TEST REPORT

Report No.: SHE25080043-01BE **Date:** 2025-09-04

Applicant	:	Beijing Hipnuc Electronic Technology Co.,Ltd.
Address of Applicant	:	121, 1st Floor, Block B, No. 23 Chaoqian Road, Science and Technology Park, Changping District, Beijing.
Product Name	:	IMU/VRU/AHRS/INS Module
Brand Name	:	/
Model Name	:	HI05 Series
Sample Acquisition Method	:	Sent by Client
Sample No.	:	SHE25080043-01#01
Standards	:	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019
Date of Receipt	:	2025-08-18
Date of Test	:	2025-08-26~2025-08-27
Date of Issue	:	2025-09-04

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

ICAS TESTING TECHNOLOGY SERVICE (SHANGHAI) Co., LTD

Prepared by: Jack Song (Jack Song) Reviewed by: Oliver Xiang (Oliver Xiang) Approved by: Echo Mu (Authorized signatory: Echo Mu)

Contents

1 General Information

1.1 Testing Laboratory Information

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Applicant Information

Applicant Company Name	Beijing Hipnuc Electronic Technology Co.,Ltd.
Address	121, 1st Floor, Block B, No. 23 Chaoqian Road, Science and Technology Park, Changping District, Beijing.
Contact Person	Mr.Liu
Telephone	18612030435
Email	guobing.liu@hipnuc.com
Manufacturer	Beijing Hipnuc Electronic Technology Co.,Ltd.
Manufacturer Address	121, 1st Floor, Block B, No. 23 Chaoqian Road, Science and Technology Park, Changping District, Beijing.

1.3 EUT Description

Product Name	IMU/VRU/AHRS/INS Module
Under Test Model Name	HI05 Series
Series Model Name	/
Description of Model name differentiation	/
Hardware Version	/
Software Version	/
Ratings	DC5V is powered by USB
Highest Operating Frequency	200MHz

2 Summary of Test Result

2.1 Test Standards

No.	Identity	Document Title
1	EN IEC 61000-6-2:2019	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
2	EN IEC 61000-6-4:2019	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

2.2 Reference Standards

No.	Identity	Document Title
1	CISPR 11:2015+A1:2016	Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement
2	CISPR 14-1:2016	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
3	CISPR 32:2015	Electromagnetic compatibility of multimedia equipment – Emission requirements
4	IEC 61000-4-2:2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
5	IEC 61000-4-3:2006+A1:2007 +A2:2010	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
6	IEC 61000-4-4:2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
7	IEC 61000-4-5:2014	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
8	IEC 61000-4-6:2013	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
9	IEC 61000-4-8:2009	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test
10	IEC 61000-4-11:2004	Electromagnetic compatibility (EMC) - Part4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests

Remark: All test items were verified and recorded according to the standards and without any addition/deviation/ exclusion during the test.

2.3 Test Result

EN IEC 61000-6-4:2019		
Rule	**Description**	**Results**
§ 9	Conducted Emission	N/A Note1
§ 9	Radiated Emission	Pass

EN IEC 61000-6-2:2019		
Rule	**Description**	**Results**
§ 9	Electrostatic Discharges	Pass
§ 9	Continuous RF Electromagnetic Field Disturbances	Pass
§ 9	Electrical Fast Transients/Burst	N/A Note1
§ 9	Surges	N/A Note1
§ 9	Continuous Induced RF Disturbances	N/A Note1
§ 9	Power Frequency Magnetic Field	Pass
§ 9	Voltage Dips and Interruptions	N/A Note1

Note: N/A=not applicable.

Note 1: The EUT is powered by USB, so the above test item is not applicable.

2.4 Test Uncertainty

Measurement	Uncertainty
Radiated emission (30MHz-1GHz)	5.00 dB
Radiated emission (1GHz-18GHz)	5.46 dB

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 General Test Configurations

3.1 Test Environments

During the measurement, the environmental conditions complied with the range listed as below.

Ambient Temperature	15°C to 35°C
Ambient Relative Humidity	30% to 60%
Ambient Pressure	86kPa to106kPa

3.2 Test Equipment List

Equipment No.	Test Equipment	Manufacturer	Model	Serial No./Version	Cal. Due Date
Radiated Emission					
E-008-01EMC	Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2027-03-23
E-006-01EMC	EMI Test Receiver	R&S	ESR 7	101911	2026-06-08
E-060-01EMC	3m Anechoic Chamber	CHANGNING	9*6*6	N/A	2028-06-09
/	Test Software BL410-E	BL	/	V24.C24	/
Electrostatic Discharge					
E-005-01EMC	ESD Tester	SANKI	SKS-0230GV	020616003J321	2026-06-16
E-001-01RF	Shielded Room	YIHENG	8*4*3	N/A	2028-06-09
Continuous RF Electromagnetic Field Disturbances					
E-019-01EMC	Signal Source	R&S	SMB 100A	114400	2026-06-08
E-022-01EMC	Power Meter	R&S	NRP2	106036	2026-06-08
E-023-02EMC	Power Sensor	R&S	NRP8S	103593	2026-06-08
E-026-01EMC	Amp	LI	5225F	1053	2026-06-08
E-027-01EMC	Amp	LI	5293F	1059	2026-06-08
E-008-01EMC	Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2027-03-23
E-009-01EMC	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1775	2027-06-21
E-030-01EMC	Field Probe	NARDA	EP-600	611WX70379	2026-03-03
E-060-01EMC	3m Anechoic Chamber	CHANGNING	9*6*6	N/A	2028-06-09
/	Test Software BL410-E	BL	/	V24.C24	/
Power Frequency Magnetic Field					
E-001-01EMC	PFMF Tester	SANKI	SKS-0805	080116007E321	2026-06-08

3.3 Supporting Equipment Used During Test

No.	Name	Manufacturer	Model	Cal. Due Date	Note
A	IMU/VRU/AHRS/INS Module	Beijing Hipnuc Electronic Technology Co.,Ltd.	HI05 Series	/	EUT

B	Thinkpad	Lenovo	TP00083A	/	AE
Note: EUT=Equipment Under Test, AE=Auxiliary/Associated Equipment.					

3.4 Input/Output Cables

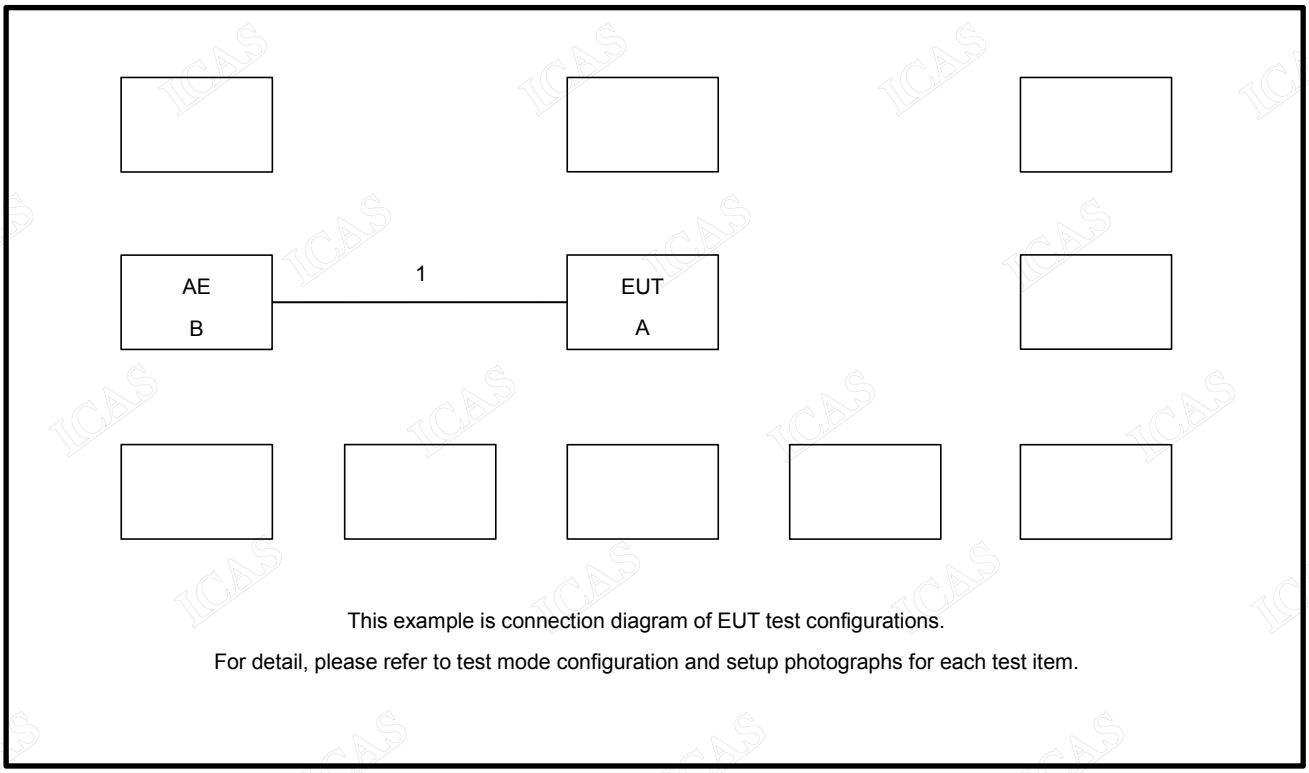
No.	Name	Port Type	Cable Max. >3m	Cable Shielded	Note
3	Communication Cable	A/D	1.1m	unshielded	AE
Note: AC=AC Power Port, DC=DC Power Port, A/D=Analogue/Digital data port (signal/control port, antenna port, wired network port, broadcastreceiver tuner port.optical fibre port), EUT=Equipment Under Test, AE=Auxiliary/Associated Equipment.					

3.5 Test Mode

Test Mode No.	Description
1	Power-on operation

Remark1: To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively. The test data of the worst-case condition was recorded in this report. Test Mode 1 is the worst mode in this report.

3.6 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

For detail, please refer to test mode configuration and setup photographs for each test item.

3.7 Test Performance Criteria for Immunity Tests

General Performance Criteria

Criteria	Performance criteria
A	The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
B	The EUT 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 EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
C	Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

4 Test Items

4.1 Emission Tests

4.1.1 Conducted Emission

4.1.1.1 Limit

DC power port / Low voltage AC mains port

Frequency range (MHz)	DC		AC	
	Quasi-peak (dBuV)	Average (dBuV)	Quasi-peak (dBuV)	Average (dBuV)
0.15 - 0.50	89	76	79	66
0.50 - 30	83	70	73	60

NOTE:

1) The lower limit shall apply at the band edges.
2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.

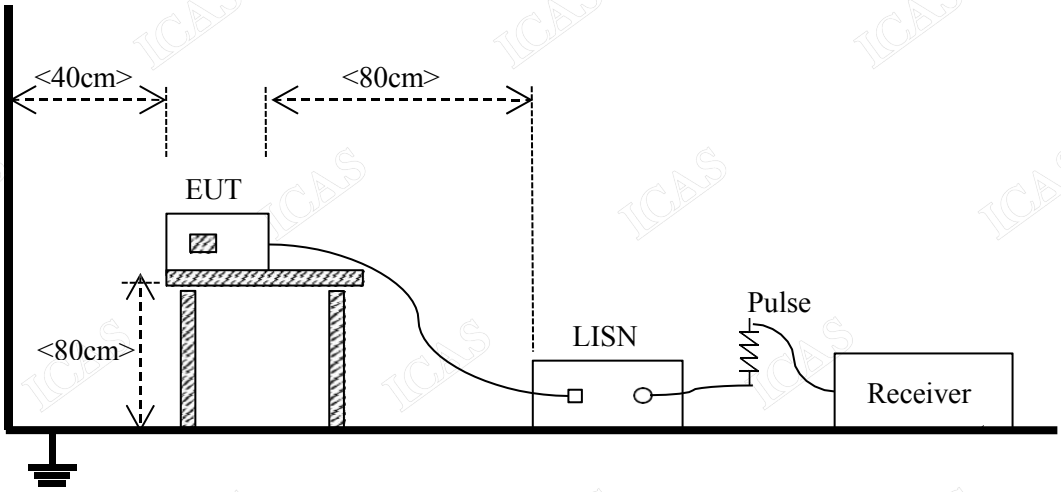
Wired network port

Frequency range (MHz)	Quasi-peak (dBuV)	Average (dBuV)
0.15 - 0.50	97-87	84-74
0.50 - 30	87	74

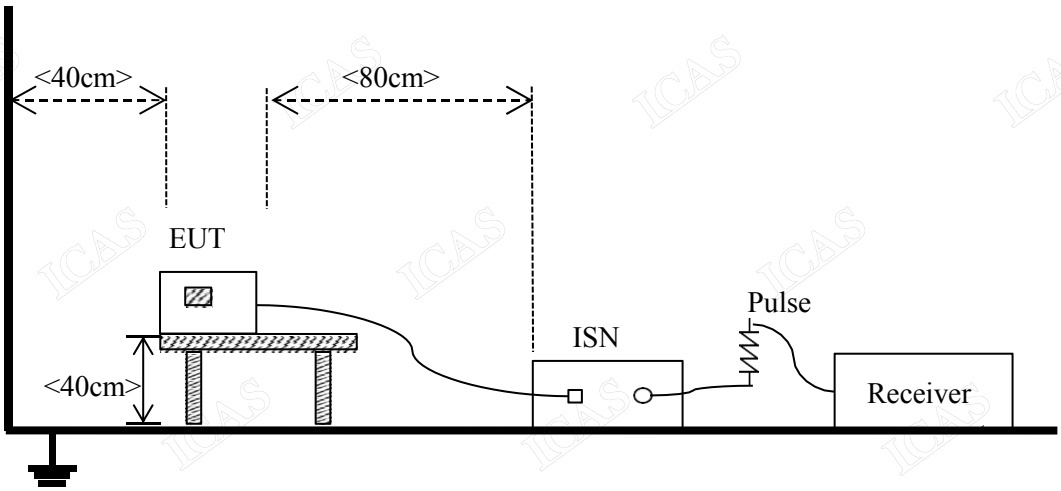
NOTE:

1) The lower limit shall apply at the band edges.
2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.

4.1.1.2 Test Setup



(For Conducted Emission at DC power port / Low voltage AC mains port Test)



(For Conducted Emission for Telecommunications /network port Test)

4.1.1.3 Test Procedure

1. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

4. LISN at least 80 cm from nearest part of EUT chassis.

4.1.1.4 Test Result

Please refer to the section 5.1 of this report for test data

4.1.2 Radiated Emission

4.1.2.1 Limit

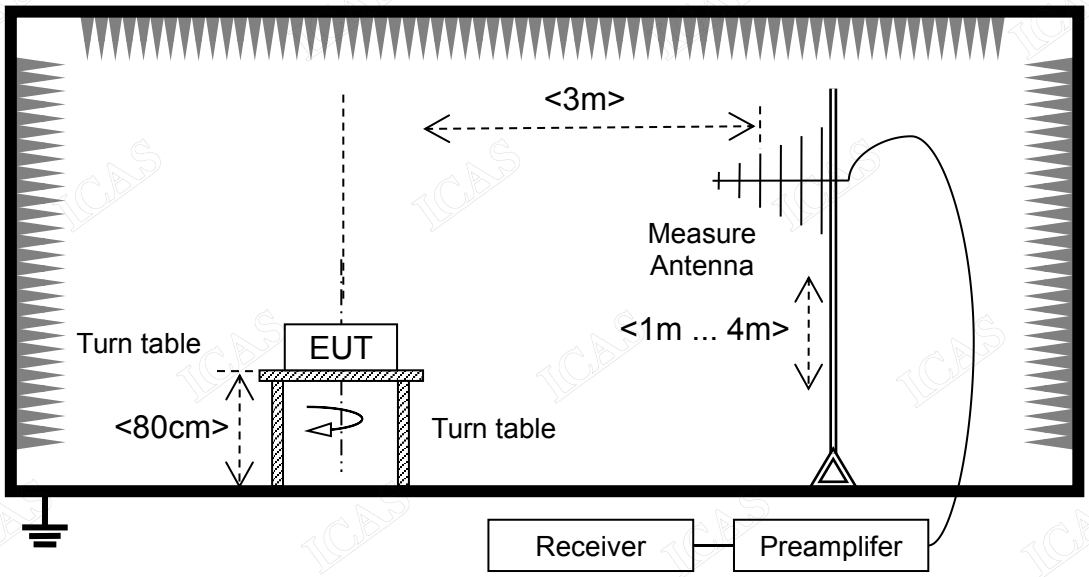
Frequency range (MHz)	3 m	10 m
	Quasi-peak (dBuV/m)	Quasi-peak (dBuV/m)
30 - 230	50	40
230 - 1000	57	47

Frequency range (MHz)	3 m	
	Peak (dBuV/m)	Average (dBuV/m)
1000 - 3000	76	56
3000 - 6000	80	60

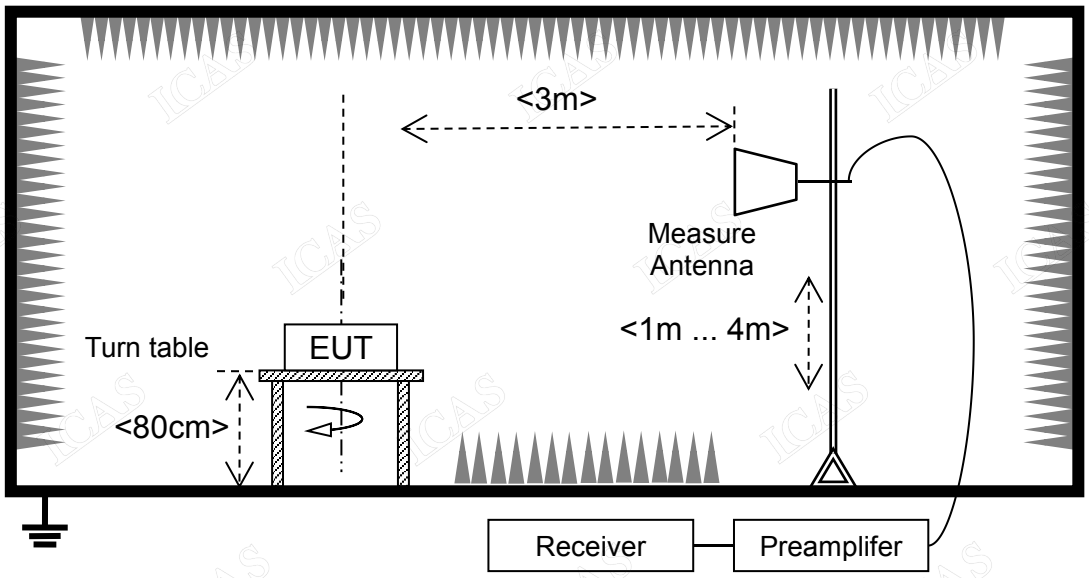
NOTE:

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

4.1.2.2 Test Setup



(For Radiated Emission Test (30 MHz-1 GHz))



(For Radiated Emission Test (above 1 GHz))

4.1.2.3 Test Procedure

1. The measuring distance of at 3m or 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

2. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m or 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

3. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

4. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi-Peak detector mode re measured.

5. If the Peak Mode measured value compliance with and lower than Quasi-Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

4.1.2.4 Test Result

Please refer to the section 5.2 of this report for test data.

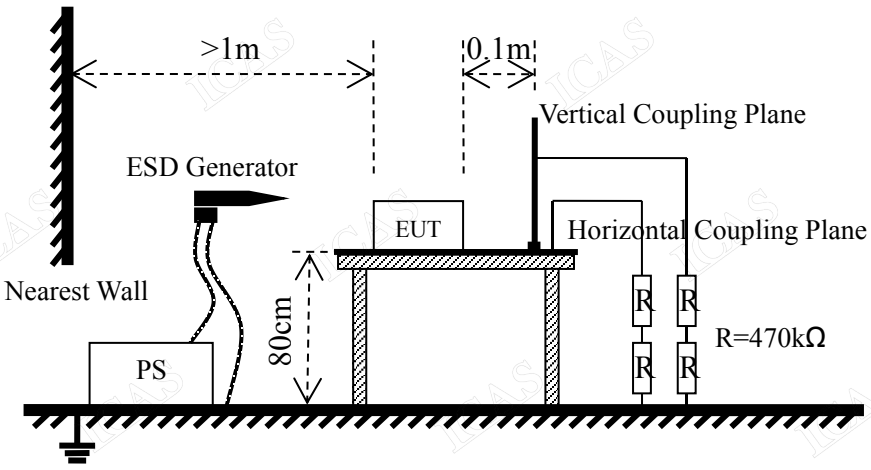
4.2 Immunity Tests

4.2.1 Electrostatic Discharges

4.2.1.1 Test Specification

Basic Standard	IEC 61000-4-2
Discharge Impedance	330 Ohm / 150 pF
Discharge Voltage	Air Discharge: 2, 4, 8kV; Contact Discharge: 4kV
Polarity	Positive / Negative
Number of Discharge	Air Discharge: min. 20 times at each test point Contact Discharge: min. 20 times at each test point
Discharge Mode	Single discharge
Discharge Period	1 second minimum
Required Performance	B

4.2.1.2 Test Setup



4.2.1.3 Test Procedure

1. Contact discharge was applied to conductive surfaces of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 20 discharges, 10 each at negative and positive polarity, at a minimum of four test points.

Vertical Coupling Plane (VCP):

At least 10 single discharges (in the most sensitive polarity) shall be applied to the centre of one vertical edge of the coupling plane. The coupling plane, of dimensions 0,5 m × 0,5 m, is placed parallel to, and positioned at a distance of 0,1 m from, the EUT.

Discharges shall be applied to the coupling plane, with sufficient different positions such that the four faces of the EUT are completely illuminated. One VCP position is considered to illuminate 0,5 m × 0,5 m area of the EUT surface

Horizontal Coupling Plane (HCP):

Discharge to the HCP shall be made horizontally to the edge of the HCP.
At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0,1 m 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.
The discharge electrode shall be in contact with the edge of the HCP before the discharge switch is operated.
Product standards may require that all sides of the EUT are exposed to this test.

2. Air discharges at insulation surfaces of the EUT.

It was at least ten single discharges with positive and negative at the same selected point.

4.2.1.4 Test Result

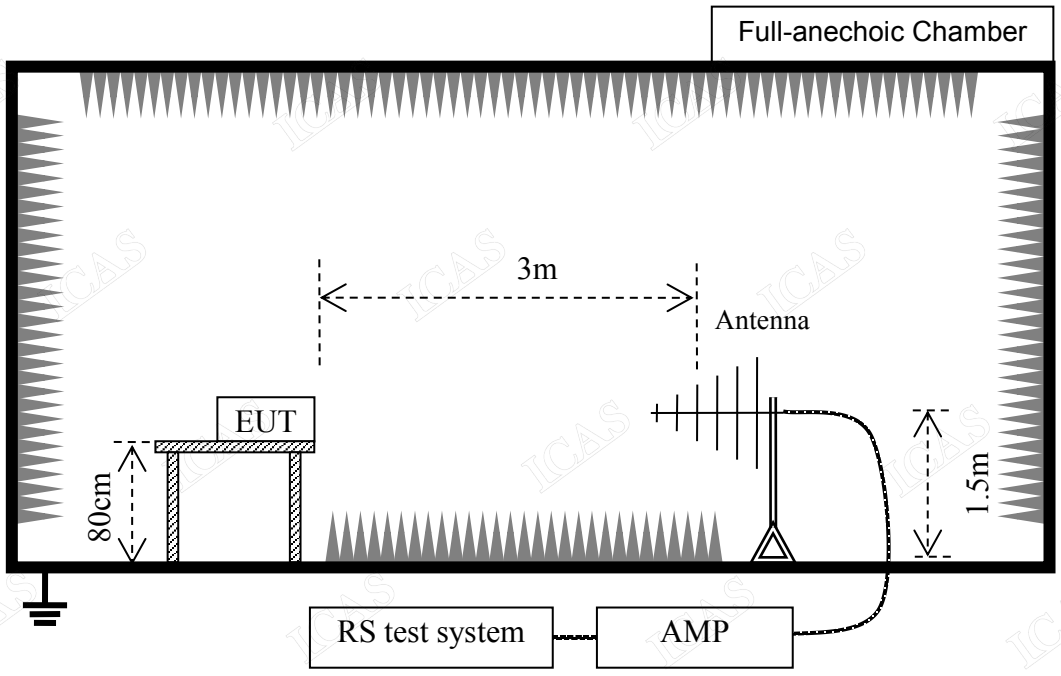
Please refer to the section 5.3 of this report for test data

4.2.2 Continuous RF Electromagnetic Field Disturbances

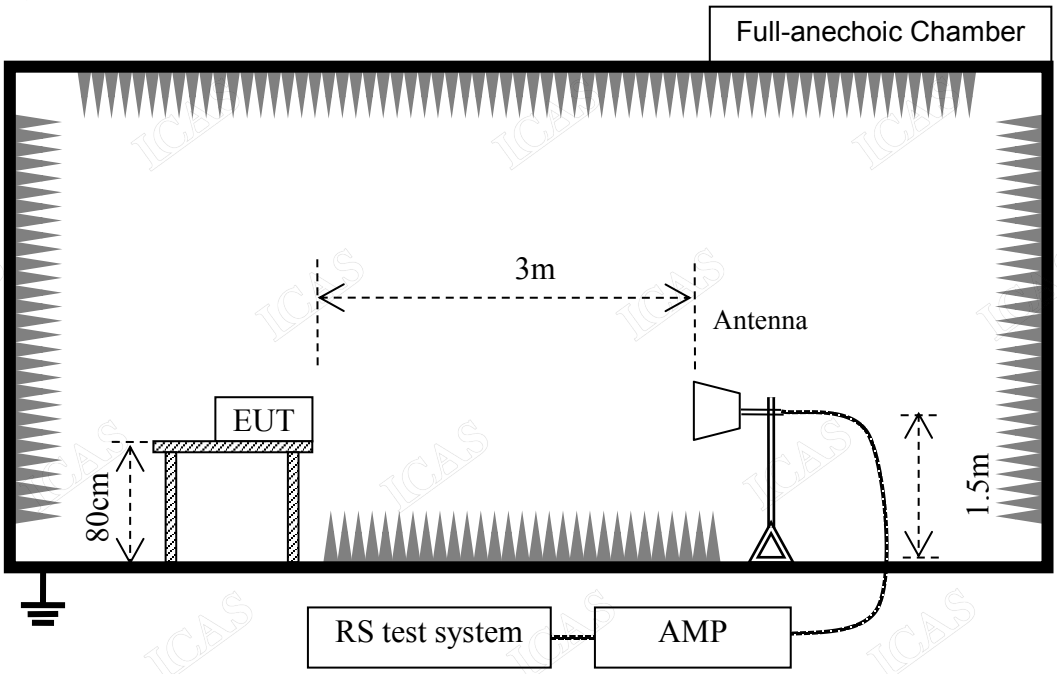
4.2.2.1 Test Specification

Basic Standard	IEC 61000-4-3	
Frequency Range	80 MHz to 1000 MHz	1400 MHz to 6000 MHz
Field Strength	10 V/m (unmodulated, r.m.s)	3 V/m (unmodulated, r.m.s)
Modulation	1 kHz sine wave, 80%, AM modulation	
Frequency Step	1% of fundamental	
Polarity of Antenna	Horizontal and Vertical	
Test Distance	3 m	
Antenna Height	1.5 m	
Dwell Time	3 seconds	
Required Performance	A	

4.2.2.2 Test Setup



(For RS Test (80 MHz-1 GHz))



(For RS Test (above 1 GHz))

4.2.2.3 Test Procedure

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters.

The other condition as following manner:

1. The field strength level was 80 MHz to 1000 MHz for 10V/m, 1400 MHz to 6000 MHz for 3V/m.

2. The frequency range is swept from 80 MHz to 1000 MHz, 1400 MHz to 6000 MHz , with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x10^3 decades/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.

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

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

4.2.2.4 Test Result

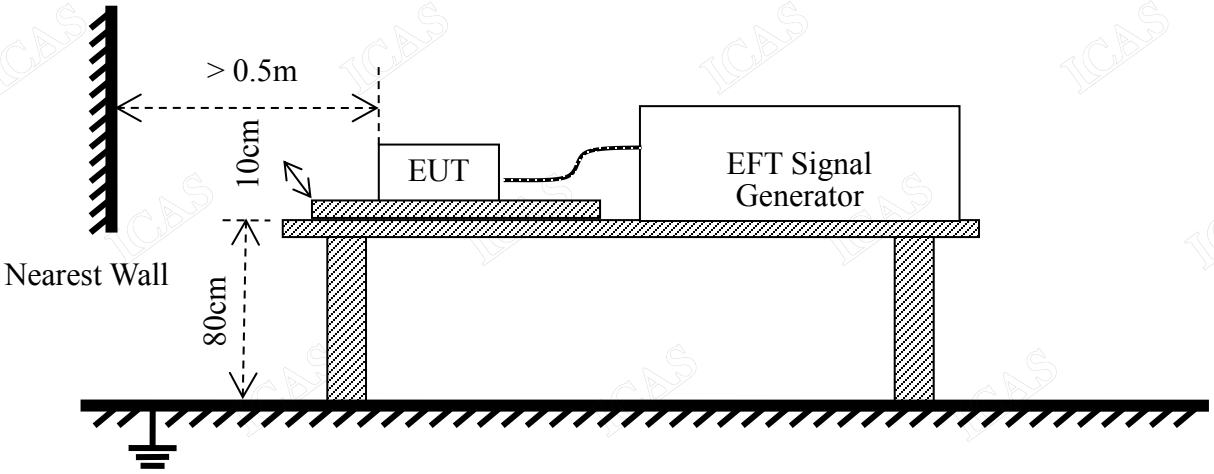
Please refer to the section 5.4 of this report for test data

4.2.3 Electrical Fast Transients/Burst

4.2.3.1 Test Specification

Basic Standard	IEC 61000-4-4
Test Voltage	AC power ports: 2kV, DC power ports: 1kV, Signal ports: 1kV.
Polarity	Positive / Negative
Impulse Frequency	5 /100 kHz
Impulse Wave Shape	5/50 ns
Burst Duration	15 ms
Burst Period	300 ms
Test Duration	Not less than 1 min
Required Performance	B

4.2.3.2 Test Setup



4.2.3.3 Test Procedure

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.

The other condition as following manner:

1. The length of power cord between the coupling device and the EUT should not exceed 1 meter.

2. Both positive and negative polarity discharges were applied.

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

4.2.3.4 Test Result

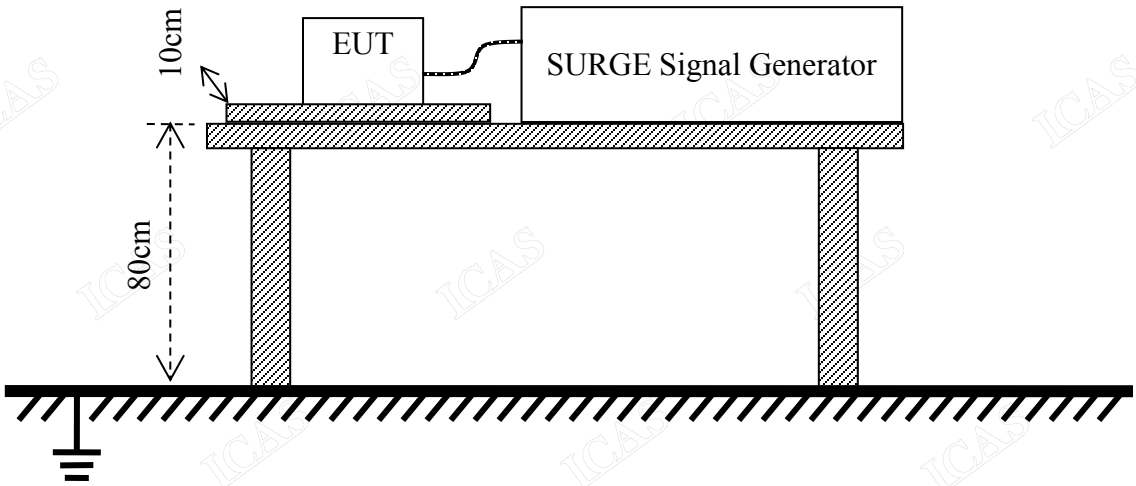
Please refer to the section 5.5 of this report for test data.

4.2.4 Surges

4.2.4.1 Test Specification

Basic Standard	IEC 61000-4-5		
Ports class	AC power ports	DC power ports	Signal/control ports
Waveform	Voltage: 1.2/50 μs	Voltage: 1.2/50 μs	Voltage: 1.2/50 μs
Test Voltage	line to earth 2kV, line to line 1kV;	line to earth 1kV, line to line 0.5kV;	line to earth 1kV
Polarity	Positive / Negative		
Phase Angle	0°, 90°, 180°, 270°	N/A	N/A
Repetition Rate	1 time / min. (maximum)		
Times	5 times per condition		
Required Performance	B		

4.2.4.2 Test Setup



4.2.4.3 Test Procedure

1. For EUT: The surge is to be applied to the EUT terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2meters in length (or shorter).

2. For test applied to unshielded unsymmetrically operated interconnection lines of EUT: The surge is applied to the lines via the capacitive coupling. The coupling /decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

3. For test applied to unshielded symmetrically operated interconnection/telecommunication lines of EUT: The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

4.2.4.4 Test Result

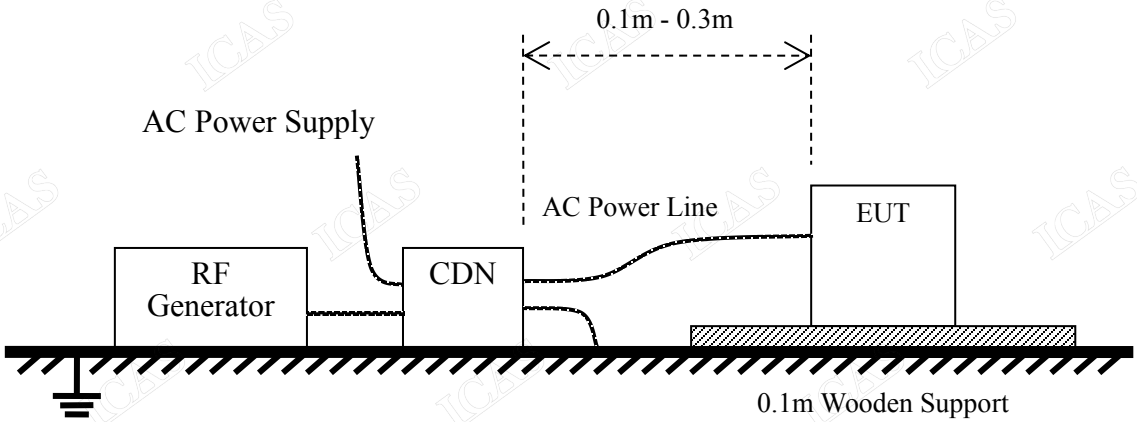
Please refer to the section 5.6 of this report for test data

4.2.5 Continuous Induced RF Disturbances

4.2.5.1 Test Specification

Basic Standard	IEC 61000-4-6
Frequency Range	0.15MHz - 80MHz
Field Strength	10V (unmodulated, r.m.s)
Modulation	1 kHz sine wave, 80% AM
Frequency Step	1% of fundamental
Test Ports	AC power ports; DC power ports; Signal/control ports
Required Performance	A

4.2.5.2 Test Setup



4.2.5.3 Test Procedure

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.

The other condition as following manner:

1. The field strength level was 10V (rms)

2. The frequency range is swept from 150 KHz to 80 MHz, with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x10^3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.

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

4.2.5.4 Test Result

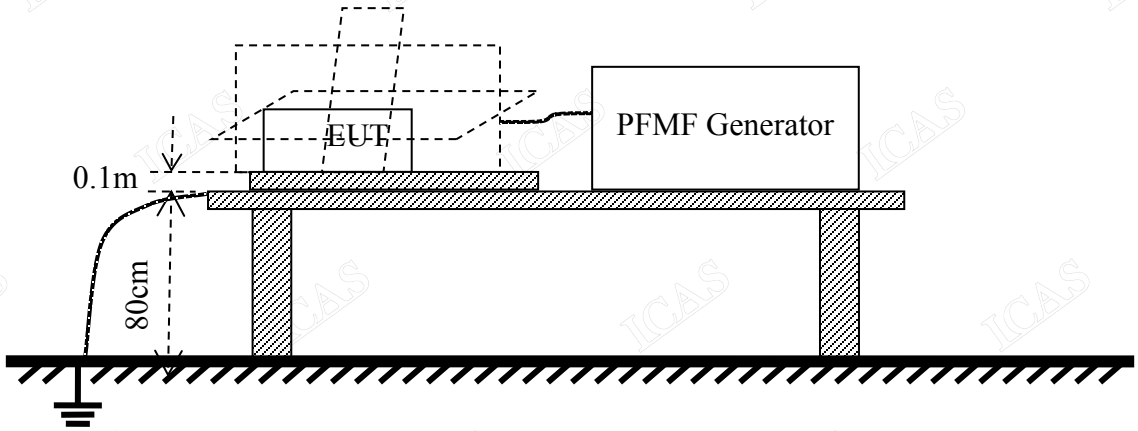
Please refer to the section 5.7 of this report for test data

4.2.6 Power Frequency Magnetic Field

4.2.6.1 Test Specification

Basic Standard	IEC 61000-4-8
Frequency	50 & 60Hz
Field strength	30A/m
Test of polarization	X/Y/Z
Required Performance	A

4.2.6.2 Test Setup



4.2.6.3 Test Procedure

1. The power supply, input and output circuits shall be connected to the sources of power supply, control and signal.

2. The cables supplied or recommended by the equipment manufacturer shall be used. 1 meter of all cables used shall be exposed to the magnetic field.

3. The EUT shall be subjected to the test magnetic field by using the induction coil of standard dimensions (1 m*1 m). The induction coil shall then be rotated by 90°in order to expose the EUT to the test field with different orientations.

4.2.6.4 Test Result

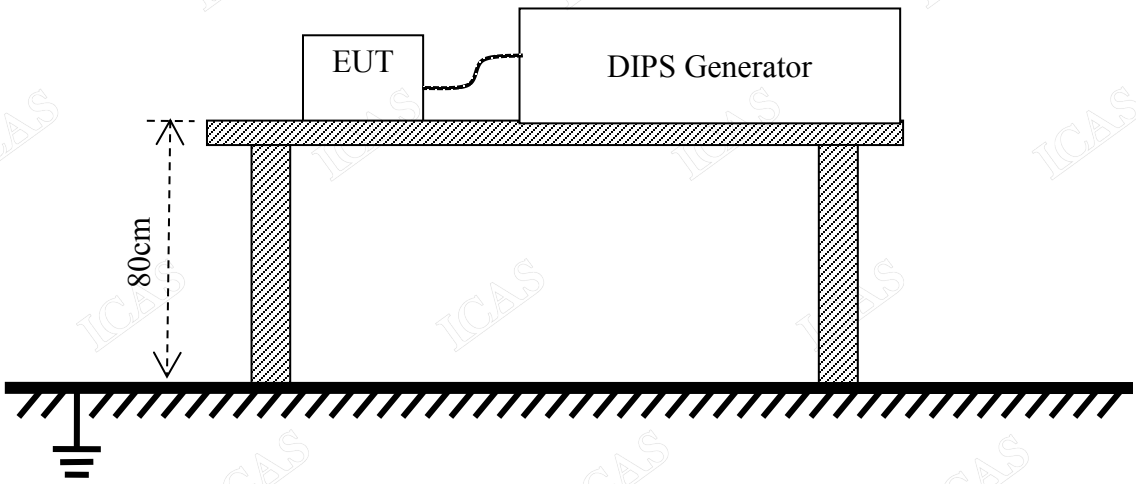
Please refer to the section 5.8 of this report for test data

4.2.7 Voltage Dips and Interruptions

4.2.7.1 Test Specification

Basic Standard	IEC 61000-4-11
Voltage Dips	>95% reduction: 10 ms; 30% reduction: 500 ms
Voltage Interruptions	>95% reduction: 5000 ms
Voltage Phase Angle	0°
Test Cycle	3 times
Required Performance	B (For >95% Voltage Dips) C (For 30% Voltage Dips) C (For >95% Voltage Interruptions)

4.2.7.2 Test Setup



4.2.7.3 Test Procedure

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

4.2.7.4 Test Result

Please refer to the section 5.9 of this report for test data

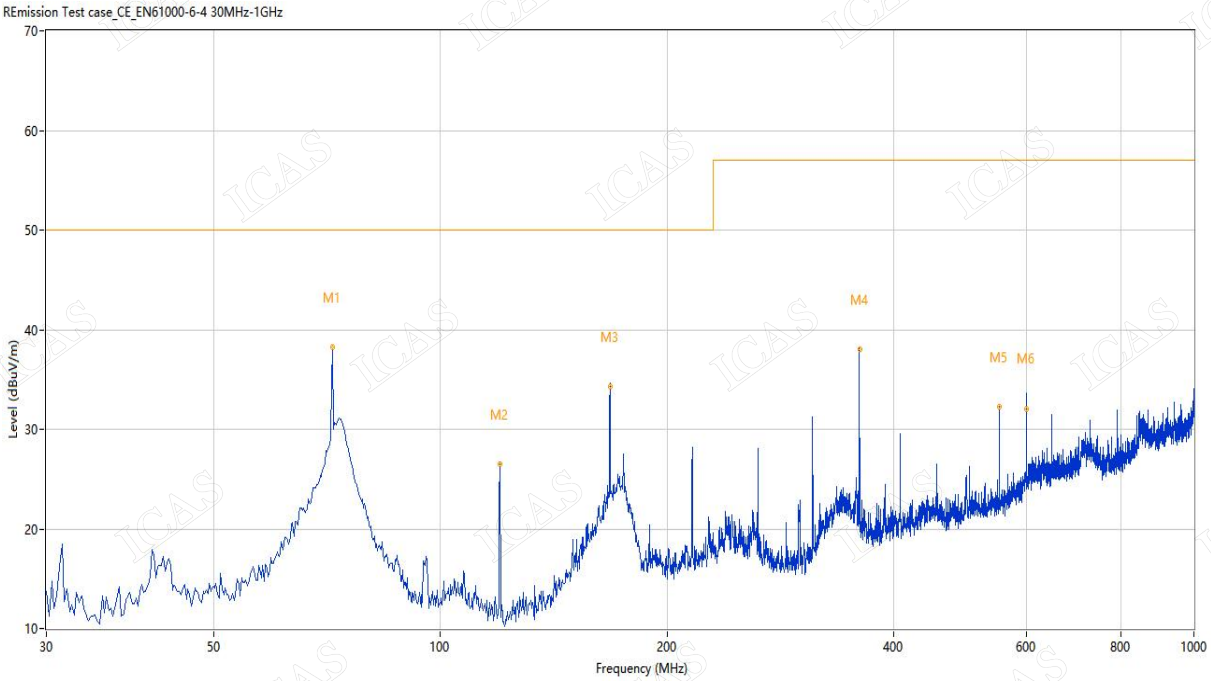
5 Test Results

5.1 Conducted Emission

Note: Not applicable.

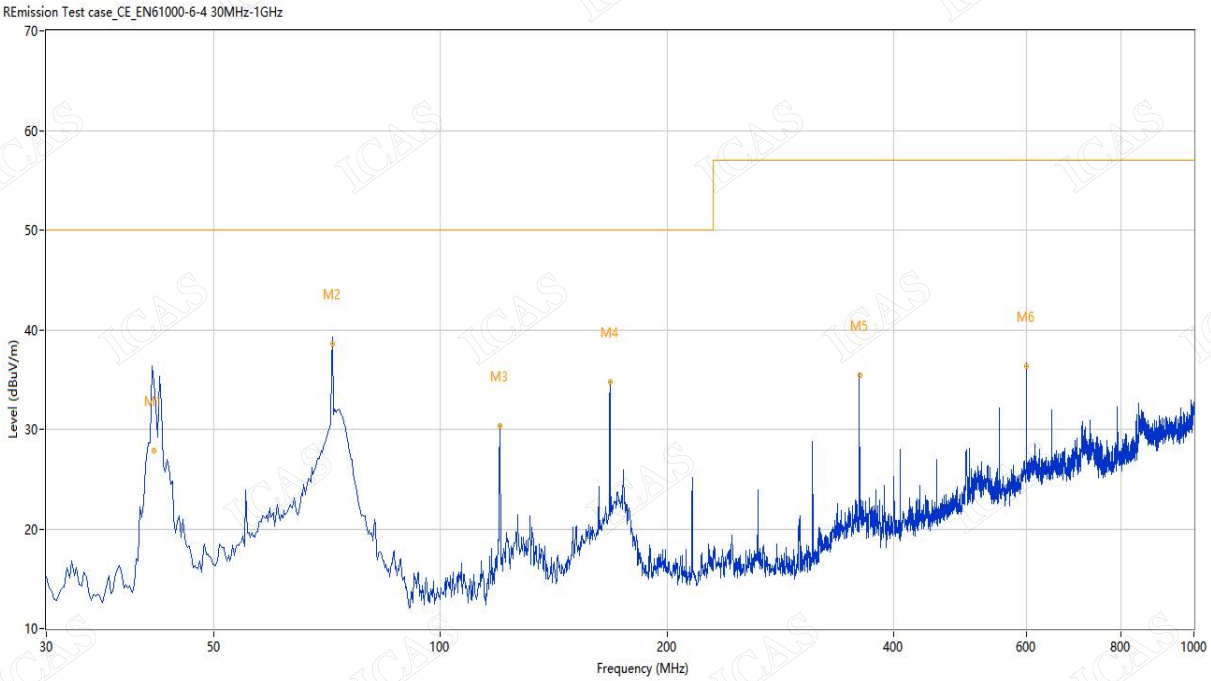
5.2 Radiated Emission

Temp./Hum./Atm.	24.9°C/41%/102kPa	Test Address	3m Anechoic Chamber
Test Mode:	1	Frequency Range:	30M-1GHz
Test Voltage:	DC5V is powered by USB	Polarization:	Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	72.000	39.73	-30.00	50.0	10.27	Peak	318.60	244	Horizontal	Pass
1*	72.000	38.20	-30.00	50.0	11.80	QP	318.60	244	Horizontal	Pass
2	120.000	27.40	-28.11	50.0	22.60	Peak	284.20	164	Horizontal	Pass
2*	120.000	26.55	-28.11	50.0	23.45	QP	284.20	164	Horizontal	Pass
3	168.000	35.56	-28.79	50.0	14.44	Peak	301.50	184	Horizontal	Pass
3*	168.000	34.29	-28.79	50.0	15.71	QP	301.50	184	Horizontal	Pass
4	359.999	38.76	-21.87	57.0	18.24	Peak	59.10	100	Horizontal	Pass
4*	359.999	37.98	-21.87	57.0	19.02	QP	59.10	100	Horizontal	Pass
5	551.999	33.64	-16.99	57.0	23.36	Peak	0.00	168	Horizontal	Pass
5*	551.999	32.26	-16.99	57.0	24.74	QP	0.00	168	Horizontal	Pass
6	599.999	33.87	-14.77	57.0	23.13	Peak	0.00	154	Horizontal	Pass
6*	599.999	32.02	-14.77	57.0	24.98	QP	0.00	154	Horizontal	Pass

Temp./Hum./Atm.	24.9°C/41%/102kPa	**Test Address**	3m Anechoic Chamber
Test Mode:	1	**Frequency Range:**	30M-1GHz
Test Voltage:	DC5V is powered by USB	**Polarization:**	Vertical



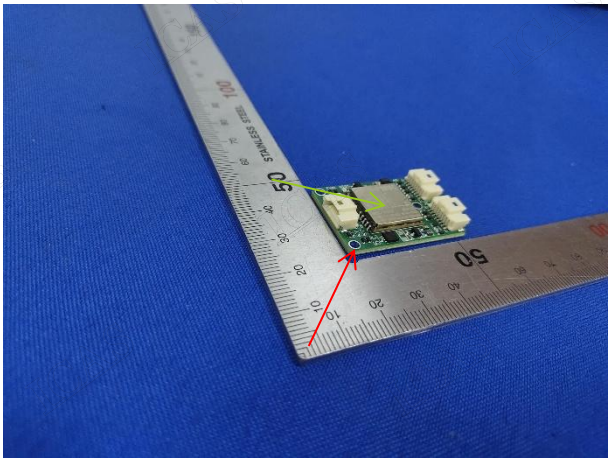
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.627	33.12	-26.06	50.0	16.88	Peak	159.60	100	Vertical	Pass
1*	41.627	27.81	-26.06	50.0	22.19	QP	159.60	100	Vertical	Pass
2	72.000	40.04	-30.00	50.0	9.96	Peak	273.70	100	Vertical	Pass
2*	72.000	38.59	-30.00	50.0	11.41	QP	273.70	100	Vertical	Pass
3	120.000	31.35	-28.11	50.0	18.65	Peak	279.60	100	Vertical	Pass
3*	120.000	30.39	-28.11	50.0	19.61	QP	279.60	100	Vertical	Pass
4	167.999	35.75	-28.79	50.0	14.25	Peak	285.80	100	Vertical	Pass
4*	167.999	34.69	-28.79	50.0	15.31	QP	285.80	100	Vertical	Pass
5	359.999	37.71	-21.87	57.0	19.29	Peak	328.30	129	Vertical	Pass
5*	359.999	35.46	-21.87	57.0	21.54	QP	328.30	129	Vertical	Pass
6	599.998	37.55	-14.77	57.0	19.45	Peak	184.30	101	Vertical	Pass
6*	599.998	36.29	-14.77	57.0	20.71	QP	184.30	101	Vertical	Pass

5.3 Electrostatic Discharges

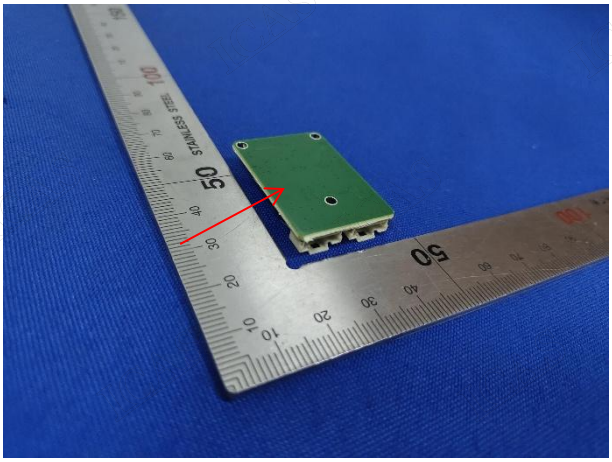
Temp./Hum./Atm.		27.4°C/49%/102kPa	Test Address	EMC Lab①		
Test Mode		1	Test Voltage	DC5V is powered by USB		
Coupling		Test Points	Discharge Level (kV)	Performance Criteria	Results	Verdict
Direct application	Contact Discharge	Surface metal	±4	B	A	Pass
	Air Discharge	Surface crack	±2		A	Pass
			±4		A	Pass
			±8		A	Pass
Indirect application	HCP	Front Side	±4		A	Pass
		Back Side	±4		A	Pass
		Left Side	±4		A	Pass
		Right Side	±4		A	Pass
	VCP	Front Side	±4		A	Pass
		Back Side	±4		A	Pass
		Left Side	±4		A	Pass
		Right Side	±4		A	Pass
Observations: During and after the test no observed/perceived response from EUT.						

Test point as follows:

Air Discharge



Contact Discharge



5.4 Continuous RF Electromagnetic Field Disturbances

Temp./Hum./Atm.	24.9°C/41%/102kPa		Test Address	3m Anechoic Chamber		
Test Mode	1		Test Voltage	DC5V is powered by USB		
Antenna Polarity	**Frequency Range (MHz)**	**Side**	**Field Strength Level (V/m)**	**Performance Criteria**	**Results**	**Verdict**
Horizontal	80 - 1000	Front	10	A	A	Pass
		Back	10		A	Pass
		Left	10		A	Pass
		Right	10		A	Pass
Vertical	80 - 1000	Front	10		A	Pass
		Back	10		A	Pass
		Left	10		A	Pass
		Right	10		A	Pass
Horizontal	1400 - 6000	Front	3		A	Pass
		Back	3		A	Pass
		Left	3		A	Pass
		Right	3		A	Pass
Vertical	1400 - 6000	Front	3		A	Pass
		Back	3		A	Pass
		Left	3		A	Pass
		Right	3		A	Pass
Observations: During and after the test no observed/perceived response from EUT.						

5.5 Electrical Fast Transients/Burst

Note: Not applicable.

5.6 Surges

Note: Not applicable.

5.7 Continuous Induced RF Disturbances

Note: Not applicable.

5.8 Power Frequency Magnetic Field

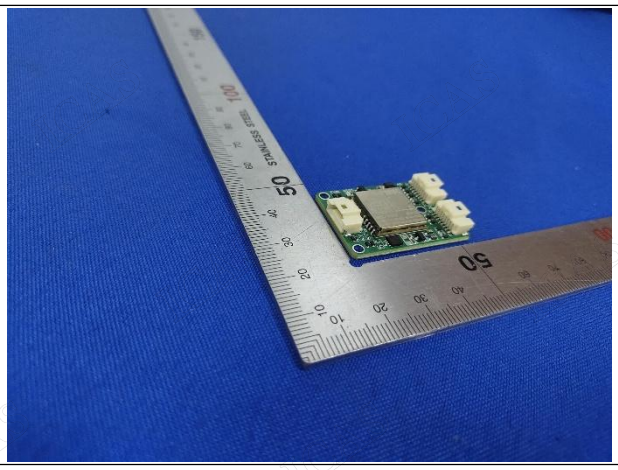
Temp./Hum./Atm.	26.8°C/38%/102kPa	Test Address	EMC Lab②		
Test Mode	1	Test Voltage	DC5V is powered by USB		
Magnetic Field Strength A/m	**Test Frequency**	**Polarity**	**Performance Criteria**	**Results**	**Verdict**
30	50, 60	X	A	A	Pass
		Y		A	Pass
		Z		A	Pass
Observations: During and after the test no observed/perceived response from EUT.					

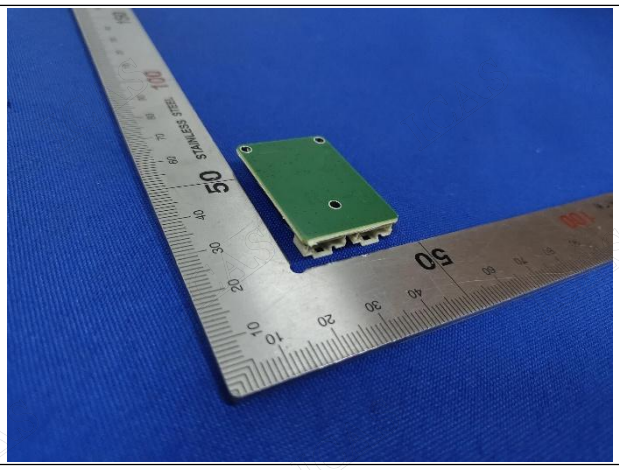
5.9 Voltage Dips and Interruptions

Note: Not applicable.

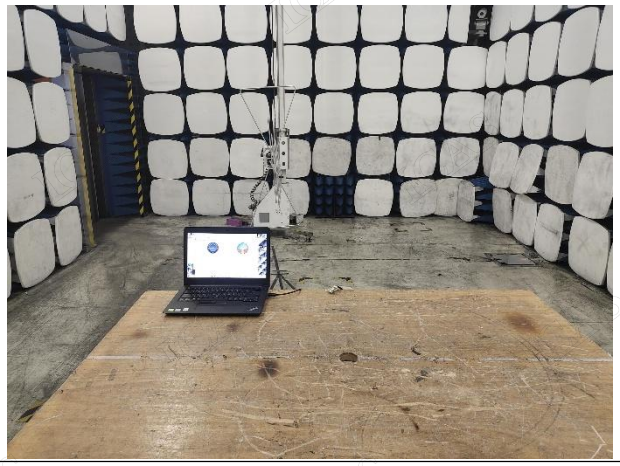
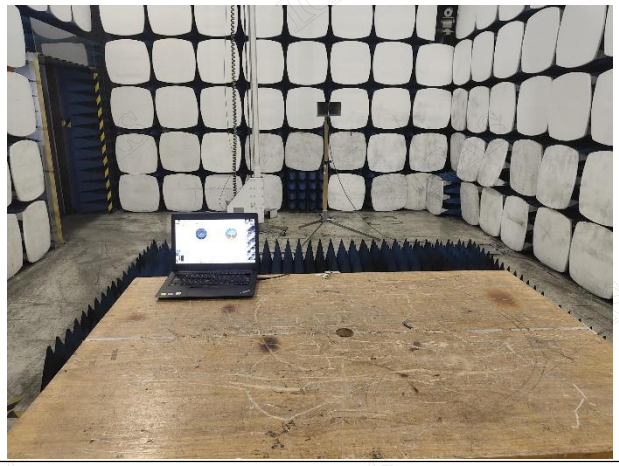
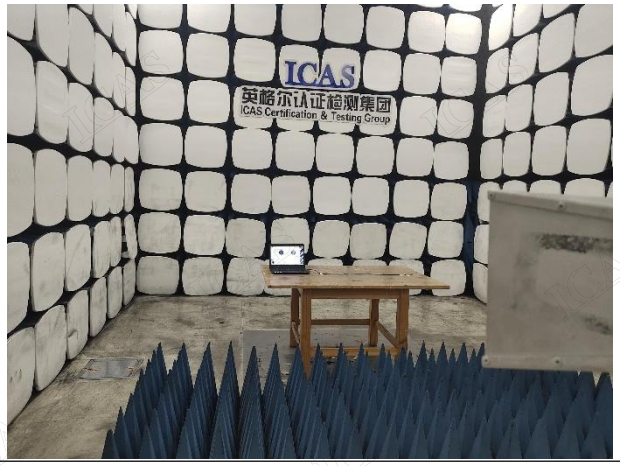
6 Photographs of the EUT and Test Set-Up

6.1 Photographs of the EUT





6.2 Photographs of the Test Set-up

Radiated Emission Test Set-up for 30M-1GHz 	Radiated Emission Test Set-up for 1-6GHz 
Electrostatic Discharges Test Set-up 	Continuous RF Electromagnetic Field Disturbances Test Set-up for 80M-1GHz 
Continuous RF Electromagnetic Field Disturbances Test Set-up for 1.4-6GHz 	Power Frequency Magnetic Field Test Set-up 

End of the report

声明
Terms & conditions

1. 英格尔检测技术服务（上海）有限公司（以下简称“本公司”）以保密的方法处理及签发有关报告予客户。在未得本公司的同意下，该报告不得作部分翻制，或作宣传或其它未经本公司许可的用途。当该客户从本公司收到有关报告后，可以展示或传送该报告或由本公司所制定该报告的核证版本予其顾客、供应商或其它直接有关人士。除非被有关政府机构、法律或法庭命令所要求，本公司在未经客户的同意前，将不会与其他方就报告的内容进行任何讨论、书信的往来或透露。

   A report will be issued in confidence to the Clients and it will be strictly treated as such by ICAS Testing Technology Service (Shanghai) Co., Ltd. (hereinafter referred to as "ICAS"). It should not be reproduced in part and it should not be used for advertising or other unauthorized purposes without the written consent of ICAS. The Clients to whom the Report is issued, however, show or send it, or a certified copy thereof prepared by ICAS, to his customer, supplier or other persons directly concerned. ICAS will, without the consent of the Clients, neither enter into any discussion or correspondence with nor disclose to any other party concerning the contents of the report unless required by the relevant governmental authorities, laws or court orders.

2. 假若该客户准备利用本公司所签发的报告在司法或仲裁程序上，该客户于呈交样品予本公司作测试前必须明确阐述此用途。

   If the client is prepared to use the report issued by ICAS in the judicial or arbitral, the client must specify this use before submitting the sample to ICAS for testing.

3. 除非本公司的确进行抽样测试及于有关报告内阐明此项事实，该报告只适用于已被测试的样品，而不适用于大量额度的有关货品。

   Unless ICAS does carry out a sampling test and clarify this fact in the relevant report, the report applies only to the samples that have been tested and do not apply to a large amount of the relevant goods.

4. 假若该客户并未指定该测试所应用的测试方法或标准，本公司将会自行选择适当的方法或标准并在委托协议 / 合同中告知。

   If the Clients do not specify the methods / standards to be applied, ICAS will choose the appropriate methods/standards and inform the client in the agreement/contract.

5. 本公司对由于利用本公司所签发的任何报告或通讯内的资料而造成的损失，概不会承担任何责任。

   ICAS will not be liable or accept responsibility for any loss or damage arising from the use of in the reports issued by ICAS or communication information.

6. 假若该报告被不适当地运用，本公司将会保留权利撤回该报告，及采取任何适当的措施。

   If the report is inappropriately used, ICAS will reserve the right to withdraw the report and take any appropriate action.

7. 该客户同意其委托本公司进行测试所得出之报告，并不能作为针对本公司法律行动的依据。

   Samples submitted for testing are accepted on the understanding that the report issued cannot form the basis of, or be the instrument for, legal action against ICAS.

8. 假若该客户的要求令致有关该样品的测试须于该客户或任何第三方的实验室进行，则本公司只会代为传送有关该测试的结果，对其准确性概不负任何责任。如本公司只可证明该客户或任何第三方的实验室已进行有关测试，则本公司只可确认某正确的样品已经被测试，而毋须为该测试的准确性负任何责任。

   If the Clients require the analysis of samples by the Client’ s or any third party’ s laboratory, ICAS will only convey the result of the analysis without responsibility for its accuracy. If ICAS is only able to witness an analysis by the Client’ s or any third party’ s laboratory ICAS will only confirm that the correct sample has been analyzed without responsibility for the accuracy of any analysis or results.

9. 本公司在提供测试服务期间所衍生的任何报告、证书或其它物资，其相关的所有法律产权（包括知识产权），皆由本公司所拥有。

   Any legal property right (include intellectual property) in respect of any report, certificate or other materials derived from ICAS during the provision of the testing service are owned by ICAS.

10. 当本公司收到该客户的请求，本公司可以电子媒介传递有关测试服务的结果，但该客户应注意，电子媒介传递不能保证其所含资料不会流失、延缓或被其他方截取。对于电子媒介传递导致其所含的任何资料出现泄露、差误或遗漏，本公司将不会负任何责任。

    When ICAS receives the request from the Client, ICAS transmit the results of the test service in electronic media, but the Client should note that the Electronic Media Delivery does not guarantee that the information contained therein will not be lost, delayed or intercepted by third party. ICAS is not liable for any disclosure, error or omission in the content of such messages as a result of electronic transmission.

11. 本公司对其可控范围之外发生的样品质量或其它特征的变化不承担责任。本报告不具有对测试项目或样品推荐或认可的作用。

    ICAS assumes no responsibility for variations in quality or other characteristics of items submitted under conditions over which ICAS has no control. This Report does not constitute a recommendation for, or endorsement of, the item or material tested.

12. 本公司经与客户协商一致出具纸质版或电子版形式的报告；报告涂改无效；无授权签字人签字无效；纸质版报告未加盖本公司“检验检测专用章”或“报告专用章”和骑缝章无效；电子版报告未加盖本公司“检验检测专用章”或“报告专用章”无效。

    The company issues the report in paper or electronic form through consultation with the customer. The report is invalid if altered or without authorized signatory; The paper version of the report is invalid without the company's "special seal for inspection and testing" or "special seal for report" and the cross seal; The electronic version of the report is invalid without the company's "special seal for inspection and testing" or "special seal for report".

13. 对报告若有异议，有法律法规规定的，依照法律法规执行。其它委托类型报告应于收到报告之日起十五日内向本公司提出，逾期不予受理。

    Any objection to the report should execute according to laws and regulations if exist, other entrusted report should be submitted to ICAS within 15 days from the date of receiving the report, and overdue will not be handled.

14. 样品及样品信息由客户提供及确认。本公司不负责证实样品的真伪性，不承担证实客户提供信息的准确性、适当性和（或）完整性责任。

    The sample(s) and sample information should be provided and confirmed by the Client. ICAS is not responsible for verifying the authenticity of the sample and does not assume responsibility for the accuracy, appropriateness and/or completeness of the information provided by the Client.

15. 不包含 CMA 资质认定标志的报告，检测数据和结果不具有对社会的证明作用，仅供科研、教学、内部质量控制之用。中英文报告内容以中文为准。

    The date and results shown in the report without CMA logo are not used as proof for society, only used for reference in study, teaching and internal quality control . The Chinese version of the report written in Chinese and English shall prevail.

备注：1. 报告中带“*”代表暂未在 CNAS 范围内。

Note： “*in the report indicates that it is not included in the scope of CNAS.

2. “＃”号代表数据来源于指定的签约实验室

“＃” indicated that data comes from designated contracted lab:

CMA 资质认定证书编号 CMA Certificate No:

CNAS 注册号 CNAS Registration No:

ICAS英格尔检测中心 ICAS Testing Center
Tel:0086 21-51682999 E-mail:info@icas.org.cn
Add:上海市闵行区瓶北路155号/瓶安路1298号/徐汇区中山西路2368号18F
155 Pingbei Rd / 1298 Pingan Rd, Minhang District, Shanghai/18F,2368W.Zhongshan Rd,Xuhui District.

ICAS英格尔认证中心 ICAS Certification Center
Tel:0086 21-51114700 E-mail:info@icas.org.cn
Add:上海市徐汇区中山西路2368号华鼎大厦31F/25F
31/25F Huading Tower , 2368W.Zhongshan Rd,Xuhui District,Shanghai

ICAS全国各分支机构 温州 / 广州 / 深圳 / 福州 / 厦门 / 昆明 / 南宁 / 长沙 / 重庆 / 成都 / 南京 / 合肥 / 青岛 / 郑州 / 济南 / 江西 / 天津
ICAS National Branch Offices Wenzhou/Guangzhou/Shenzhen/Fuzhou/Xiamen/Kunming/Nanning/Changsha/Chongqing/Chengdu/Nanjing/Hefei/Qingdao/Zhengzhou/Jinan/Jiangxi/Tianjin