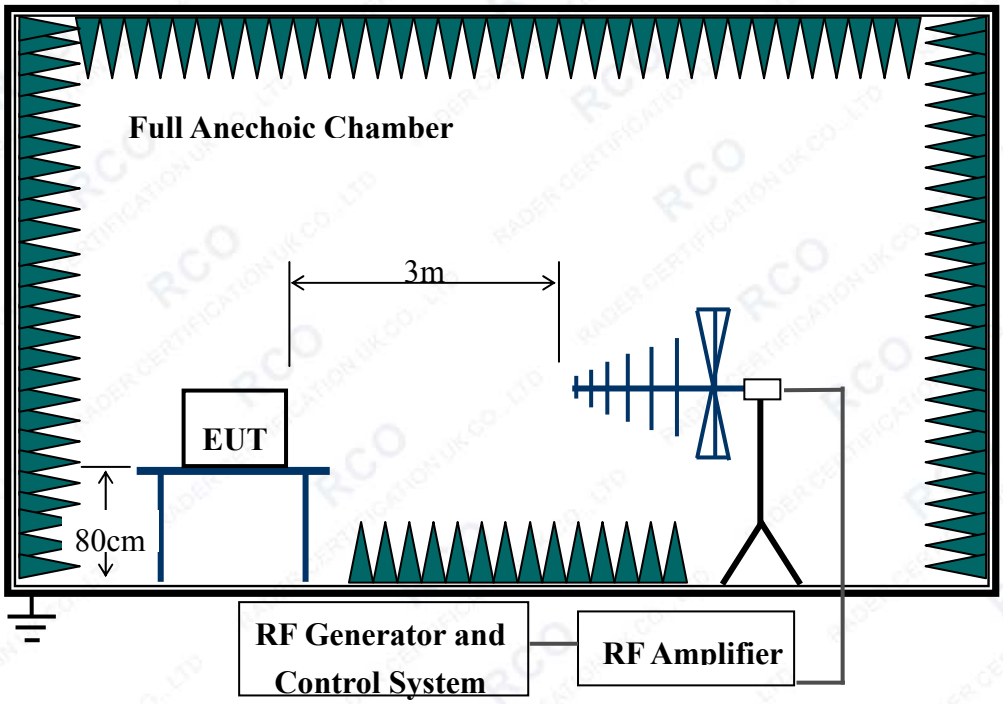
4.3.3.3 Test Setup



4.3.3.4 Test Result

Frequency	Polarity	Azimuth	Field Strength (V/m)	Observation	Comply with Criterion
80-1000 MHz	V&H	0	10	Note(1)	A
80-1000 MHz	V&H	90	10	Note(1)	A
80-1000 MHz	V&H	180	10	Note(1)	A
80-1000 MHz	V&H	270	10	Note(1)	A

NOTE:

(1). The EUT continued to operate as intended. No degradation of performance was observed.

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4.3.4 Electrical Fast Transient/Burst Immunity Test

4.3.4.1 Test Specification

Basic Standard:	IEC 61000-4-4
Test Voltage:	a.c. power port – 2 kV, Control lines – 2 kV
Polarity:	Positive/Negative
Impulse Frequency:	5kHz
Impulse wave shape:	5/50ns
Burst Duration:	15ms
Burst Period:	300ms
Test Duration:	Not less than 1 min.

4.3.4.2 Test Procedure

a. The EUT was tested with 1000 volt discharges to the AC power input leads.

b. Both positive and negative polarity discharges were applied.

c. 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.

d. The duration time of each test sequential was 1 minute.

e. The transient/burst waveform was in accordance with IEC 61000-4-4, 5/50ns.

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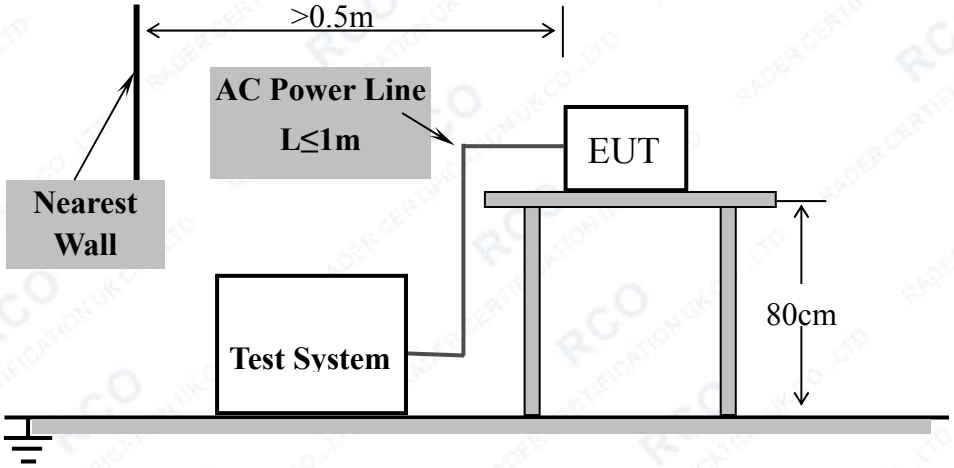
4.3.4.3 Test Setup



4.3.4.4 Test Result

Test Point Power port	Polarity	Test Level (kV)	Observation	Comply with Criterion
L1	+/-	2	Note (1)	A
L2	+/-	2	Note (1)	A
L3	+/-	2	Note (1)	A
PE	+/-	2	Note (1)	A
L1+PE	+/-	2	Note (1)	A
L123	+/-	2	Note (1)	A
L123+PE	+/-	2	Note (1)	A
Control Lines	+/-	2	Note (1)	A

NOTE:

(1). The EUT continued to operate as intended. No degradation of performance was observed.

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4.3.5 Surge Immunity Test

4.3.5.1 Test Specification

Basic Standard:	IEC 61000-4-5
Waveform:	Voltage 1.2/50 μs; Current 8/20 μs
Test Voltage:	a.c. power port, line to line 1 kV, line to earth 2kV
Polarity:	Positive/Negative
Phase Angle:	0°, 90°, 180°, 270°
Repetition Rate:	60sec
Times:	5 time/each condition.

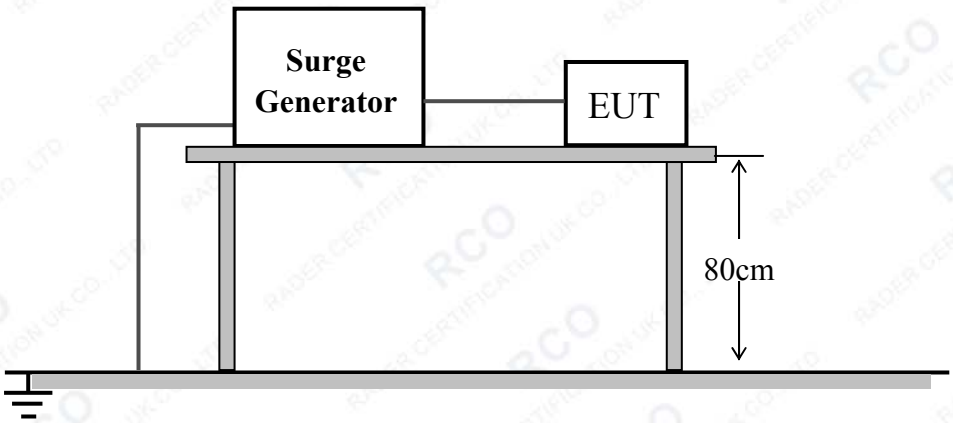
4.3.5.2 Test Procedure

a. 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).

b. 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).

c. 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.

4.3.5.3 Test Setup



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4.3.5.4 Test Result

Coupling Line	Polarity	Voltage (kV)	Observation	Comply with Criterion
a.c. power, L1-PE	+/-	2	Note (1)	A
a.c. power, L2- PE	+/-	2	Note (1)	A
a.c. power, L3- PE	+/-	2	Note (1)	A
a.c. power, L1-L2	+/-	1	Note (1)	A
a.c. power, L1-L3	+/-	1	Note (1)	A
a.c. power, L2-L3	+/-	1	Note (1)	A

NOTE:

(1). The EUT continued to operate as intended. No degradation of performance was observed.

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4.3.6 Immunity to Conducted Disturbances Induced by RF Fields

4.3.6.1 Test Specification

Basic Standard:	IEC 61000-4-6
Frequency Range:	0.15 MHz – 80 MHz
Field Strength:	10V
Modulation:	1 kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1% of fundamental
Coupled Cable:	a.c. power line, Control lines
Coupling Device:	Capacitive Clamp-F2301

4.3.6.2 Test Procedure

a. The EUT shall be tested within its intended operating and climatic conditions.

b. 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.

c. 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.

d. 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.

e. Attempts should be made to fully exercise the EUT during test, and to fully interrogate all exercise modes selected for susceptibility.

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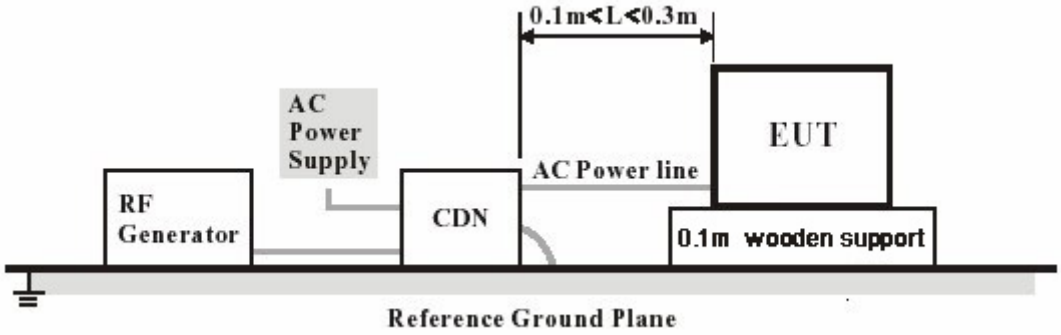
4.3.6.3 Test Setup



4.3.6.4 Test Result

Test Point	Frequency	Field Strength (Vrms)	Observation	Comply with criterion
a.c. power line	0.15 -80 MHz	10	Note(1)	A
Control Lines	0.15 -80 MHz	10	Note(1)	A

NOTE:

(1). The EUT continued to operate as intended. No degradation of performance was observed.

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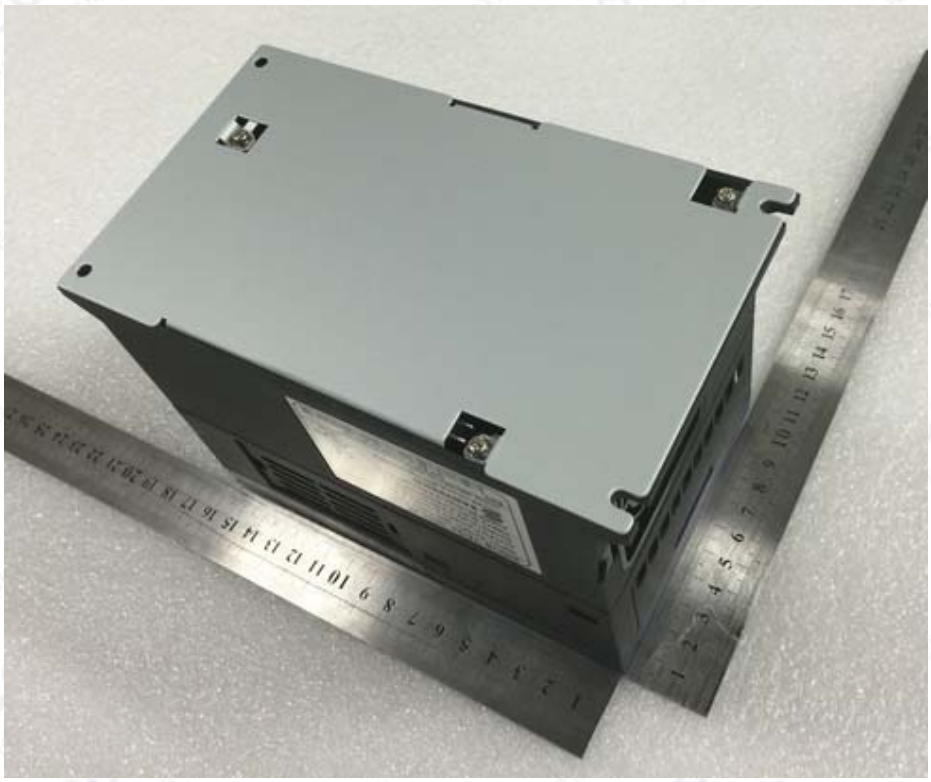
Appendix I：Photographs of the EUT



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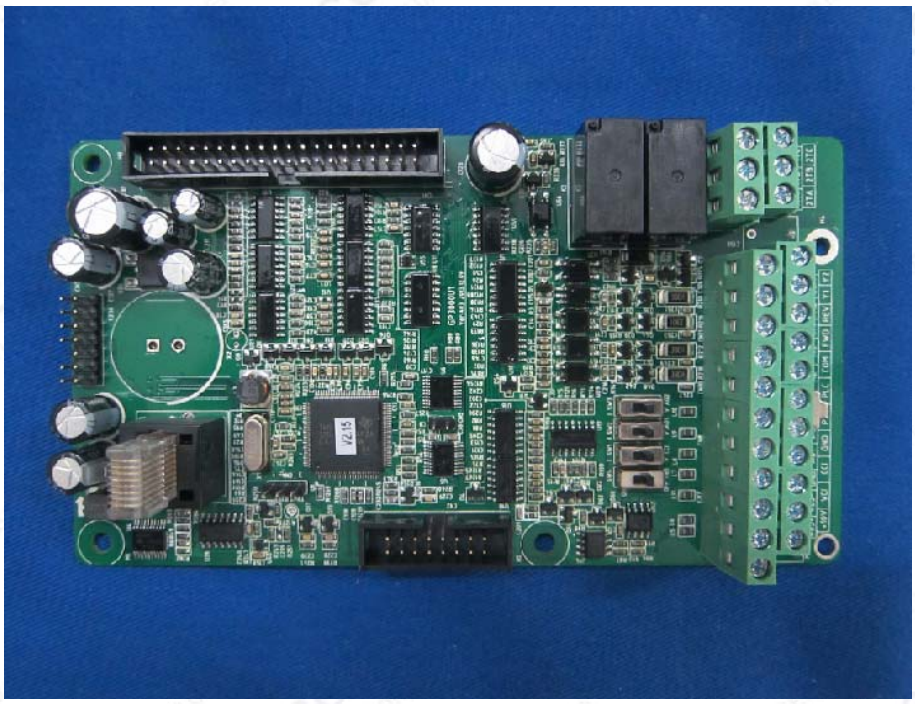

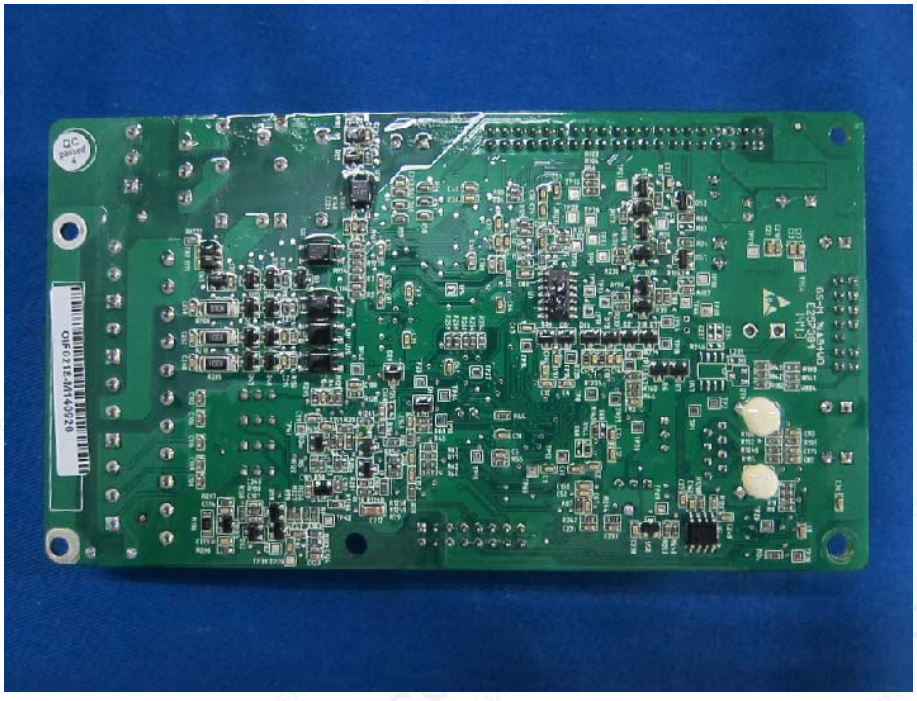

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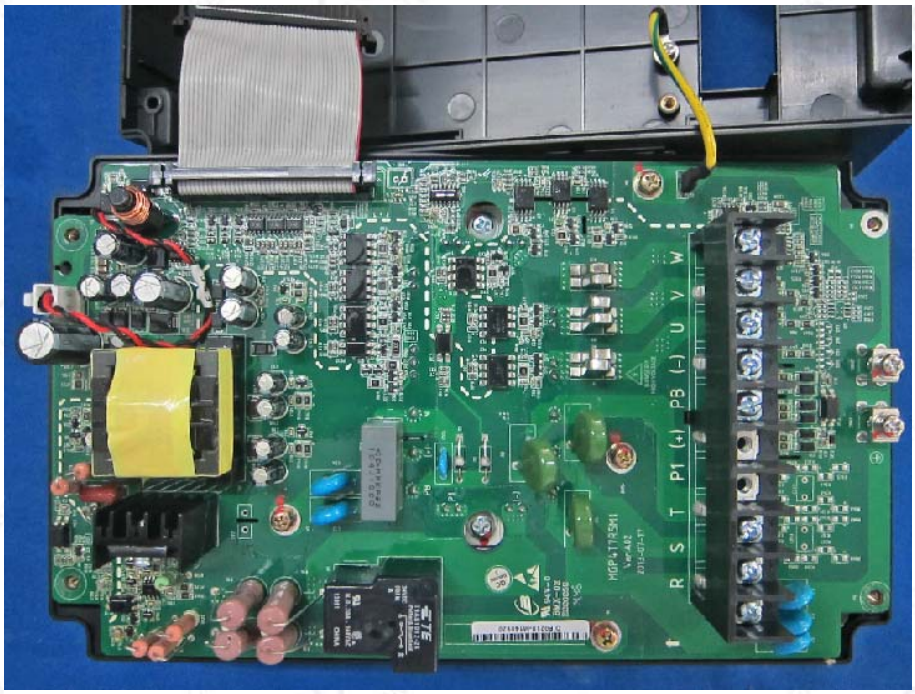

(RCO authenticate the photo on original report only)

*** End of Report ***

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