



EMC TEST REPORT

Product : Integrated Servo Motor

Trade mark :  雷恩智能®  **Leadshine**®

Model/Type reference : iSV2-CAN8075V48H,iSV2-RS8075V48H,
iSV2-CAN8075V48G, iSV2-RS8075V48G
iSV2-CAN8675V48H,iSV2-RS8675V48H,
iSV2-CAN8675V48G, iSV2-RS8675V48G
iSV2-***8075V48***, iSV2-***8675V48***, ""
values are 0 to 9 and A to Z characters

Serial Number : N/A

Ratings : DC 24-70V

Report Number : EED32O813035

Date of Issue : Mar. 07, 2023

Regulations : See below

| Test Standards | Results |
|---|---------|
| <input checked="" type="checkbox"/> EN IEC 61000-6-2:2019 | PASS |
| <input checked="" type="checkbox"/> EN IEC 61000-6-4:2019 | PASS |



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Check No.: 7519220822

Modification Record

| No. | Last Report No. | Modification Description |
|--|-----------------|--------------------------|
| 1 | EED32O813034 | First report |
| 2 | EED32O813035 | Change the product model |
| All test data come from the report of No. EED32O813035 | | |

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(Note: N/A means not applicable)


1. GENERAL INFORMATION

Applicant: China Leadshine Technology Co., Ltd.
15-20/F, Block B, Nanshan I Valley, No.3157, Shahe West Road, Nanshan District, Shenzhen

Manufacturer: China Leadshine Technology Co., Ltd.
15-20/F, Block B, Nanshan I Valley, No.3157, Shahe West Road, Nanshan District, Shenzhen

EMC Directive: 2014/30/EU

Product: Integrated Servo Motor

Trade mark:  

Model/Type reference: iSV2-CAN8075V48H, iSV2-RS8075V48H, iSV2-CAN8075V48G, iSV2-RS8075V48G, iSV2-CAN8675V48H, iSV2-RS8675V48H, iSV2-CAN8675V48G, iSV2-RS8675V48G, iSV2-***8075V48***, iSV2-***8675V48***, "***" values are 0 to 9 and A to Z characters

Serial Number: N/A

Report Number: EED32O813035

Sample Received Date: Aug. 25, 2022

Sample tested Date: Aug. 25, 2022 to Sep. 09, 2022

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

2. TEST SUMMARY

The Product has been tested according to the following specifications:

| EMISSION | | |
|------------------|--------------------|------|
| Standard | Test Item | Test |
| EN IEC 61000-6-4 | Conducted Emission | Yes |
| EN IEC 61000-6-4 | Radiated Emission | Yes |

| IMMUNITY (EN IEC 61000-6-2) | | |
|-----------------------------|--|------|
| Standard | Test Item | Test |
| IEC 61000-4-2 | Electrostatic discharge | Yes |
| IEC 61000-4-3 | Radio-frequency electromagnetic field | Yes |
| IEC 61000-4-4 | Fast transients | Yes |
| IEC 61000-4-5 | Surges | Yes |
| IEC 61000-4-6 | Radio-frequency common mode | Yes |
| IEC 61000-4-8 | Power-frequency magnetic fields | N/A* |
| IEC 61000-4-11 | Voltage dips and voltage interruptions | Yes |

Remark*: The Product doesn't contain any device susceptible to magnetic fields.

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product 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.

| Test item | Value (dB) |
|--------------------------------------|------------|
| Conducted disturbance | 3.1 |
| Radiated disturbance (30MHz to 1GHz) | 4.9 |

4. PRODUCT INFORMATION AND TEST SETUP

4.1 PRODUCT INFORMATION

Ratings: DC24-70V

The highest frequency of the internal sources of the EUT is :

- ☒ less than 108 MHz, the measurement shall only be made up to 1 GHz.
☐ between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.
☐ between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.
☐ above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

Model difference:

Their electrical circuit design, layout, components used and internal wiring are identical. The difference is naming and software version. The test model is iSV2-CAN8075V48Hand the test results are applicable to the others.

4.2 TEST SETUP CONFIGURATION

See test photographs attached in Appendix 1 for the actual connections between product and support equipment.

4.3 TEST MODE DESCRIPTION

| Test Mode | Test Status |
|-----------|--|
| Normal | The power supply of the product is in normal working condition |

4.4 MONITORING OF PRODUCT FOR THE IMMUNITY TEST

Visual: Observe whether EUT operates normally

4.5 SUPPORT EQUIPMENT

| No. | Device Type | Brand | Model | Series No. | Data Cable | Power Cord |
|-----|-------------|-------|-------|------------|------------|------------|
| 1. | --- | --- | --- | --- | --- | --- |

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5. FACILITIES AND ACCREDITATIONS

5.1 TEST FACILITY

All measurement facilities used to collect the measurement data are located at Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

5.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipments used at CTI for testing. The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

Equipment used during the tests:

| Shielding Room No. 3 - Conducted disturbance Test | | | | |
|---|--------------|--------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Receiver | R&S | ESCI | 100435 | 05/05/2023 |
| LISN | R&S | ENV216 | 100098 | 02/28/2023 |

| 3M Semi-anechoic Chamber (2)- Radiated disturbance Test | | | | |
|---|--------------|----------------------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| 3M Chamber & Accessory Equipment | TDK | SAC-3 | --- | 05/21/2025 |
| TRILOG Broadband Antenna | schwarzbeck | VULB 9163 | 401 | 10/15/2022 |
| Multi device Controller | maturro | NCD/070/10711 112 | --- | --- |
| Horn Antenna | schwarzbeck | BBHA 9120D | 9120D-1869 | 04/16/2024 |
| Pre-amplifier | Agilent | 8449B | 3008A02425 | 06/19/2023 |
| Receiver | R&S | ESCI7 | 100938-003 | 10/13/2022 |

| Shielding Room No. 3 - Electrostatic discharge Test (EN 61000-4-2) | | | | |
|--|--------------|--------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| ESD Simulator | TESEQ | NSG437 | 1182 | 06/09/2023 |

| 3M Full-anechoic Chamber - Continuous RF electromagnetic radiated field disturbances Test (IEC 61000-4-3) | | | | |
|--|---------------------|---------------------|-------------------|-----------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| 3M Chamber & Accessory Equipment | ETS-LINDGREN | FACT-3 | 3510 | 05/19/2025 |
| Signal Generator | R&S | SMB 100B | 103084 | 05/19/2023 |
| Power Probe | R&S | NRP6A | 103342 | 07/12/2023 |
| Power Probe | R&S | NRP6A | 103343 | 07/12/2023 |
| Power Amplifier | R&S | BBA 150-BC500 | 104743 | 06/05/2023 |
| Power Amplifier | BONN | BLMA 1060-100 | 2113427 | 08/24/2023 |
| RF switch | R&S | OSP220 | 102205 | --- |
| Directional coupler | BONN | BDC 1060-40/500 | 2128343-04 | 12/02/2022 |
| Stacked double Log.-Per. Antenna | schwarzbeck | STLP 9128 E special | 9128ES-110 | 03/29/2024 |
| Horn Antenna | schwarzbeck | STLP 9149 | 0776 | 05/21/2023 |

| Shielding Room No. 3 - Electrical fast transients/burst (EFT/B)/Surges Test (IEC 61000-4-4) (IEC 61000-4-5) | | | | |
|--|---------------------|--------------|-------------------|-----------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Compact Generator | EM-Test | UCS500M/6B | V0603101093 | 03/31/2023 |

| Shielding Room No. 2 - Injected currents Test (IEC 61000-4-6) | | | | |
|--|---------------------|--------------|-------------------|-----------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| RF conduction immunity test system | TESEQ | NSG 4070C-80 | 59089 | 08/27/2023 |
| Attenuator | BIRD | 75-A-MFN-06 | 0543 | 07/25/2023 |
| CDN | TESEQ | CDN M516AS | 59088 | 09/13/2022 |

| Shielding Room No. 2 - Voltage dips and interruptions Test (IEC 61000-4-11) | | | | |
|--|---------------------|--------------|-------------------|-----------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| AC / DC programmable regulated power supply | EM TEST | Net Wave 30 | P1613178144 | 06/05/2023 |
| Single / three phase scintillation simulator | EM TEST | 503N32 | P1613178045 | 06/05/2023 |
| Three phase harmonic and scintillation analyzer | EM TEST | DPA 503N | P154516605 | 06/05/2023 |
| Voltage dip simulator | EM test | PFS 503N32.2 | P1919229535 | 03/31/2023 |

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

6. CONDUCTED DISTURBANCE

6.1 Limits

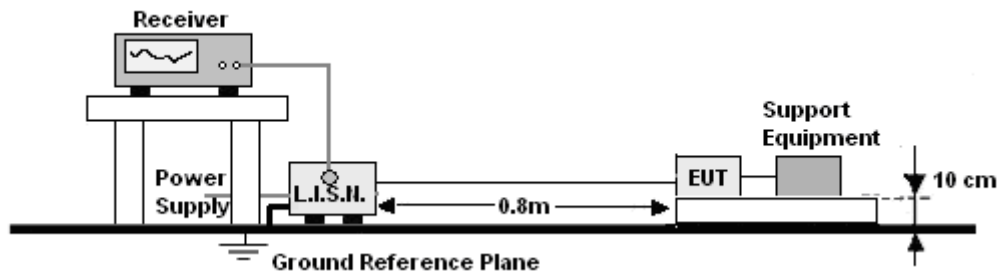
Limits for Group 1 class A Equipment

| Frequency range (MHz) | Limits dB(μV) | |
|--------------------------|------------------|---------|
| | Quasi-peak | Average |
| 0,15 to 0,50 | 79 | 66 |
| 0,50 to 30 | 73 | 60 |

NOTE: The lower limit shall apply at the transition frequency.

6.2 BLOCK DIAGRAM OF TEST SETUP

For AC mains port:



6.3 TEST PROCEDURE

For AC mains port :

- The Product was placed on a nonconductive table 0.1m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 GRAPHS AND DATA

Product : Integrated Servo Motor

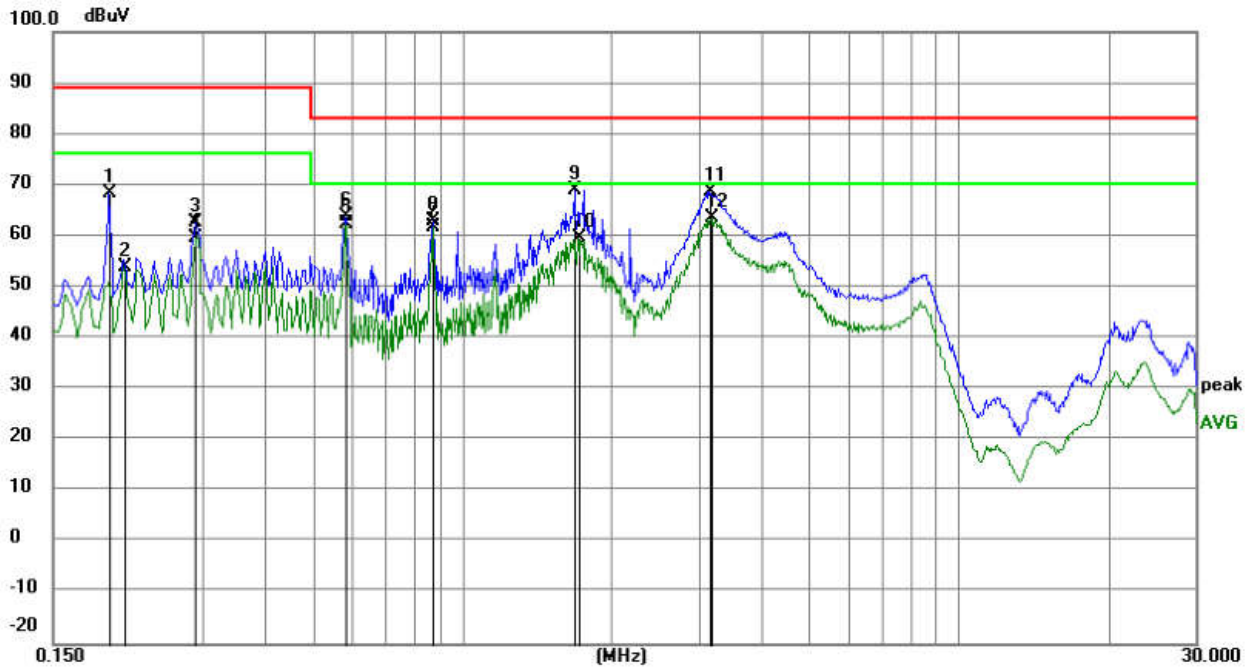
Model/Type reference : iSV2-CAN8075
V48H

Power : DC 70V

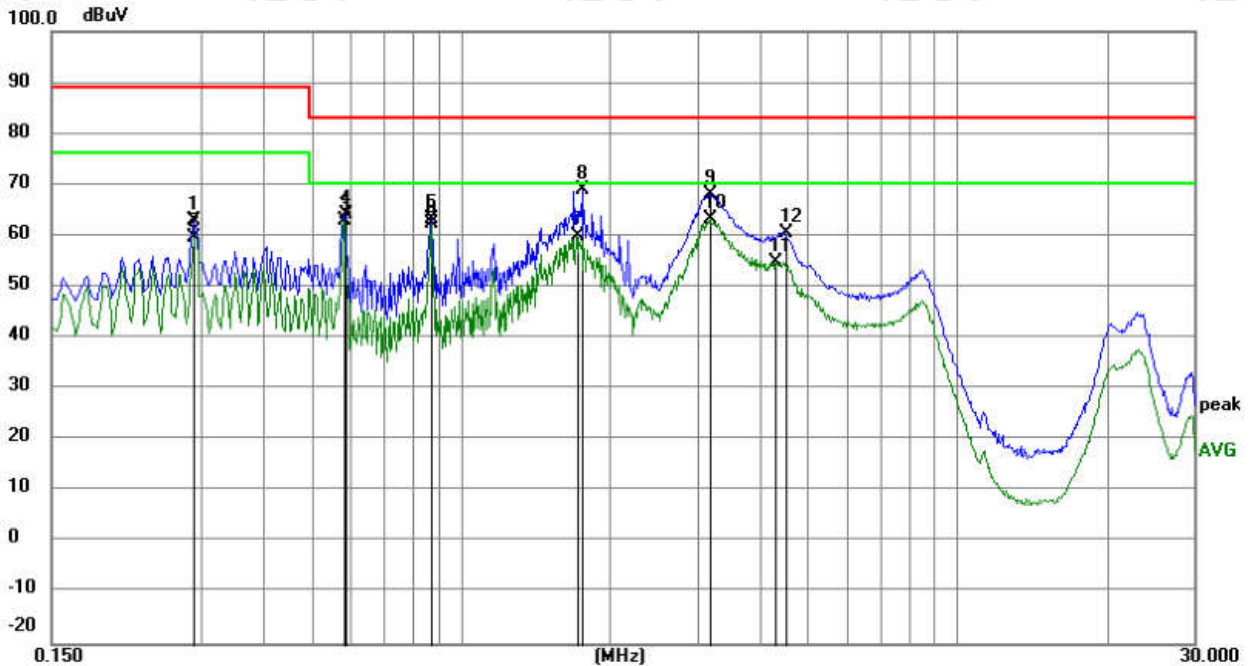
Temperature/Humidity : 24°C/52%

Mode : Normal

Polarization : L



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.1949 | 58.51 | 9.87 | 68.38 | 89.00 | -20.62 | QP | |
| 2 | | 0.2085 | 44.16 | 9.89 | 54.05 | 76.00 | -21.95 | AVG | |
| 3 | | 0.2895 | 52.50 | 10.05 | 62.55 | 89.00 | -26.45 | QP | |
| 4 | | 0.2895 | 49.62 | 10.05 | 59.67 | 76.00 | -16.33 | AVG | |
| 5 | | 0.5819 | 52.25 | 10.05 | 62.30 | 70.00 | -7.70 | AVG | |
| 6 | | 0.5820 | 53.69 | 10.05 | 63.74 | 83.00 | -19.26 | QP | |
| 7 | | 0.8744 | 51.89 | 9.85 | 61.74 | 70.00 | -8.26 | AVG | |
| 8 | | 0.8745 | 53.07 | 9.85 | 62.92 | 83.00 | -20.08 | QP | |
| 9 | | 1.6845 | 59.17 | 9.80 | 68.97 | 83.00 | -14.03 | QP | |
| 10 | | 1.7114 | 49.90 | 9.80 | 59.70 | 70.00 | -10.30 | AVG | |
| 11 | | 3.1514 | 58.88 | 9.79 | 68.67 | 83.00 | -14.33 | QP | |
| 12 | * | 3.1829 | 53.81 | 9.79 | 63.60 | 70.00 | -6.40 | AVG | |

Product : Integrated Servo Motor**Model/Type reference** : iSV2-CAN8075
V48H**Power** : DC 70V**Temperature/Humidity** : 24°C/52%**Mode** : Normal**Polarization** : N

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.2895 | 53.01 | 10.05 | 63.06 | 89.00 | -25.94 | QP | |
| 2 | | 0.2895 | 49.73 | 10.05 | 59.78 | 76.00 | -16.22 | AVG | |
| 3 | | 0.5820 | 52.82 | 10.05 | 62.87 | 70.00 | -7.13 | AVG | |
| 4 | | 0.5865 | 54.25 | 10.05 | 64.30 | 83.00 | -18.70 | QP | |
| 5 | | 0.8745 | 53.33 | 9.85 | 63.18 | 83.00 | -19.82 | QP | |
| 6 | | 0.8745 | 52.37 | 9.85 | 62.22 | 70.00 | -7.78 | AVG | |
| 7 | | 1.7115 | 50.01 | 9.80 | 59.81 | 70.00 | -10.19 | AVG | |
| 8 | | 1.7610 | 59.28 | 9.80 | 69.08 | 83.00 | -13.92 | QP | |
| 9 | | 3.1695 | 58.30 | 9.79 | 68.09 | 83.00 | -14.91 | QP | |
| 10 | * | 3.1829 | 53.53 | 9.79 | 63.32 | 70.00 | -6.68 | AVG | |
| 11 | | 4.3034 | 45.10 | 9.78 | 54.88 | 70.00 | -15.12 | AVG | |
| 12 | | 4.5195 | 50.90 | 9.78 | 60.68 | 83.00 | -22.32 | QP | |

Note: 1. $\text{Margin(dB)} = \text{Limit(dBuV)} - \text{Measurement(dBuV)}$.2. $\text{Measurement(dBuV)} = \text{Reading_Level(dBuV)} + \text{Correct Factor(dB)}$.

3. Through Pre-scan, DC 70V was the worst case; only the worst case was in the report.

7. RADIATED EMISSION

7.1 LIMITS

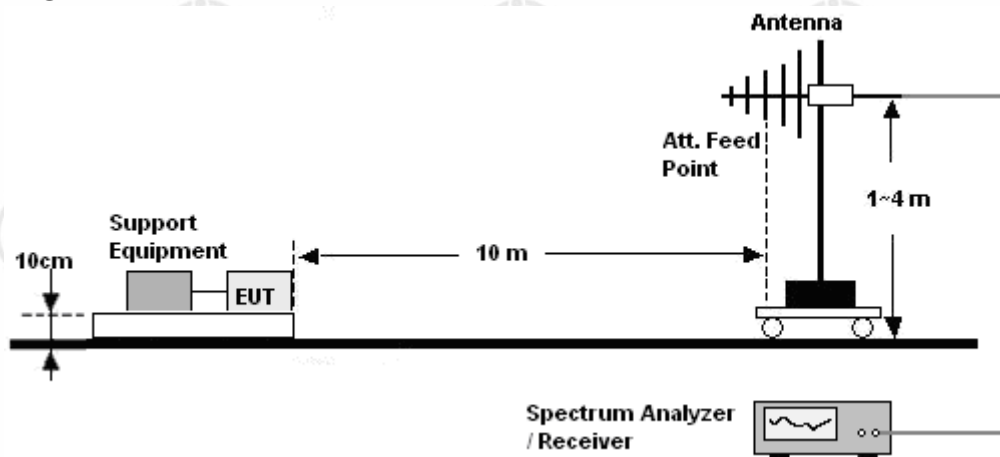
Limits for Group 1 class A Equipment

| Frequency (MHz) | Quasi-peak limits at 3m dB(μ V/m) (≤ 20 kVA) |
|-----------------|--|
| 30-230 | 50 |
| 230-1000 | 57 |

NOTE: The lower limit shall apply at the transition frequencies.

7.2 BLOCK DIAGRAM OF TEST SETUP

30MHz ~ 1GHz:



7.3 TEST PROCEDURE

30MHz ~ 1GHz:

- The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

7.4 GRAPHS AND DATA

Product : Integrated Servo Motor

Power : DC 70V

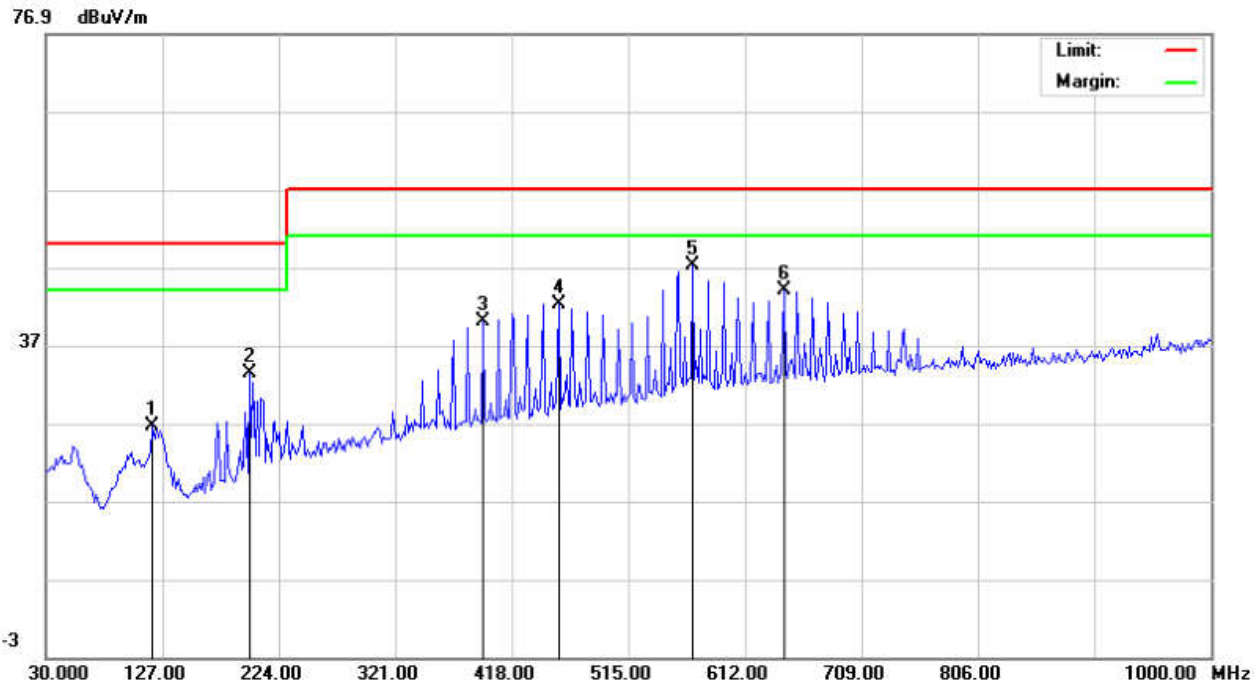
Mode : Normal

Note : 30MHz-1GHz

Model/Type reference : iSV2-CAN8075V
48H

Temperature/Humidity : 22℃/53%

Polarization : Horizontal



| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | P/F | Comment |
|-----|--------------|-------------------------|-------|-----|-------------------------|-------------------------|-------|-----|-------------------|-----|----------------|-----|-----|---------|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | |
| 1 | 118.9167 | 14.80 | 12.50 | | 11.73 | 26.53 | 24.23 | | 50.00 | | -25.77 | | P | |
| 2 | 199.7500 | 20.96 | 18.61 | | 12.42 | 33.38 | 31.03 | | 50.00 | | -18.97 | | P | |
| 3 | 393.7500 | 21.45 | 17.66 | | 18.46 | 39.91 | 36.12 | | 57.00 | | -20.88 | | P | |
| 4 | 456.8000 | 22.25 | 20.52 | | 19.88 | 42.13 | 40.40 | | 57.00 | | -16.60 | | P | |
| 5 | 568.3500 | 24.72 | 21.68 | | 22.39 | 47.11 | 44.07 | | 57.00 | | -12.93 | | P | |
| 6 | 644.3333 | 20.35 | 18.52 | | 23.70 | 44.05 | 42.22 | | 57.00 | | -14.78 | | P | |

Product : Integrated Servo Motor

Model/Type reference : iSV2-CAN8075V
48H

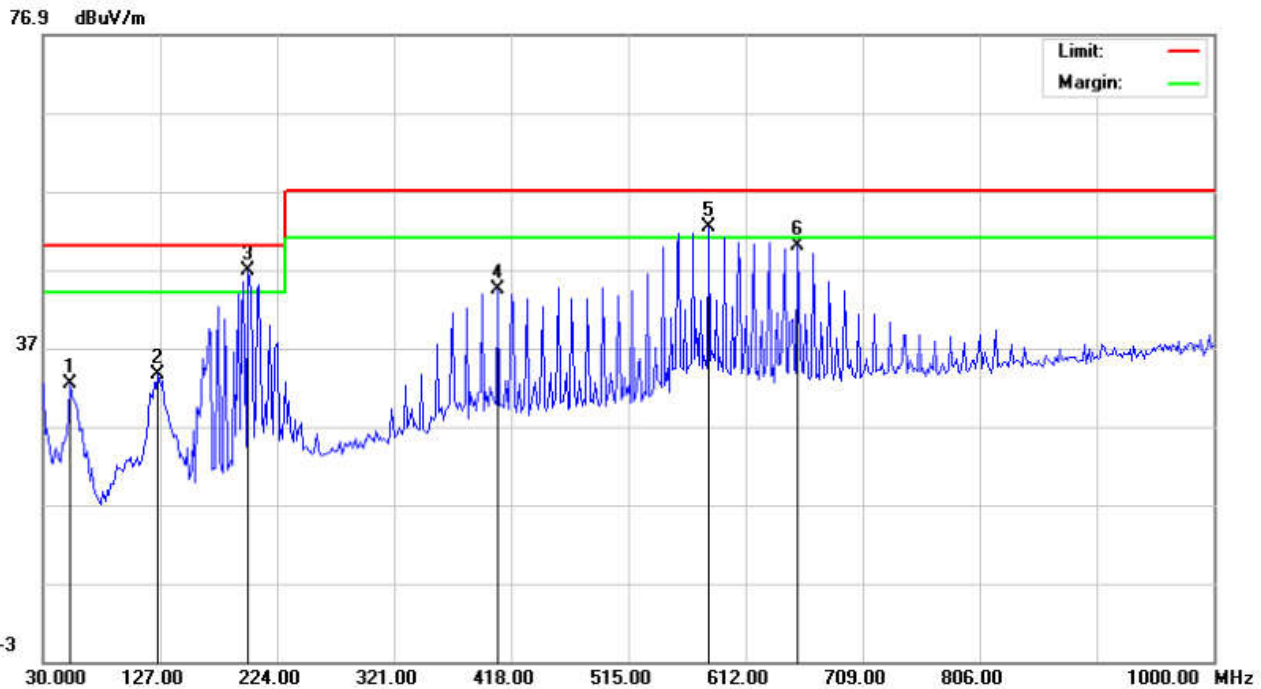
Power : DC 70V

Temperature/Humidity : 22℃/53%

Mode : Normal

Polarization : Vertical

Note : 30MHz-1GHz



| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | P/F | Comment |
|-----|--------------|-------------------------|-------|-----|-------------------------|-------------------------|-------|-----|-------------------|-----|----------------|-----|-----|---------|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | |
| 1 | 52.6333 | 19.06 | 15.60 | | 13.43 | 32.49 | 29.03 | | 50.00 | | -20.97 | | P | |
| 2 | 125.3833 | 23.07 | 22.10 | | 10.56 | 33.63 | 32.66 | | 50.00 | | -17.34 | | P | |
| 3 | 199.7500 | 34.31 | 30.12 | | 12.42 | 46.73 | 42.54 | | 50.00 | | -7.46 | | P | |
| 4 | 406.6833 | 25.63 | 21.50 | | 18.77 | 44.40 | 40.27 | | 57.00 | | -16.73 | | P | |
| 5 | 581.2833 | 29.68 | 24.61 | | 22.68 | 52.36 | 47.29 | | 57.00 | | -9.71 | | P | |
| 6 | 655.6500 | 26.09 | 22.50 | | 23.86 | 49.95 | 46.36 | | 57.00 | | -10.64 | | P | |

Note: 1. Margin(dB)=Measurement-Limit.
2. Measurement(dBuV/m)=Reading_Level+Correct Factor.
3. Correct Factor(dB)=Ant Factor+Cable loss.
4.Through Pre-scan, DC 70V was the worst case;only the worst case was in the report.

8. IMMUNITY TEST

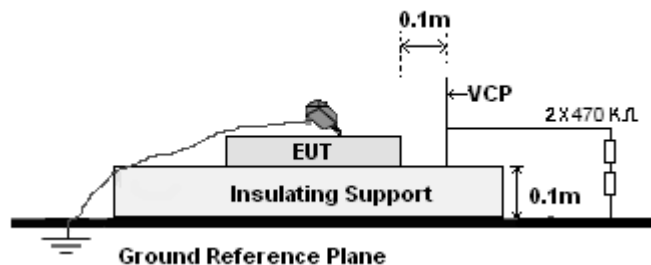
| General Performance Criteria | |
|------------------------------|---|
| Product Standard | EN IEC 61000-6-2:2019 |
| CRITERION A | The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if 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. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. 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 apparatus if 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. |

8.1 ELECTROSTATIC DISCHARGE

8.1.1 TEST SPECIFICATION

| | |
|---------------------|-------------------------------------|
| Basic Standard | : EN IEC 61000-6-2 & IEC 61000-4-2 |
| Test Port | : Enclosure port |
| Discharge Impedance | : 330 ohm / 150 pF |
| Discharge Mode | : Single Discharge |
| Discharge Period | : one second between each discharge |

8.1.2 BLOCK DIAGRAM OF TEST SETUP



8.1.3 TEST PROCEDURE

- Electrostatic discharges were applied only to those points and surfaces of the Product that are accessible to users during normal operation.
- The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- The time interval between two successive single discharges was at least 1 second.
- 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 Product.
- Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- Air discharges were applied with the round discharge tip of the discharge electrode approaching the Product as fast as possible (without causing mechanical damage) to touch the Product. After each discharge, the ESD generator was removed from the Product and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the Product. The ESD generator was positioned vertically at a distance of 0.1 meters from the Product with the discharge electrode touching the HCP.
- 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 Product were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the Product.

8.1.4 RESULTS & PERFORMANCE

Product : Integrated Servo Motor

Power : DC 70V

Mode : Normal

Model/Type reference : iSV2-CAN8075V
48H

Temperature : 23℃

Humidity : 52%

| Discharge Method | Discharge Position | Voltage (±kV) | Min. No. of Discharge per polarity (Each Point) | Performance Criterion | Test Result |
|-------------------|---|---------------|---|-----------------------|-------------|
| Contact Discharge | Conductive Surfaces | 4 | 10 | B | A |
| | Indirect Discharge HCP | 4 | 10 | B | N/A* |
| | Indirect Discharge VCP | 4 | 10 | B | A |
| Air Discharge | Slots, Apertures, and Insulating Surfaces | 8 | 10 | B | A |

Remark*: This product is a landing equipment.

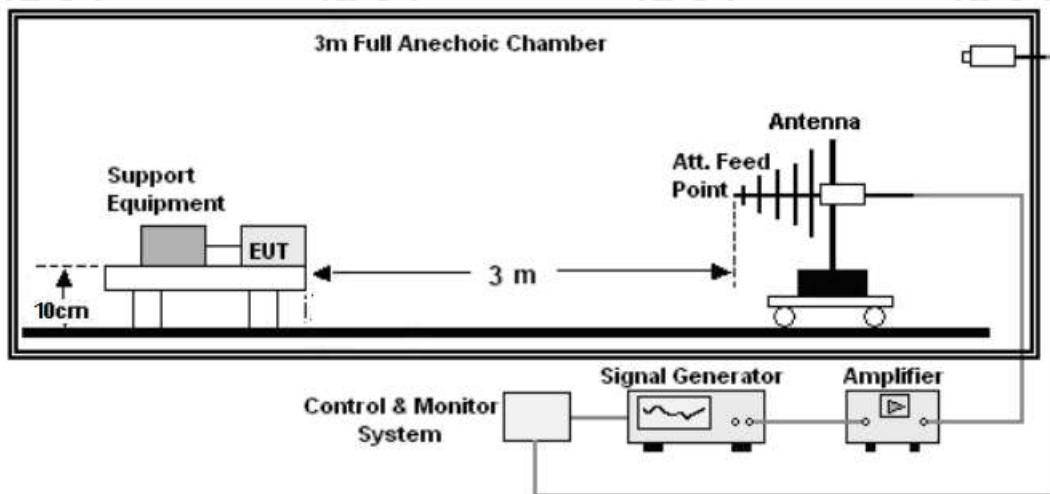
8.2 RADIO-FREQUENCY ELECTROMAGNETIC FIELD

8.2.1 TEST SPECIFICATION

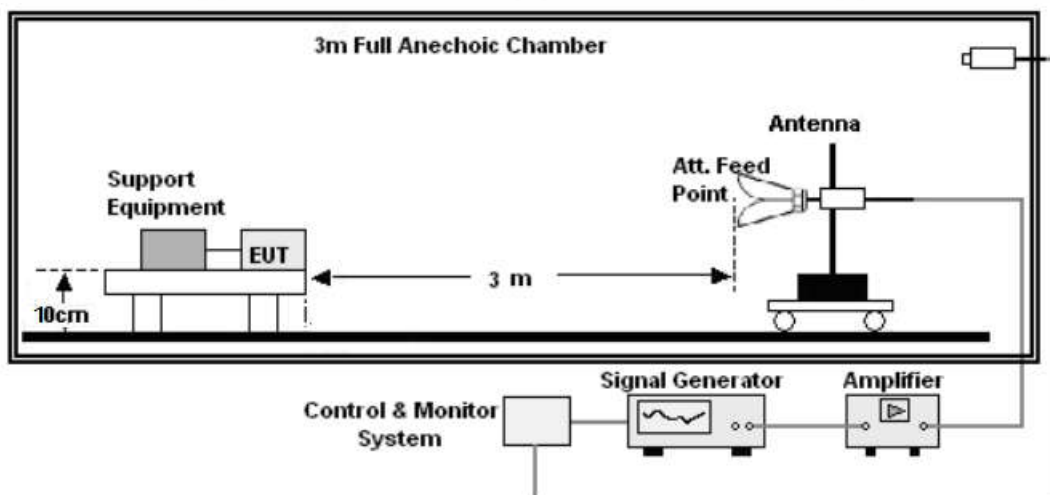
| | |
|----------------|------------------------------------|
| Basic Standard | : EN IEC 61000-6-2 & IEC 61000-4-3 |
| Test Port | : Enclosure port |
| Step Size | : 1% |
| Modulation | : 1kHz, 80% AM |
| Dwell Time | : 1 second |
| Polarization | : Horizontal & Vertical |

8.2.2 BLOCK DIAGRAM OF TEST SETUP

Below 1GHz:



Above 1GHz:



8.2.3 TEST PROCEDURE

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3m from the Product.

b. The frequency range is swept from 80MHz to 1000MHz and 1400MHz to 6000MHz, 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%.

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

8.2.4 RESULT & PERFORMANCE

Product : Integrated Servo Motor

Model/Type reference : iSV2-CAN8075
V48H

Power : DC 70V

Temperature : 23℃

Mode : Normal

Humidity : 52%

| Frequency (MHz) | Position | Field Strength (V/m) | Performance Criterion | Test Result |
|-----------------|--------------------------|----------------------|-----------------------|-------------|
| 80 - 1000 | Front, Right, Back, Left | 10 | A | A |
| 1400 - 6000 | Front, Right, Back, Left | 3 | A | A |

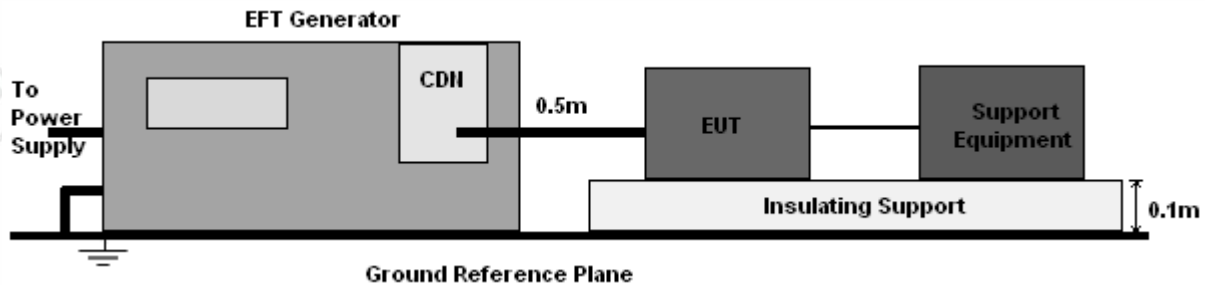
8.3 FAST TRANSIENTS

8.3.1 TEST SPECIFICATION

| | |
|--------------------|------------------------------------|
| Basic Standard | : EN IEC 61000-6-2 & IEC 61000-4-4 |
| Test Port | : Input DC power port |
| Impulse Frequency | : 5 kHz |
| Impulse Wave-shape | : 5/50 ns |
| Burst Duration | : 15 ms |
| Burst Period | : 300 ms |
| Test Duration | : 2 minute per polarity |

8.3.2 BLOCK DIAGRAM OF TEST SETUP

For input AC power ports:



8.3.3 TEST PROCEDURE

- The Product and support units were located on a non-conductive table above ground reference plane.
- A 0.5m-long power cord was attached to Product during the test.

8.3.4 RESULTS & PERFORMANCE

| | | | |
|---------|--------------------------|----------------------|------------------------|
| Product | : Integrated Servo Motor | Model/Type reference | : iSV2-CAN807 5V48H |
| Power | : DC 70V | Temperature | : 23°C |
| Mode | : Normal | Humidity | : 52% |

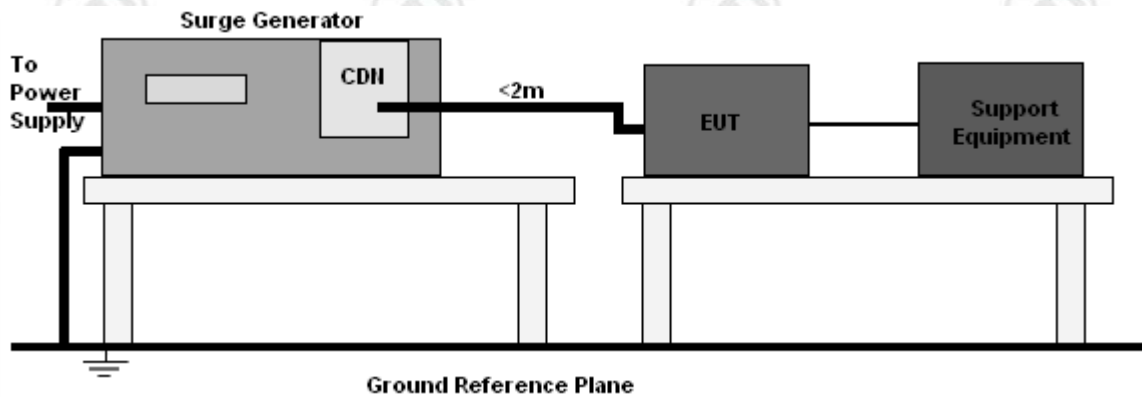
| Coupling | Voltage (kV) | Polarity | Performance Criterion | Test Result |
|----------------|--------------|----------|-----------------------|-------------|
| DC power ports | 2 | ± | B | A |

8.4 SURGES

8.4.1 TEST SPECIFICATION

| | |
|------------------------------|---|
| Basic Standard | : EN IEC 61000-6-2 & IEC 61000-4-5 |
| Test Port | : Input DC power port |
| Wave-Shape | : Open Circuit Voltage - 1.2 / 50 us Short Circuit Current - 8 / 20 us |
| Pulse Repetition Rate | : 1 pulse / min. |
| Test Events | : 5 pulses (positive & negative) for each polarity |

8.4.2 BLOCK DIAGRAM OF TEST SETUP



8.4.3 TEST PROCEDURE

- The surge is to be applied to the Product power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave.
- The power cord between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter). Interconnection line between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter).

8.4.4 RESULTS & PERFORMANCE

| | | | |
|----------------|--------------------------|-----------------------------|------------------------|
| Product | : Integrated Servo Motor | Model/Type reference | : iSV2-CAN8075V 48H |
| Power | : DC 70V | Temperature | : 23°C |
| Mode | : Normal | Humidity | : 52% |

| Coupling Line | Voltage (kV) | Polarity | Performance Criterion | Test Result |
|---------------|--------------|----------|-----------------------|-------------|
| DC port | 0.5 | ± | B | A |

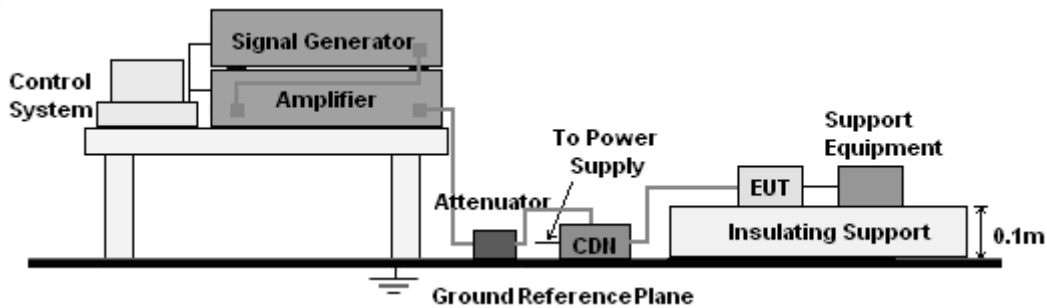
8.5 RADIO-FREQUENCY COMMON MODE

8.5.1 TEST SPECIFICATION

Basic Standard : EN IEC 61000-6-2 & IEC 61000-4-6
Test Port : Input DC power port
Step Size : 1%
Modulation : 1kHz, 80% AM
Dwell Time : 1 second

8.5.2 BLOCK DIAGRAM OF TEST SETUP

For input DC power port:



8.5.3 TEST PROCEDURE

For DC power port:

- The Product and support units were located at a ground reference plane with the interposition of a 0.1 m thickness insulating support and the CDN was located on GRP directly.
- The frequency range is swept from 150 kHz to 80MHz, 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.
- The dwell time at each frequency shall be not less than the time necessary for the Product to be able to respond.

8.5.4 RESULTS & PERFORMANCE

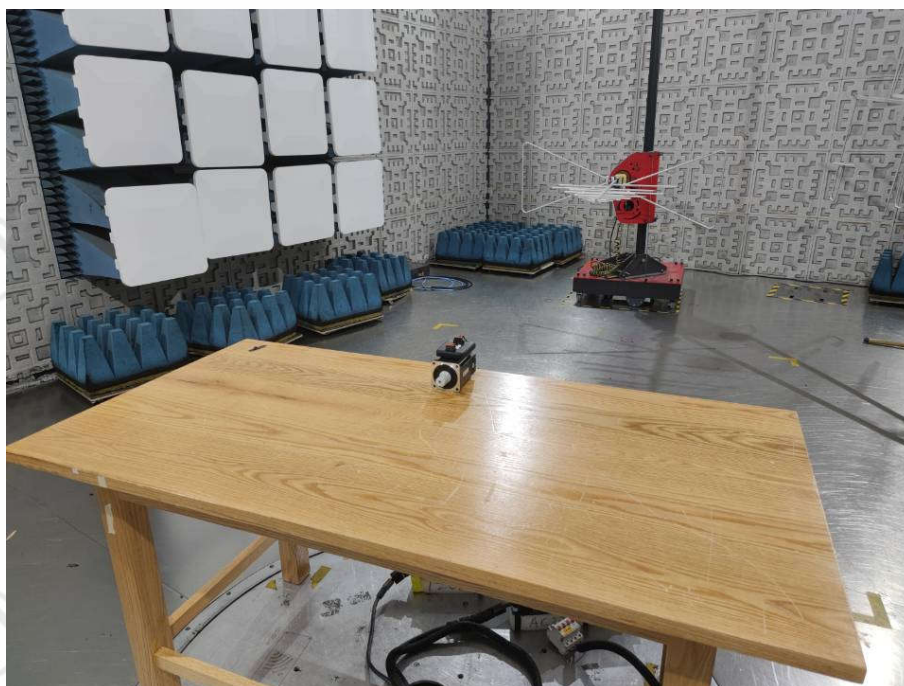
| | |
|---|--|
| Product : Integrated Servo Motor | Model/Type reference : iSV2-CAN8075V 48H |
| Power : DC 70V | Temperature : 23°C |
| Mode : Normal | Humidity : 52% |

| Inject Line | Frequency (MHz) | Voltage Level (V r.m.s.) | Performance Criterion | Test Result |
|----------------|-----------------|--------------------------|-----------------------|-------------|
| DC power ports | 0.15 - 80 | 10 | A | A |

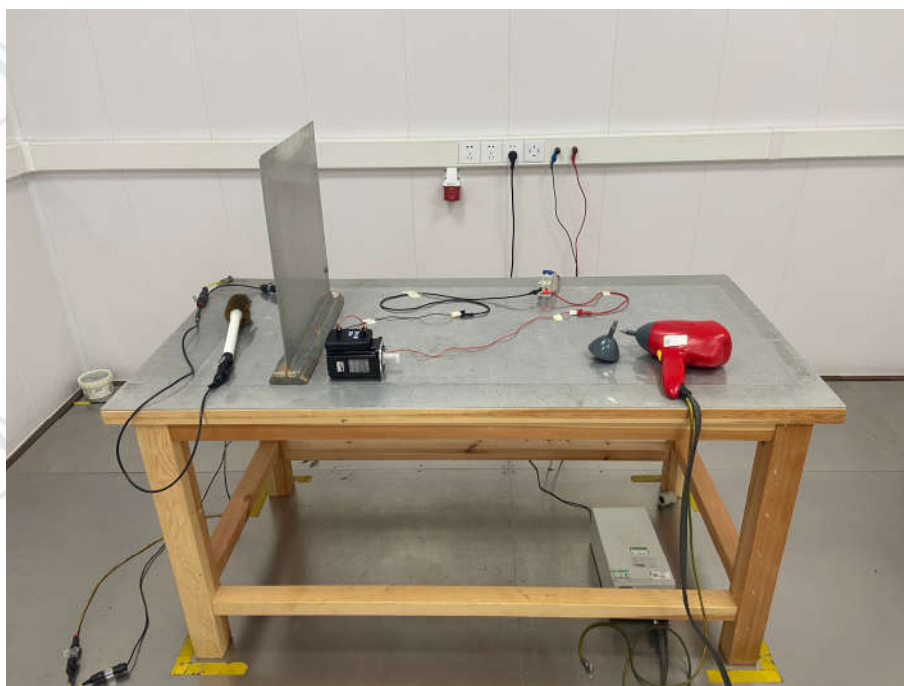
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



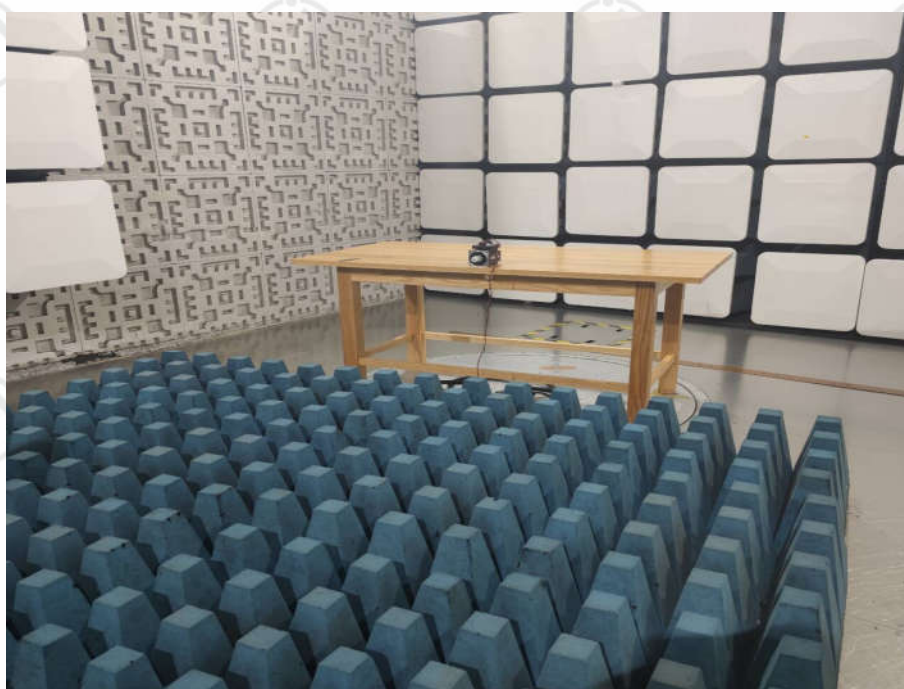
CONDUCTED EMISSION



RADIATED EMISSION TEST SETUP



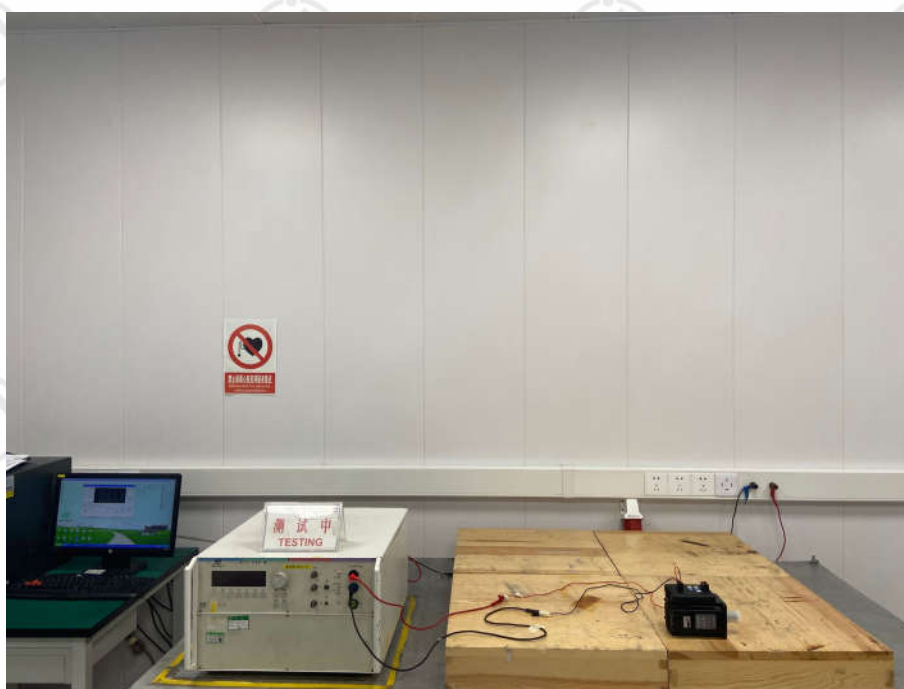
ELECTROSTATIC DISCHARGE TEST SETUP



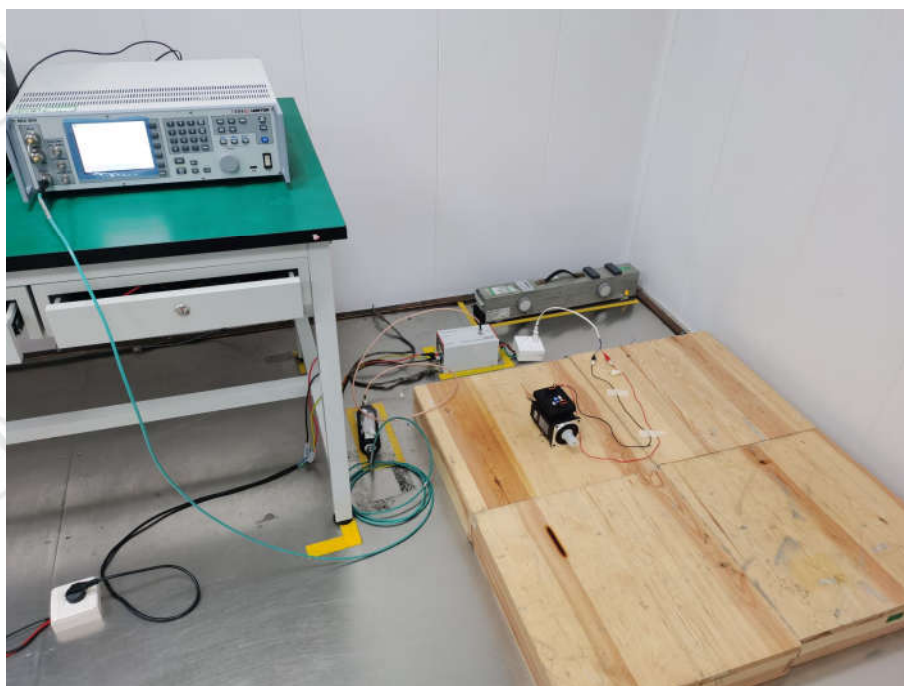
RADIO-FREQUENCY ELECTROMAGNETIC FIELD TEST SETUP



FAST TRANSIENTS TEST SETUP



SURGES TEST SETUP



RADIO-FREQUENCY COMMON MODE TEST SETUP

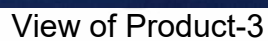
APPENDIX 2 PHOTOGRAPHS OF PRODUCT

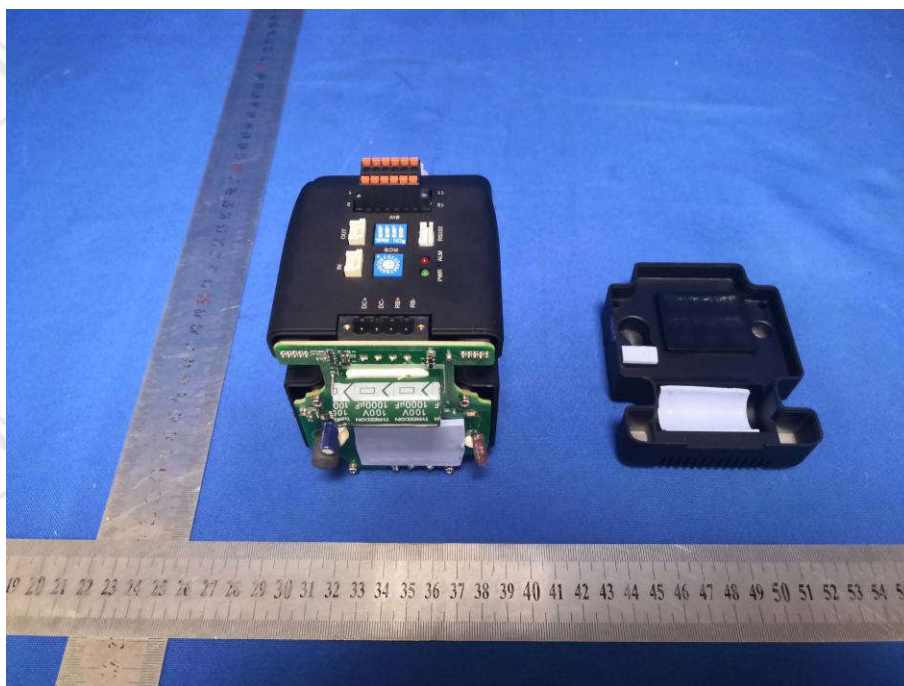


View of Product-1

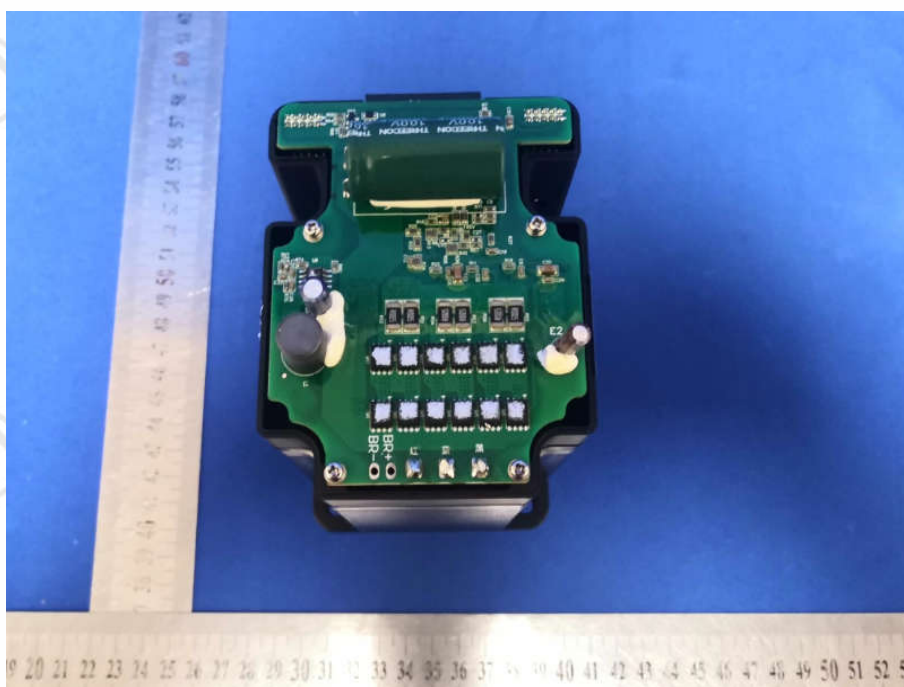


View of Product-2





View of Product-5



View of Product-6

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*** End of Report ***