EMC TEST REPORT

For

Smart Green Building Solution and Equipment Limited

Resistance

Test Model: TR35-200

Serial models: (Refer to page 8)

Prepared for	:	**Hunan Yinlang Electronic Technology Co., Ltd.**
Address	:	Room 221, 101-2 Floor, Building 1 Factory, Changsha Auto Machinery Co., Ltd., No.13 Huanlian Road, Dongfanghong Subdistrict, Xiangjiang New Area, Hunan Province

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Date of receipt of test sample	:	October 14, 2026
Date of Test	:	October 14, 2026 ~ October 23, 2026
Date of Report	:	October 23, 2026

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EMC TEST REPORT

EN IEC 55014-1: 2021
EN IEC 55014-2: 2021
EN IEC 61000-3-2: 2019+ A1: 2021
EN 61000-3-3: 2013+ A1: 2019+ A2: 2021

Report Reference No. .....:	**STE10142602E**
Date Of Issue.....:	October 23, 2026
Testing Laboratory Name.....:	**Shenzhen STE Testing Laboratory Co., Ltd**
Testing Location/ Address..... :	3/F, Building 9, Dehong Factory Building, No. 63 Yuchang Road, Niuhu Community, Guanlan Street, Longhua District, Shenzhen, China
Applicant's Name..... :	**Smart Green Building Solution and Equipment Limited**
Address..... :	Room 221, 101-2 Floor, Building 1 Factory, Changsha Auto Machinery Co., Ltd., No.13 Huanlian Road, Dongfanghong Subdistrict, Xiangjiang New Area, Hunan Province
Manufacturer's Name..... :	**Hunan Yinlang Electronic Technology Co., Ltd.**
Address..... :	Room 221, 101-2 Floor, Building 1 Factory, Changsha Auto Machinery Co., Ltd., No.13 Huanlian Road, Dongfanghong Subdistrict, Xiangjiang New Area, Hunan Province
Test Specification:	
Standard.....:	EN IEC 55014-1: 2021; EN IEC 55014-2: 2021; EN IEC 61000-3-2: 2019+ A1: 2021; EN 61000-3-3: 2013+ A1: 2019+ A2: 2021

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Test Item Description..... :	**Resistance**
Trade Mark.....:	N/A
Test Model.....:	TR35-200
Serial Models.....:	(Refer to page 8)
Ratings.....:	Input: 350V, 2.5W
Result .....:	**Pass**

Compiled by:	**Supervised by:**	**Approved by:**
Hunter Liang	Todd Qian	Fly Li
Hunter Liang/ File administrators	Todd Qian/ Technique principal	Fly Li/ Manager

STE TESTING LABORATORY APPROVED

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1. SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION TESTS (EN IEC 55014-1: 2021)			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	EN IEC 55014-1: 2021	Class B	PASS
Clicks measurement	EN IEC 55014-1: 2021	--	PASS
Radiated Disturbance (9kHz to 30MHz)	EN IEC 55014-1: 2021	--	N/A
Disturbance Power (30MHz to 300MHz)	EN IEC 55014-1: 2021	Class B	PASS
Radiated disturbance	EN IEC 55014-1: 2021	Class B	PASS
Harmonic current emissions	EN IEC 61000-3-2: 2019+ A1: 2021	Class A	PASS
Voltage fluctuations & flicker	EN 61000-3-3: 2013+ A1: 2019+ A2: 2021	--	PASS
IMMUNITY TESTS (EN IEC 55014-2: 2021)			
Description of Test Item	**Basic Standard**	**Performance Criteria**	**Results**
Electrostatic discharge (ESD)	EN 61000-4-2: 2009	B	PASS
Radio-frequency, Continuous radiated disturbance	EN IEC 61000-4-3: 2020	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4: 2012	B	PASS
Surge (Input a.c. power ports)	EN 61000-4-5: 2014+ A1: 2017	B	PASS
Surge (Telecommunication ports)		B	N/A
Radio-frequency, Continuous conducted disturbance	EN IEC 61000-4-6: 2023	A	PASS
Power frequency magnetic field	EN 61000-4-8: 2010	A	N/A
Voltage dips, >95% reduction	EN IEC 61000-4-11: 2020	B	PASS
Voltage dips, 30% reduction		C	PASS
Voltage interruptions		C	PASS
N/A is an abbreviation for Not Applicable.			

1.2 Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

— essential operational modes and states;
— tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
— quality of software execution;
— quality of data display and transmission;
— quality of speech transmission.

1.2.1 Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment 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, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.2 Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.3 Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

2. GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT	:	Resistance
Trade mark	:	N/A
Test Model	:	TR35-200
Serial Model No.	:	RJ711, UXPA300-800, RI80G, RT25-500, BWL, EE, BC1, RXLG, RX20, RXHG, RX711, 2512, 3920, RIM, RCD, ESP, HXP, HVL
Model Difference	:	All models are same except the appearance.
Power Supply	:	Input: 350V, 2.5W

Highest internal frequency (Fx)	Highest measured frequency
Fx ≤ 108 MHz 108 MHz < Fx ≤ 500 MHz 500 MHz < Fx ≤ 1 GHz Fx > 1 GHz	1 GHz 2 GHz 5 GHz 5 × Fx up to a maximum of 6 GHz
NOTE 1 For FM and TV broadcast receivers, Fx is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.	

Where Fx is unknown, the radiated emission measurements shall be performed up to 6 GHz.

2.2 Description of Test Modes

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.

Pretest Mode	Description
Mode 1	Normal Working

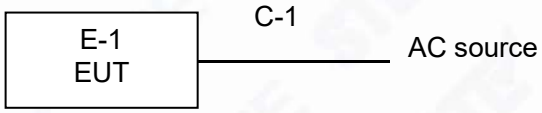
For Conducted Test	
Final Test Mode	Description
Mode 1	Normal Working

For Radiated Test	
Final Test Mode	Description
Mode 1	Normal Working

For EMS Test	
Final Test Mode	Description
Mode 1	Normal Working

2.3 Description of Test Setup

Mode 1:



2.4 Description Test Peripheral and EUT Peripheral

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Resistance	N/A	TR35-200	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	120cm	Supply cord

Note:
(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.
(3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.

2.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc.

To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the STE quality system according to ISO/ IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.6 Measurement Uncertainty

Test Item	Frequency Range	Expanded uncertainty (Ulab)	Expanded uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Power disturbance	Level accuracy (30MHz to 300MHz)	± 2.90dB	± 4.5 dB
Radiated Disturbance	Level accuracy (200MHz to 1000MHz)	± 4.64 dB	± 5.0 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.60 dB	± 3.3 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB
Mains Harmonic	Voltage	± 0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.510%	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1 Conducted Disturbance / Disturbance Power /Clicks Measurement

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Software	EZ	EZ-EMC	/	2026-01-08	2027-01-07
2	EMI Test Receiver	R&S	ESPI	101840	2026-01-08	2027-01-07
3	Artificial Mains	R&S	ENV216	101288	2026-01-08	2027-01-07
4	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	/	/
5	Power Divider	Weinschel	1506A	PM204	2026-01-08	2027-01-07
6	L.I.S.N	TESEQ	T800	45130	2026-01-08	2027-01-07

3.2 Radiated Disturbance

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	3m Semi Anechoic Chamber	Maorui	/	/	2026-01-08	2027-01-07
2	EMI Test Receiver	ROHDE & SCHWARZ	ESR 3	102312	2026-01-08	2027-01-07
3	Log per Antenna	ROHDE & SCHWARZ	VULP9118	873	2026-01-08	2027-01-07
4	EMI Test Software	Farad	EMC	N/A	/	/
5	Positioning Controller	MF	MF-7082	/	2026-01-08	2027-01-07

3.3 Harmonic Current

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power Analyzer Test System	Everfine	HFM3000	20000670053	2026-01-08	2027-01-07

3.4 Voltage fluctuation and Flicker

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power Analyzer Test System	Voltech	PM6000	20000670053	2026-01-08	2027-01-07

3.5 Electrostatic Discharge Immunity Test (ESD)

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	ESD Simulator	TESEQ	NSG 437	1615	2026-01-08	2027-01-07

3.6 Radiated, Radio-Frequency, Electromagnetic Field Immunity Test (RS)

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	RS Test Software	Tonscend	/	/	/	/
2	ESG Vector Signal Generator	Agilent	E4438C	MY42081396	2026-01-08	2027-01-07
3	3m Semi Anechoic	SIDT	SAC-3M	03CH03-HY	2026-01-08	2027-01-07

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
	Chamber	FRANKONIA				
4	RF POWER AMPLIFIER	OPHIR	5225R	1052	2026-01-08	2027-01-07
5	RF POWER AMPLIFIER	OPHIR	5273F	1019	2026-01-08	2027-01-07
6	Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	2026-01-08	2027-01-07
7	Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-484	2026-01-08	2027-01-07

3.7 Electrical Fast Transient / Burst

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Surge test system	EM test	UCS 500 M4	0101-34	2026-01-08	2027-01-07

3.8 Surge

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Surge test system	EM test	UCS 500 M4	0101-34	2026-01-08	2027-01-07

3.9 Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields (CS)

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Simulator	FRANKONIA	CIT-10/75	A126A1195	2026-01-08	2027-01-07
2	CDN	FRANKONIA	CDN-M2+M3	A2210177	2026-01-08	2027-01-07
3	6dB Attenuator	FRANKONIA	DAM25W	1172040	2026-01-08	2027-01-07

3.10 Power Frequency Magnetic Field Susceptibility

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Simulator	FRANKONIA	CIT-10	A126A1195	2026-01-08	2027-01-07
2	CDN	FRANKONIA	CDN-M2	5100100100	2026-01-08	2027-01-07
3	CDN	FRANKONIA	CDN-M3	0900-11	2026-01-08	2027-01-07
4	Attenuator	FRANKONIA	ATT6	0010222A	2026-01-08	2027-01-07
5	Infuse tongs	EMTEST	EM-Clamp	0513A031201	2026-01-08	2027-01-07

3.11 Voltage Dips

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2026-01-08	2027-01-07

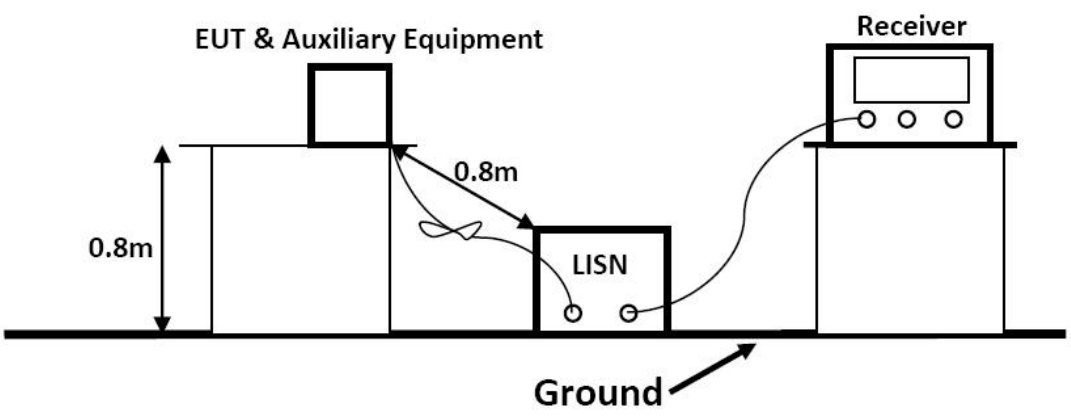
3.12 Voltage Short Interruptions

Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2026-01-08	2027-01-07

4. EMISSION TESTS

4.1 Conducted Emission Measurement

4.1.1 Block Diagram of Test Setup



4.1.2 Measuring Standard

EN IEC 55014-1: 2021 class B

4.1.3 Conducted Emission Limits

1, POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	☐ Class A		☒ Class B	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

2, TELECOMMULICATION PORT CONDUCTED EMISSION(VOLTAGE LIMITS)
(Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	☐ Class A (at 3m) dBuV/m		☒ Class B (at 3m) dBuV/m	
	Peak	Avg	Peak	Avg
0.15 -0.5	97 - 87 *	84 - 74 *	84 - 74 *	74 - 64 *
0.5 -30.0	87.00	74.00	74.00	64.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) When the EUT has the telecommunication terminal, this test is performed.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.4 EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the EN IEC 55014-1 requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

4.1.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 4.1.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

4.1.6 Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided 50-ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN IEC 55014-1 regulations during conducted emission measurement.

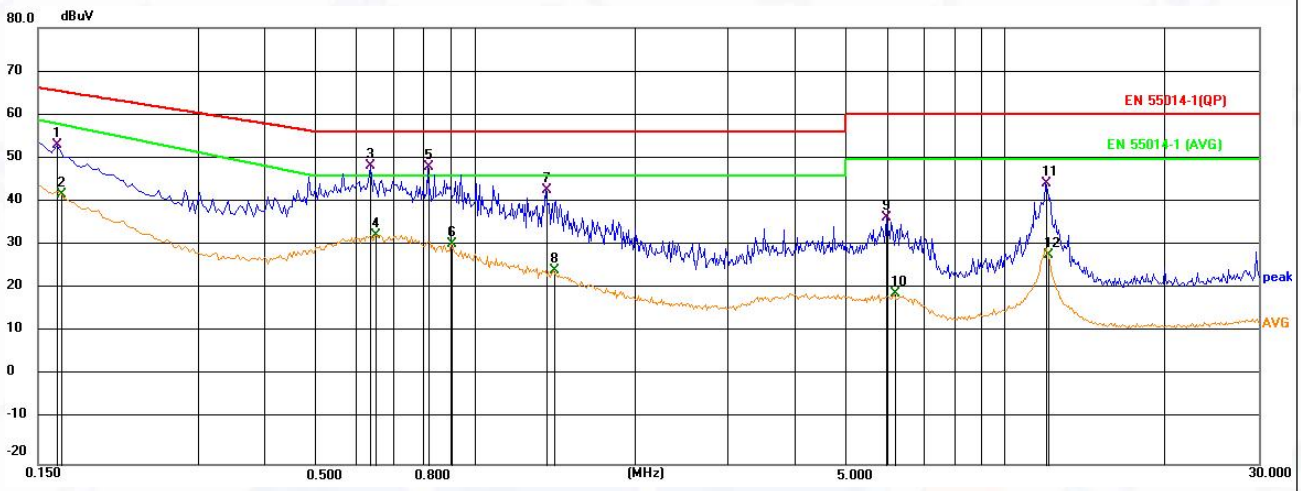
The bandwidth of the field strength meter is set at 9kHz in 150kHz~30MHz.
The frequency range from 150kHz to 30MHz is investigated.

4.1.7 Test Results

PASS.

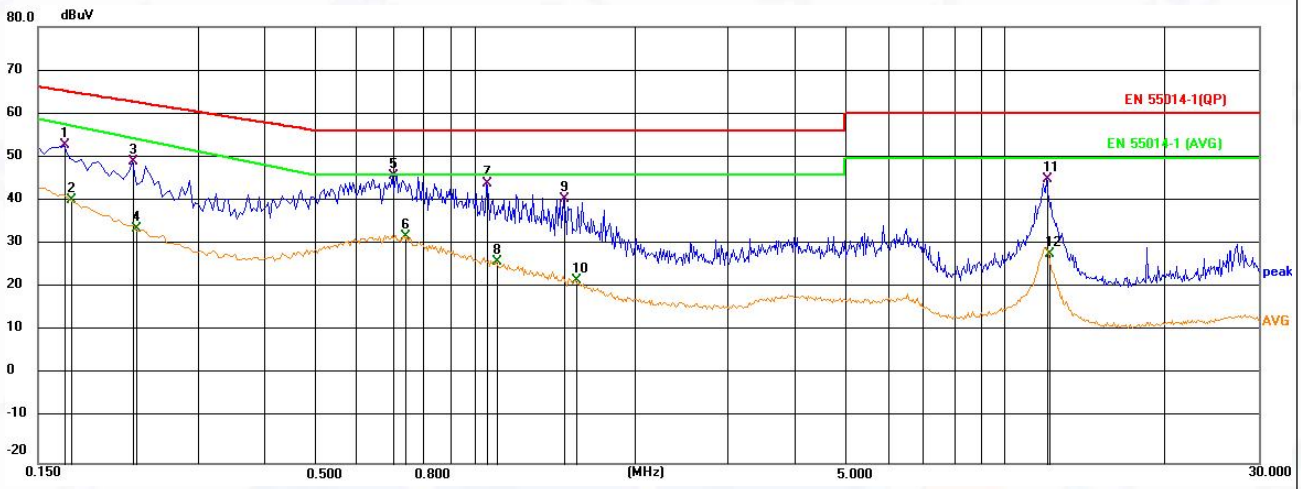
The test result please refer to the next page.

Test Model	TR35-200	Test Mode	Mode 1
Environmental Conditions	23.8℃, 52.9% RH	Test Engineer	Xp Rao
Pol.	Line	Test Voltage	350V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1635	33.47	19.67	53.14	65.28	-12.14	QP
2	0.1658	22.14	19.67	41.81	57.92	-16.11	AVG
3	0.6360	28.78	19.73	48.51	56.00	-7.49	QP
4	0.6495	12.92	19.72	32.64	46.00	-13.36	AVG
5	0.8160	28.55	19.70	48.25	56.00	-7.75	QP
6	0.9015	10.71	19.71	30.42	46.00	-15.58	AVG
7	1.3650	23.10	19.71	42.81	56.00	-13.19	QP
8	1.4055	4.66	19.71	24.37	46.00	-21.63	AVG
9	5.9641	16.80	19.78	36.58	60.00	-23.42	QP
10	6.1846	-0.74	19.79	19.05	50.00	-30.95	AVG
11	11.9041	24.38	19.95	44.33	60.00	-15.67	QP
12	12.0661	8.14	19.95	28.09	50.00	-21.91	AVG

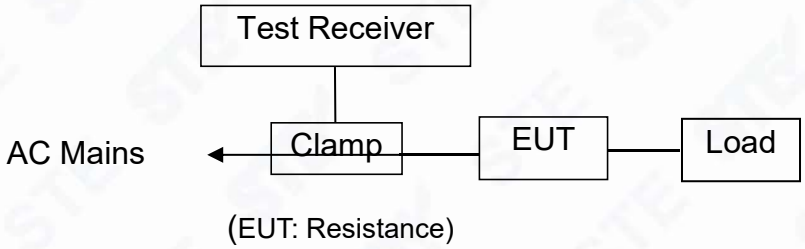
Test Model	TR35-200	Test Mode	Mode 1
Environmental Conditions	23.8℃, 52.9% RH	Test Engineer	Xp Rao
Pol.	Neutral	Test Voltage	350V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1681	33.21	19.67	52.88	65.05	-12.17	QP
2	0.1731	20.67	19.67	40.34	57.45	-17.11	AVG
3	0.2266	29.55	19.67	49.22	62.57	-13.35	QP
4	0.2292	14.14	19.67	33.81	54.42	-20.61	AVG
5	0.6991	26.13	19.70	45.83	56.00	-10.17	QP
6	0.7352	12.41	19.70	32.11	46.00	-13.89	AVG
7	1.0501	24.28	19.70	43.98	56.00	-12.02	QP
8	1.0995	6.55	19.70	26.25	46.00	-19.75	AVG
9	1.4640	20.84	19.71	40.55	56.00	-15.45	QP
10	1.5451	2.30	19.72	22.02	46.00	-23.98	AVG
11	11.9491	25.06	19.95	45.01	60.00	-14.99	QP
12	12.0841	7.96	19.95	27.91	50.00	-22.09	AVG

4.2 Disturbance Power Measurement

4.2.1 Block Diagram of Test Setup



(EUT: Resistance)

4.2.2 Measuring Standard

EN IEC 55014-1: 2021

4.2.3 Conducted Emission Limits

1, DISTURBANCE POWER MEASUREMENT (Frequency Range 30MHz -300MHz)

FREQUENCY (MHz)	Limits dB(pW)	
	Quasi-peak	Average
30.0 – 300.0	45 Increasing Linearly with Frequency to 55	35 Increasing Linearly with Frequency to 45

Note:

(1) The tighter limit applies at the band edges.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.2.4 EUT Configuration on Test

The following equipments are installed on Disturbance Power Measurement to meet the EN IEC 55014-1 requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

4.2.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 4.2.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

4.2.6 Test Procedure

a. The EUT is placed on the plane 0.8m high above the ground by insulating support and away from other metallic surface at least 0.4m. It is connected to the power mains through an extension cord of 6m min.

b. The absorber clamp clamps the cord and moves from the far end to the EUT to measure the disturbing energy emitted from the cord.

c. The bandwidth of the field strength meter (TEST RECEIVER) is set at 120kHz. We take test at about 50MHz on a range of 0.9 to 1.1 times the rated voltage (from 360 to 440V), and within different supply voltage we use supply frequencies of 50Hz to scan. For these cases when test input voltage is 230V/50Hz, it causes the maximum disturbance.

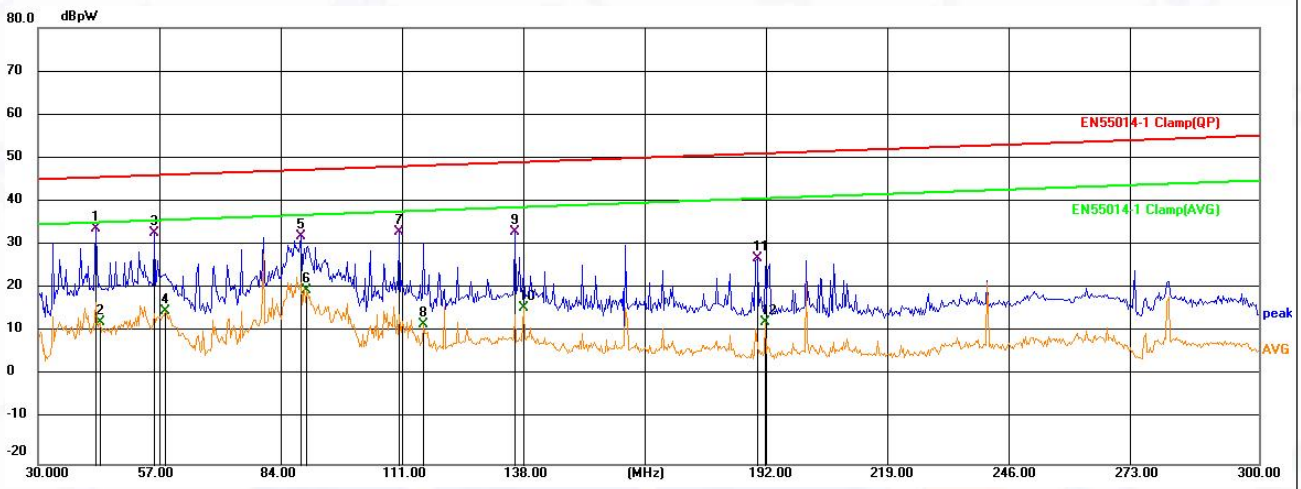
e. The EN IEC 55014-1 Regulations test method must be used to find the maximum emission during radiated emission measurement. The configuration of the EUT is the same as used in conducted emission measurement.

4.2.7 Test Results

PASS.

The test result please refer to the next page.

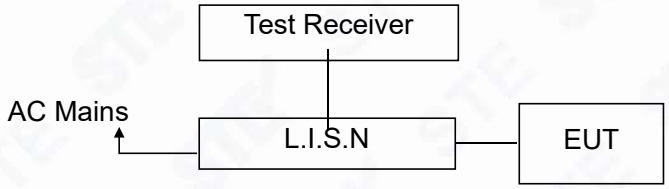
Test Model	TR35-200	Test Mode	Mode 1
Environmental Conditions	23.8℃, 52.9% RH	Test Engineer	Xp Rao
Pol.	/	Test Voltage	350V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	42.9000	23.27	10.76	34.03	45.48	-11.45	QP
2	43.8000	1.73	10.78	12.51	35.51	-23.00	AVG
3	55.6800	22.46	10.45	32.91	45.95	-13.04	QP
4	58.2000	4.84	10.24	15.08	36.04	-20.96	AVG
5	88.1400	20.73	11.59	32.32	47.15	-14.83	QP
6	89.6400	8.18	11.63	19.81	37.21	-17.40	AVG
7	110.0400	21.41	11.85	33.26	47.96	-14.70	QP
8	115.5000	0.25	11.98	12.23	38.17	-25.94	AVG
9	135.7800	21.35	11.98	33.33	48.92	-15.59	QP
10	137.5200	3.87	11.95	15.82	38.98	-23.16	AVG
11	189.0600	15.75	11.40	27.15	50.89	-23.74	QP
12	190.9200	1.14	11.37	12.51	40.96	-28.45	AVG

4.3 Clicks Measurement

4.3.1 Block Diagram of Test Setup



(EUT: Resistance)

4.3.2 Measuring Standard

EN IEC 55014-1: 2021

4.3.3 Clicks Measurement Limits

According to standard EN 55014-1, if click rate (N) less 5/min and the time of this discontinuous disturbances does not exceed 10ms, then the limit value are omitted.

4.3.4 EUT Configuration on Test

The configuration of EUT is same as Section 3.

4.3.5 Operating Condition of EUT

1. Setup the EUT as shown Section 4.3.1.
2. Turn on the power.
3. Let the EUT work in test mode and measure it.

4.3.6 Test Procedure

This test is done when switch operations in thermostatically controlled appliances, automatic program controlled machines and other electrically controlled or operated appliances may generate discontinuous disturbance (Click).

The measurement of disturbance shall be performed at the following restricted number of frequencies: 150kHz, 500kHz, 1.4MHz and 30MHz. At each frequency, for appliances which stop automatically, duration of the minimum number of complete programs necessary to produce 40 counted clicks or, where relevant, 40 counted clicks have not been produced, the test is stopped at the end of the program in course. The relevant click rate N.

The appliance under test shall be deemed to comply with the limit if not more than a quarter of the number of the counted click registered during the observation time.

4.3.7 Test Results

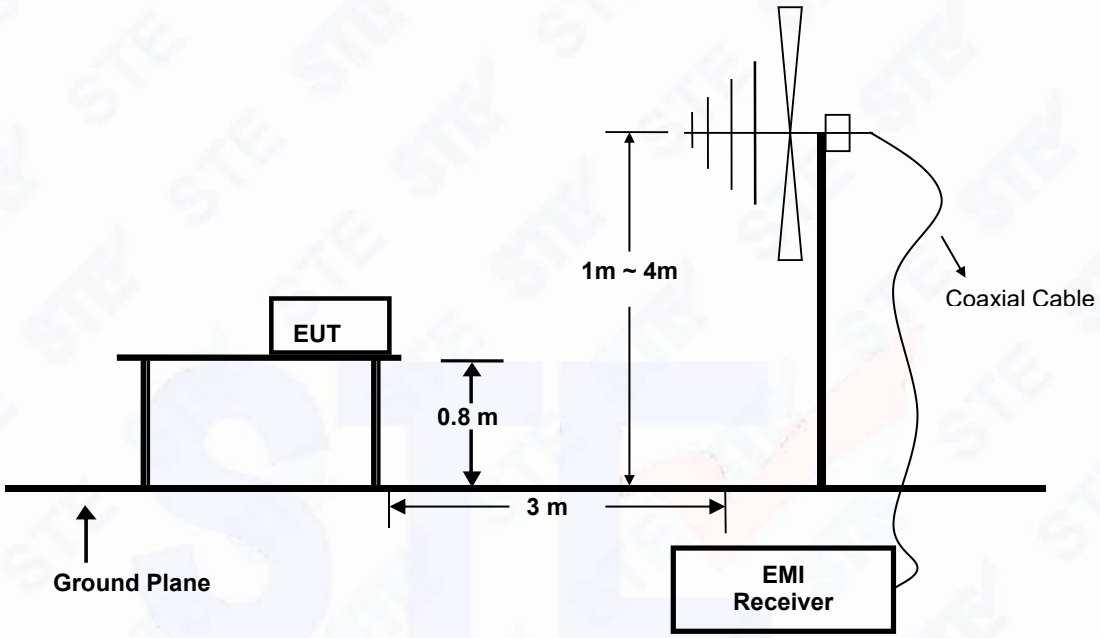
PASS.

The click rate (N=1/2.1=0.48<5) of the EUT is less than 5/min and the time of this discontinuous disturbances (△T=4ms<10ms) does not exceed 10ms.According to EN IEC 55014-1, the limit values are omitted.

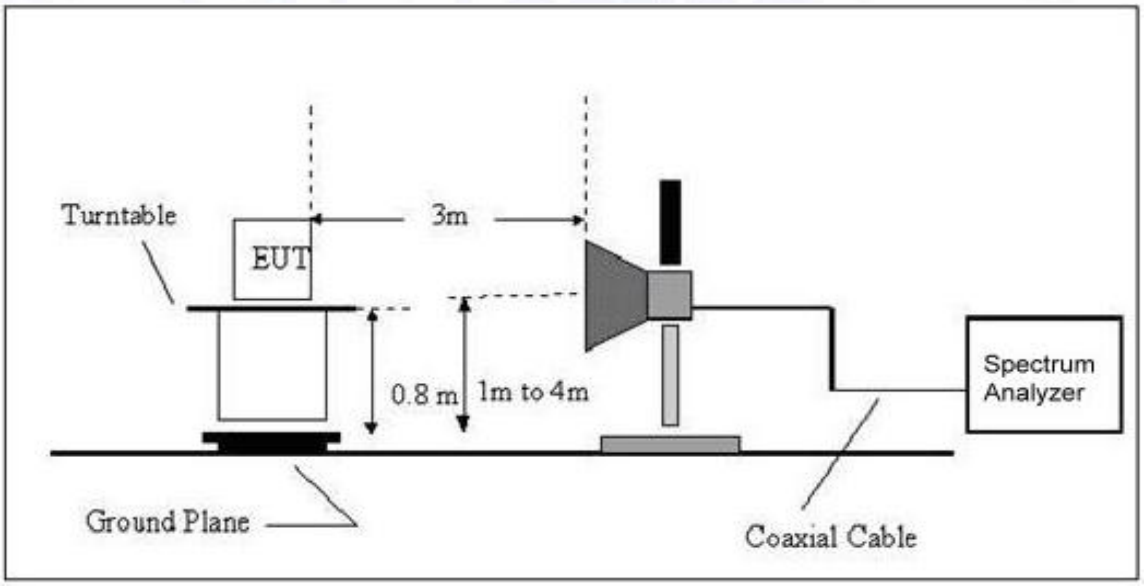
4.4 Radiated emission measurement

4.4.1 Block Diagram of Test Setup

1, Below 1 GHz



2, Above 1 GHz



4.4.2 Measuring Standard

EN IEC 55014-1: 2021

4.4.3 Radiated Emission Limits

All emanations from a class device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

1, LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1000MHz)

FREQUENCY (MHz)	☐ Class A		☒ Class B	
	☐ At 10m	☐ At 3m	☐ At 10m	☒ At 3m
	dBuV/m	dBuV/m	dBuV/m	dBuV/m
30 – 230	40	50	30	40
230 – 1000	47	57	37	47

2, LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	☐ Class A (at 3m) dBuV/m		☒ Class B (at 3m) dBuV/m	
	Peak	Avg	Peak	Avg
1000-3000	76	56	70	50
3000-6000	80	60	74	54

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

4.4.4 EUT Configuration on Test

The EN IEC 55014-1:2021 regulations test method must be used to find the maximum emission during radiated emission measurement.

4.4.5 Operating Condition of EUT

1. Turn on the power.
2. Let the EUT work in test mode and measure it.

4.4.6 Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

All the scanning waveform is in next page.

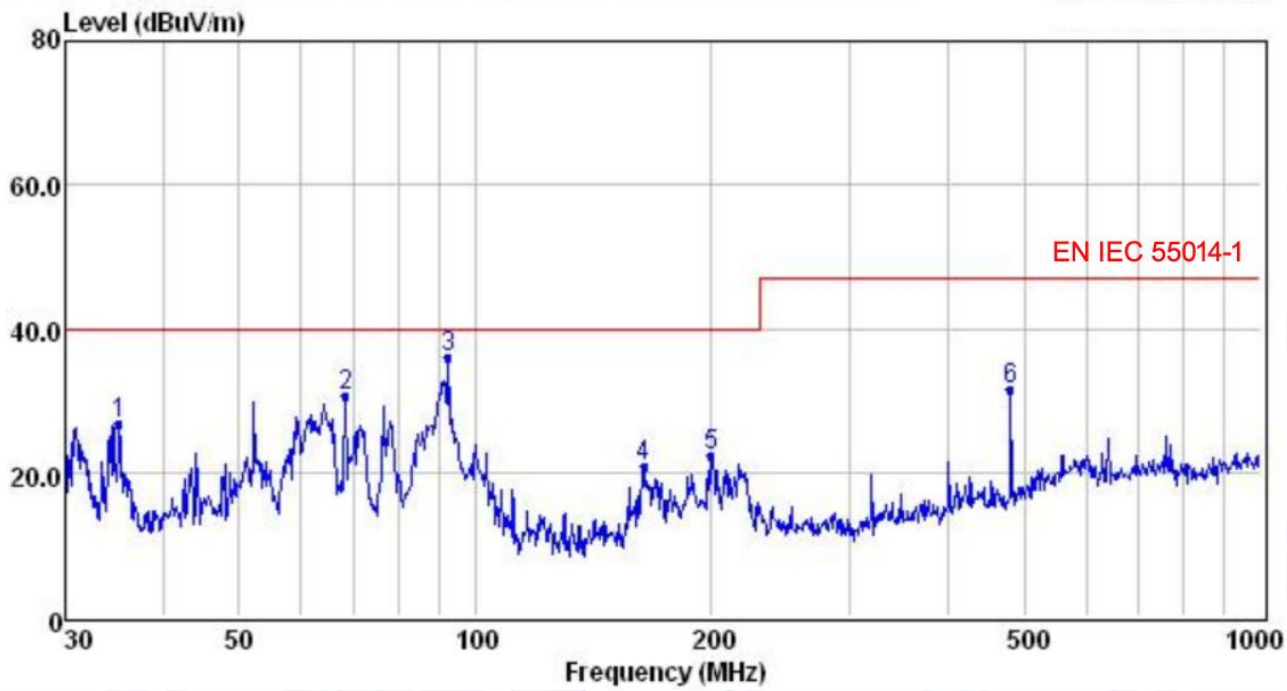
4.4.7 Test Results

PASS.

The scanning waveforms are in the next page.

4.4.8 TEST RESULTS (30-1000MHz)

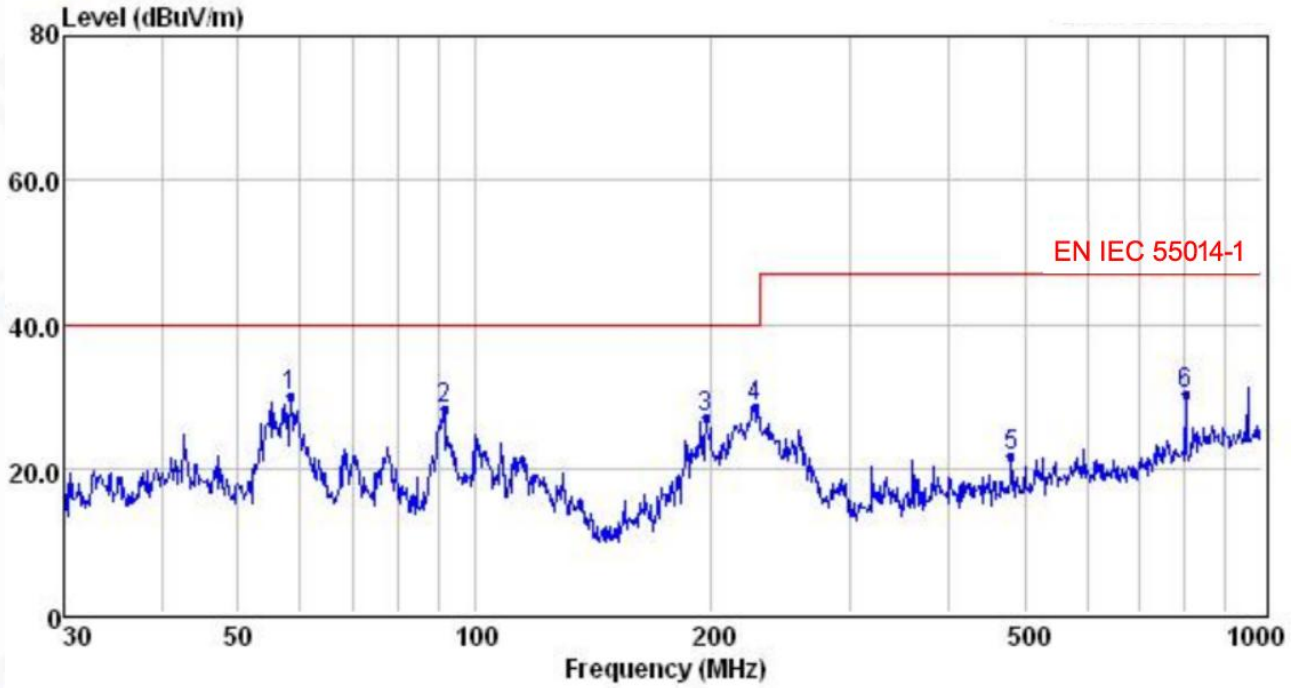
Model No. (M/N):	TR35-200	Test Mode:	Mode 1
Environmental Conditions:	24.1℃, 57.5% RH	Detector Function:	Quasi-peak
Distance:	3m	Polarization:	Vertical
Test Engineer:	Feng Liang	Test Voltage:	350V



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	35.13	13.99	0.41	12.33	26.73	40.00	-13.27	QP
2	68.39	20.84	0.51	9.31	30.66	40.00	-9.34	QP
3	92.46	22.94	0.56	12.36	35.86	40.00	-4.14	QP
4	163.76	11.08	0.86	8.78	20.72	40.00	-19.28	QP
5	199.99	10.83	0.84	10.57	22.24	40.00	-17.76	QP
6	480.53	14.09	1.31	16.08	31.48	47.00	-15.52	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Model No. (M/N):	TR35-200	Test Mode:	Mode 1
Environmental Conditions:	24.1℃, 57.5% RH	Detector Function:	Quasi-peak
Distance:	3m	Polarization:	Horizontal
Test Engineer:	Feng Liang	Test Voltage:	350V



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	58.20	16.76	0.47	12.81	30.04	40.00	-9.96	QP
2	91.49	15.60	0.56	12.18	28.34	40.00	-11.66	QP
3	196.51	15.53	0.96	10.57	27.06	40.00	-12.94	QP
4	226.89	16.28	0.89	11.51	28.68	40.00	-11.32	QP
5	480.53	4.32	1.31	16.08	21.71	47.00	-25.29	QP
6	801.79	8.66	1.72	20.08	30.46	47.00	-16.54	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

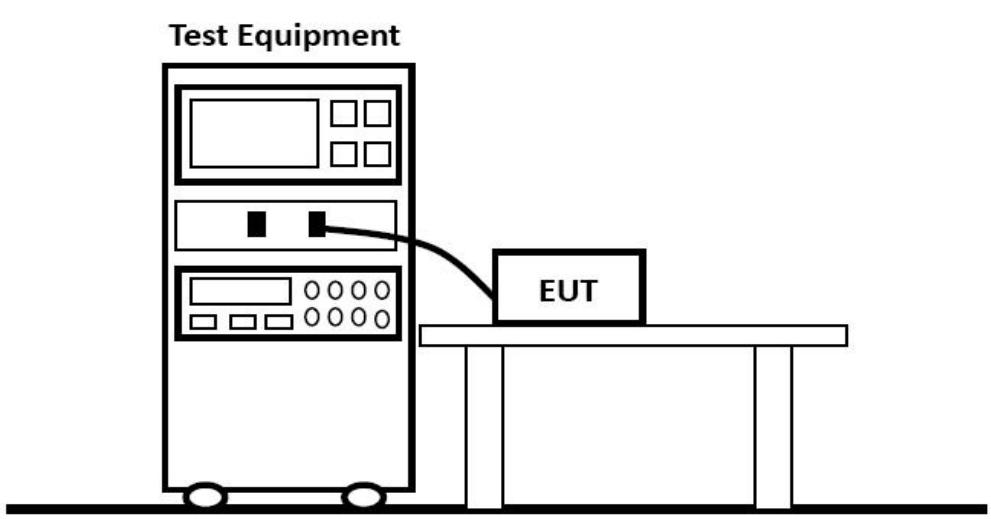
4.4.9 TEST RESULTS (1000~6000MHz)

Model No. (M/N):	TR35-200	Test Mode:	Mode 1
Environmental Conditions:	24.1℃, 57.5% RH	Detector Function:	N/A
Distance:	3m	Polarization:	N/A
Test Engineer:	N/A	Test Voltage:	N/A

Remark:
The frequency of the product is lower than 108MHz, it does not apply

4.5 Harmonic Current Emission Measurement

4.5.1 Block Diagram of Test Setup



4.5.2 Measuring Standard

EN IEC 55014-1: 2021

4.5.3 Operating Condition of EUT

1. Setup the EUT as shown on Section 4.5.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

4.5.4 Test Results

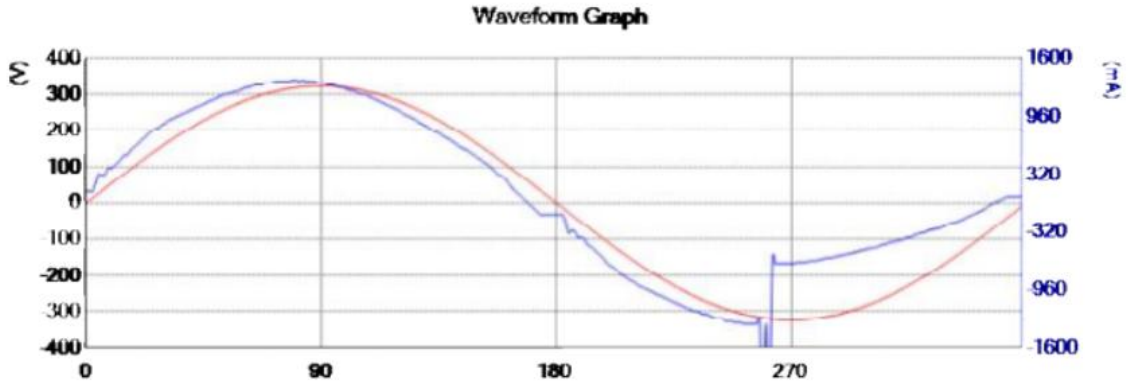
PASS.

The test result please refer to the next page.

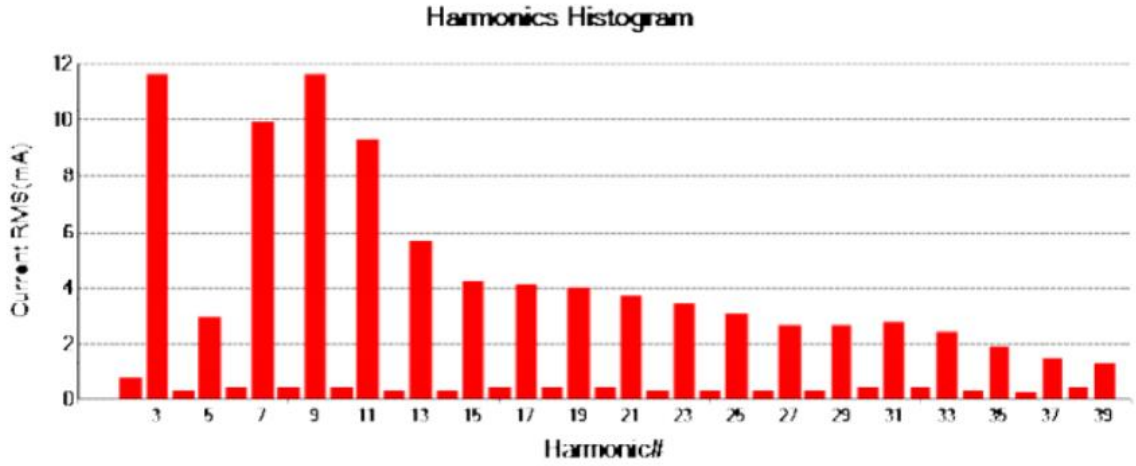
Test Model	TR35-200	Test Engineer	Xp Rao
Test Voltage	350V		

Test Result: Pass Source qualification(Power On Load): Idle - Pass

Current & voltage waveforms

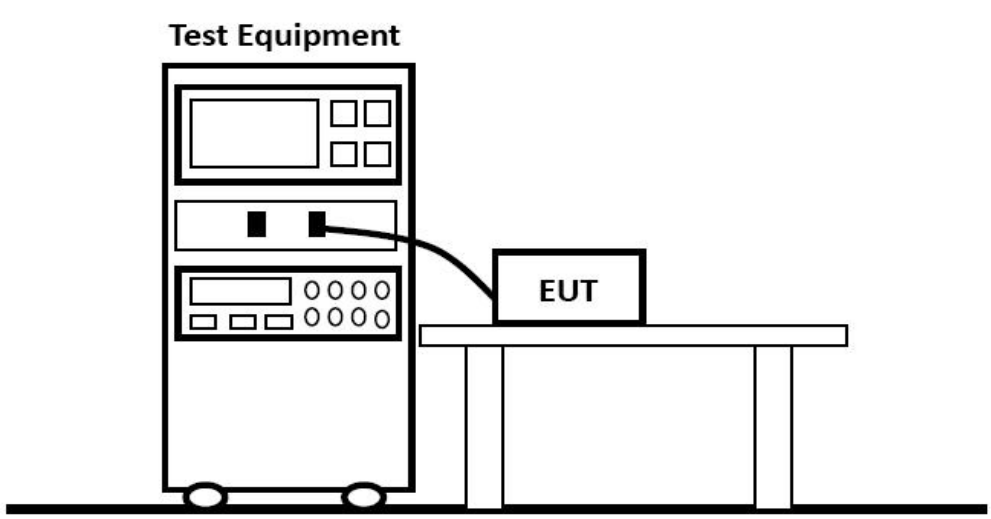


Harmonics and Class C limit line (>25W)



4.6 Voltage Fluctuation and Flicker Measurement

4.6.1 Block Diagram of Test Setup



4.6.2 Measuring Standard

EN IEC 55014-1: 2021

4.6.3 Operating Condition of EUT

1. Setup the EUT as shown on Section 4.6.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

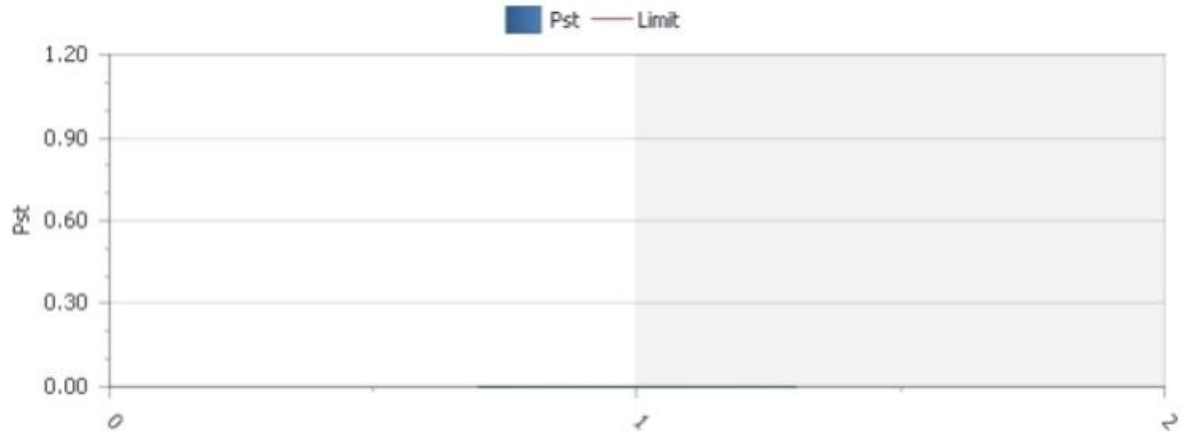
4.6.4 Test Results

PASS.

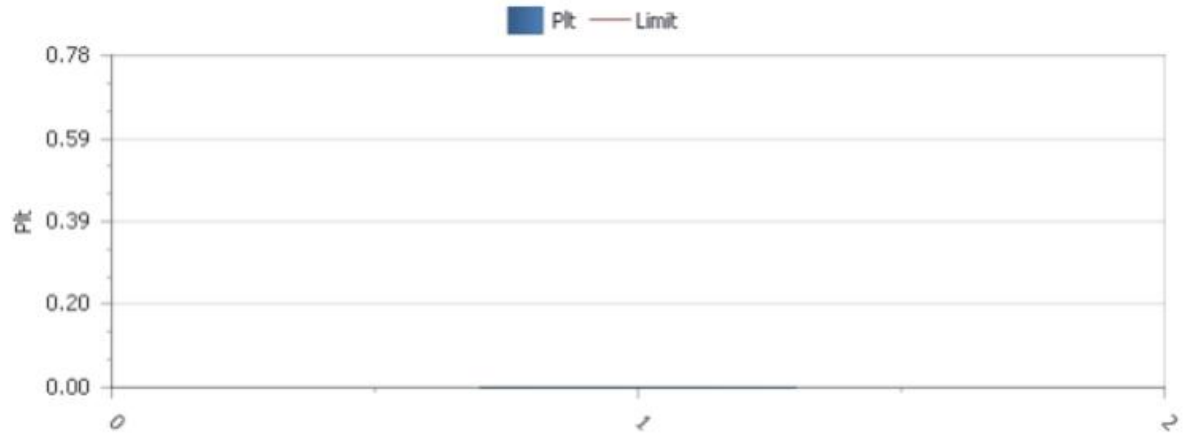
The test result please refer to the next page.

Test Model	TR35-200	Test Engineer	Xp Rao
Test Voltage	350V		

Pst and Limit



Plt and Limit



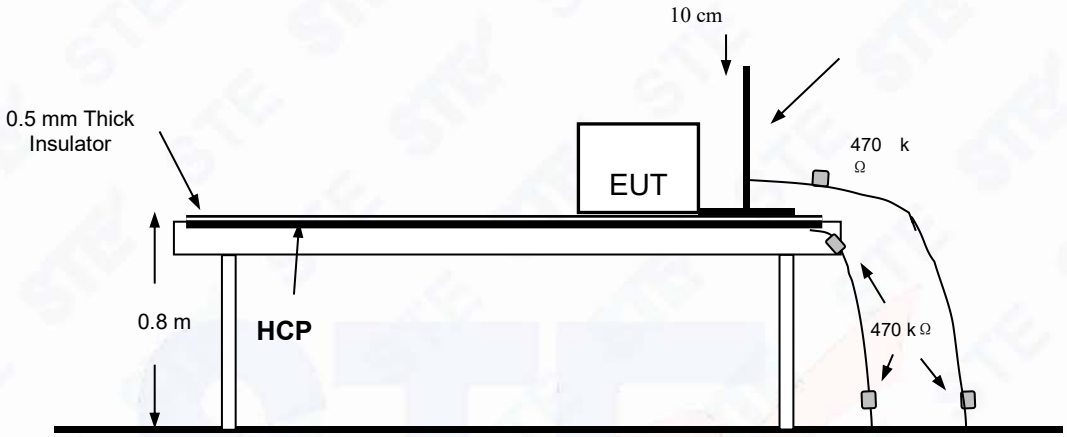
Relevant Parameter and Judgement During Test Period

Vrms at the end of test(V)	230.59			
Error Max(%)		Test Limit(%)		
T-max(ms)	0.00	Test Limit(ms)	500	Pass
dc(%)	0.00	Test Limit(%)	3.30	Pass
dmax(%)	0.00	Test Limit(%)	4.00	Pass
Pst	0.000	Test Limit	1.000	Pass
Plt	0.000	Test Limit	0.650	Pass

5. IMMUNITY TESTS

5.1 ELECTROSTATIC DISCHARGE IMMUNITY TEST

5.1.1 Block Diagram of Test Setup



5.1.2 Test Standard

EN IEC 55014-2: 2021 (EN 61000-4-2: 2009,
Severity Level: 3 / Air Discharge: ±8KV, Level: 2 / Contact Discharge: ±4KV)

5.1.3 Severity Levels and Performance Criterion

1. Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

2. Performance Criterion: B

5.1.4 EUT Configuration on Test

The configuration of EUT is listed in Section 3.2.

5.1.5 Operating Condition of EUT

Same as Radiated emission measurement which is listed in Section 4.1.5.
Except the test set up replaced by Section 5.1.1.

5.1.6 Test Procedure

(1) Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

(2) Contact Discharge

All the procedure shall be same as Section 5.1.6(1). Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

(3) Indirect Discharge For Horizontal Coupling Plane

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 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

(4) Indirect Discharge For Vertical Coupling Plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

5.1.7 Test Results

PASS.

Please refer to the following pages

ESD Test Results

Standard	☐ IEC 61000-4-2 ☑ EN 61000-4-2		
Applicant	Hunan Yinlang Electronic Technology Co., Ltd.		
EUT	Resistance	Temperature	24.1℃
M/N	TR35-200	Humidity	55.9%
Criterion	B	Pressure	1021mbar
Test Mode	MODE 1	Test Engineer	Feng Liang

Air Discharge

Test Points	Test Levels			Results		
	± 4kV	± 8kV	± 10kV	Passed	Fail	Performance Criterion
Front	☒	☒	☐	☒	☐	☐ A ☒ B
Back	☒	☒	☐	☒	☐	☐ A ☒ B
Left	☒	☒	☐	☒	☐	☐ A ☒ B
Right	☒	☒	☐	☒	☐	☐ A ☒ B
Top	☒	☒	☐	☒	☐	☐ A ☒ B
Bottom	☒	☒	☐	☒	☐	☐ A ☒ B

Contact Discharge

Test Points	Test Levels		Results		
	± 2 kV	±4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☐	☐ A ☒ B

Discharge To Horizontal Coupling Plane

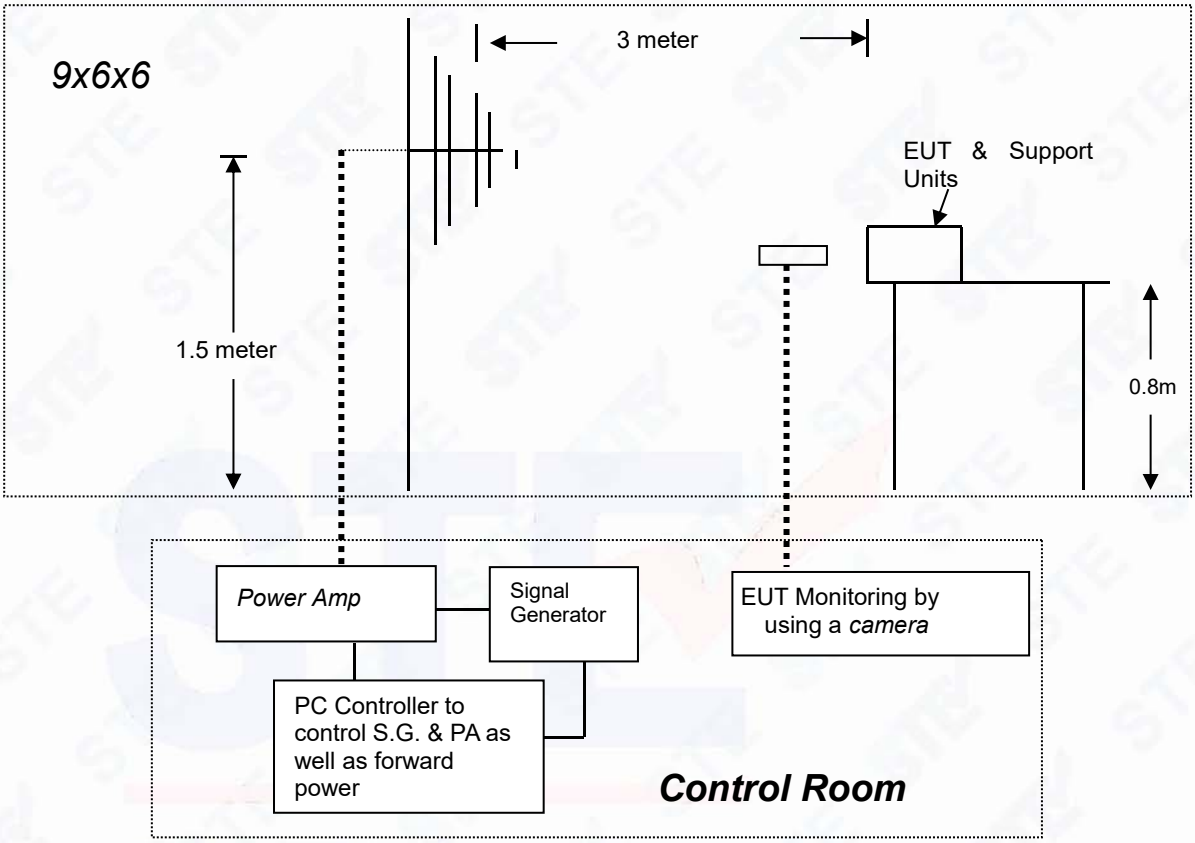
Side of EUT	Test Levels		Results		
	± 2 kV	± 4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

Discharge To Vertical Coupling Plane

Side of EUT	Test Levels		Results		
	± 2 kV	± 4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☐	☐ A ☒ B

5.2 RF FIELD STRENGTH SUSCEPTIBILITY TEST

5.2.1 Block Diagram of Test Setup



5.2.2 Test Standard

EN IEC 55014-2: 2021
(EN IEC 61000-4-3, Severity Level: 2, 3V/ m)

5.2.3 Severity Levels and Performance Criterion

1. Severity Levels

Level	Field Strength (V/m)
1.	1
2.	3
3.	10
X.	Special

2. Performance Criterion: A

5.2.4 EUT Configuration on Test

The configuration of the EUT is same as Section 3.

5.2.5 Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 4.1.5, except the test setup replaced as Section 5.2.1.

5.2.6 Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD Recording is used to monitor its screen.

All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	3V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80-6000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	3 Sec.

5.2.7 Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

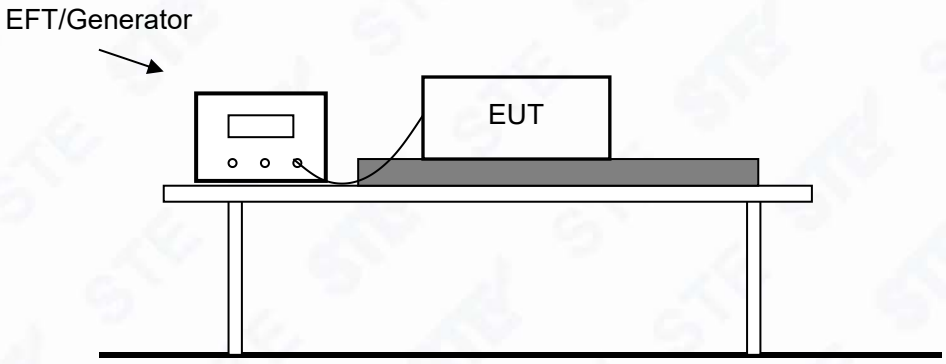
Standard	☐ IEC 61000-4-3 ☑ EN 61000-4-3		
Applicant	Hunan Yinlang Electronic Technology Co., Ltd.		
EUT	Resistance	**Temperature**	23.7℃
M/N	TR35-200	**Humidity**	59.8%
Field Strength	3 V/m	**Criterion**	A
Test Mode	Mode 1	**Test Engineer**	Feng Liang
Frequency Range	80MHz to 6000 MHz		
Modulation	☐None ☐ Pulse ☑AM 1KHz 80%		
Steps	1%		

	Horizontal	**Vertical**
Front	PASS	PASS
Right	PASS	PASS
Rear	PASS	PASS
Left	PASS	PASS

Note:

5.3 Electrical Fast Transient/ Burst Immunity Test

5.3.1 Block Diagram of Test Setup



5.3.2 Test Standard

EN IEC 55014-2: 2021

(EN 61000-4-4: 2012, Severity Level: Level 3: 1KV)

5.3.3 Severity Levels and Performance Criterion

1. Severity Levels

Open Circuit Output Test Voltage ±10%		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
	0.5 KV	0.25 KV
	1 KV	0.5 KV
	2 KV	1 KV
	4 KV	2 KV
X	Special	Special

2. Performance Criterion: B

5.3.4 EUT Configuration on Test

The configuration of the EUT is same as Section 3.

5.3.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 5.3.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

5.3.6 Test Procedure

The EUT is put on the table, which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

1. For input and output DC power ports:

The EUT is connected to the power mains by using a coupling device, which couples the EFT interference signal to DC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

2. For signal lines and control lines ports: No I/O ports. It's unnecessary to test.

5.3.7 Test Results

PASS.

Please refer to the following page.

Electrical Fast Transient/Burst Test Results

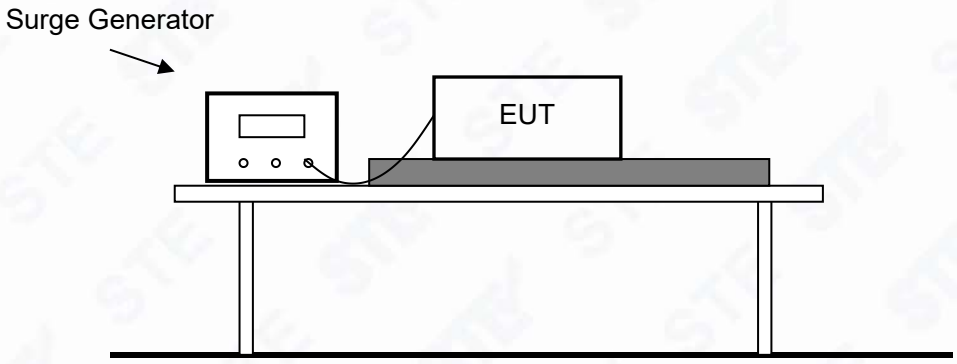
Standard	☐ IEC 61000-4-4 ☑ EN 61000-4-4		
Applicant	Hunan Yinlang Electronic Technology Co., Ltd.		
EUT	Resistance	**Temperature**	24.3℃
M/N	TR35-200	**Humidity**	52.1％
Test Mode	Mode 1	**Criterion**	B
Test Engineer	Xp Rao	**Test Voltage**	350V

Line	Test Voltage	Result (+)	Result (-)
L	1KV	PASS	PASS
N	1KV	PASS	PASS
PE	1KV	PASS	PASS
L-N	1KV	PASS	PASS
L-PE	1KV	PASS	PASS
N-PE	1KV	PASS	PASS
L-N-PE	1KV	PASS	PASS
Signal Line			
I/O Cable			

Note:

5.4 Surge Immunity Test

5.4.1 Block Diagram of Test Setup



5.4.2 Test Standard

EN IEC 55014-2: 2021 (EN 61000-4-5: 2014+A1: 2017, Severity Level: Line to Line: Level 2, 1.0KV, Line to Earth: Level 3, 2.0KV)

5.4.3 Severity Levels and Performance Criterion

1. Severity Levels

Severity Level	Open-Circuit Test Voltage (KV)
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

2. Performance Criterion: B

5.4.4 EUT Configuration on Test

The configuration of the EUT is same as Section 3.

5.4.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 5.4.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

5.4.6 Test Procedure

1. Set up the EUT and test generator as shown on Section 4.8.1.

2. For line to line coupling mode, provide a 1.0 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

3. For line to line coupling mode, provide a 2.0 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

4. Different phase angles are done individually.

5. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

5.4.7 Test Results

PASS.

Please refer to the following page.

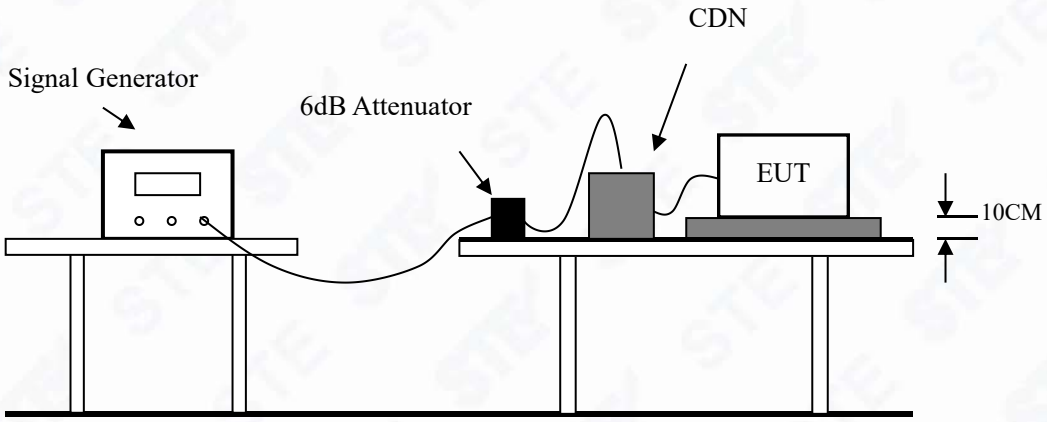
Surge Immunity Test Result

Standard	☐ IEC 61000-4-5 ☑ EN 61000-4-5		
Applicant	Hunan Yinlang Electronic Technology Co., Ltd.		
EUT	Resistance	**Temperature**	24.2℃
M/N	TR35-200	**Humidity**	52.1%
Test Mode	Mode 1	**Criterion**	B
Test Engineer	Xp Rao	**Test Voltage**	350V

Location	Polarity	Number of Pulse	Pulse Voltage (KV)	Result
L-N	+	0°, 90°, 180°, 270°	5	1.0
	-	0°, 90°, 180°, 270°	5	1.0
L-PE	+	0°, 90°, 180°, 270°	5	2.0
	-	0°, 90°, 180°, 270°	5	2.0
N-PE	+	0°, 90°, 180°, 270°	5	2.0
	-	0°, 90°, 180°, 270°	5	2.0
Signal Line				
Note				

5.5 Injected Currents Susceptibility Test

5.5.1 Block Diagram of Test Setup



5.5.2 Test Standard

EN IEC 55014-2: 2021 (EN 61000-4-6: 2014, Severity Level: Level 3, (0.15MHz ~ 80MHz)

5.5.3 Severity Levels and Performance Criterion

1. Severity Levels

Level	Field Strength (V)
1	1
2	3
3	10
X	Special

2. Performance Criterion: B

5.5.4 EUT Configuration on Test

The configuration of the EUT is same as Section 3.

5.5.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 5.5.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

5.5.6 Test Procedure

1. Set up the EUT, CDN and test generators as shown on Section 5.5.1.

2. Let the EUT work in test mode and measure it.

3. The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

4. The disturbance signal described below is injected to EUT through CDN.

5. The EUT operates within its operational mode(s) under intended climatic conditions after power on.

6. The frequency range is swept from 150kHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave.

7. The rate of sweep shall not exceed 1.5*10-3decades/s. where the frequency is swept incrementally; the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

8. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

5.5.7 Test Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

Standard	☐ IEC 61000-4-6 ☑ EN 61000-4-6		
Applicant	Smart Green Building Solution and Equipment Limited		
EUT	Resistance	**Temperature**	23.8℃
M/N	TR35-200	**Humidity**	52.9%
Test Mode	Mode 1	**Criterion**	A
Test Engineer	Xp Rao	**Test Voltage**	350V

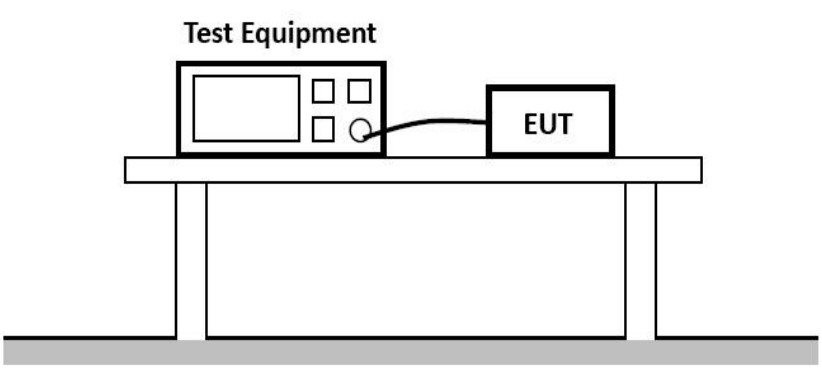
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
0.15 ~ 80	AC Mains	10V	A	PASS

Remark:
1. Modulation Signal:1kHz 80% AM
2. Measurement Equipment :
Simulator: CIT-10 (FRANKONIA)
CDN : ☑CDN-M2 (FRANKONIA)
☐CDN-M3 (FRANKONIA)

Note:

5.6 Voltage Dips and Interruptions Test

5.6.1 Block Diagram of Test Setup



5.6.2 Test Standard

EN IEC 55014-2: 2021 (EN 61000-4-11: 2004+A1: 2017)

5.6.3 Severity Levels and Performance Criterion

1. Severity Levels

Test Level		
Voltage Reduction %U_T	Voltage Dips %U_T	Duration (in Period)
0	100	0.5
40	60	10
70	30	25
Voltage Reduction %U_T	Voltage Dips %U_T	Duration (in Period)
100	0	250

2. Performance Criterion: B & C

5.6.4 EUT Configuration on Test

The configuration of the EUT is same as Section 3.

5.6.5 Operating Condition of EUT

1. Setup the EUT as shown on Section 5.6.1
2. Turn on the power of all equipments.
3. Let the EUT work in measuring Mode 1 and measure it.

5.6.6 Test Procedure

1. Set up the EUT and test generator as shown on Section 5.7.1.

2. The interruptions are introduced at selected phase angles with specified duration.

3. Record any degradation of performance.

5.6.7 Test Results

PASS.

Please refer to the following page.

Voltage Dips And Interruptions Test Results

Standard	☐ IEC 61000-4-11 ☑ EN 61000-4-11		
Applicant	Smart Green Building Solution and Equipment Limited		
EUT	Resistance	**Temperature**	24.2℃
M/N	TR35-200	**Humidity**	52.1%
Test Mode	Mode 1	**Criterion**	B&C
Test Engineer	Xp Rao		

Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in periods)	Criterion	Result
40	60	10P	C	PASS
70	30	30P	C	PASS
0	100	0.5P	C	PASS

Note:

6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

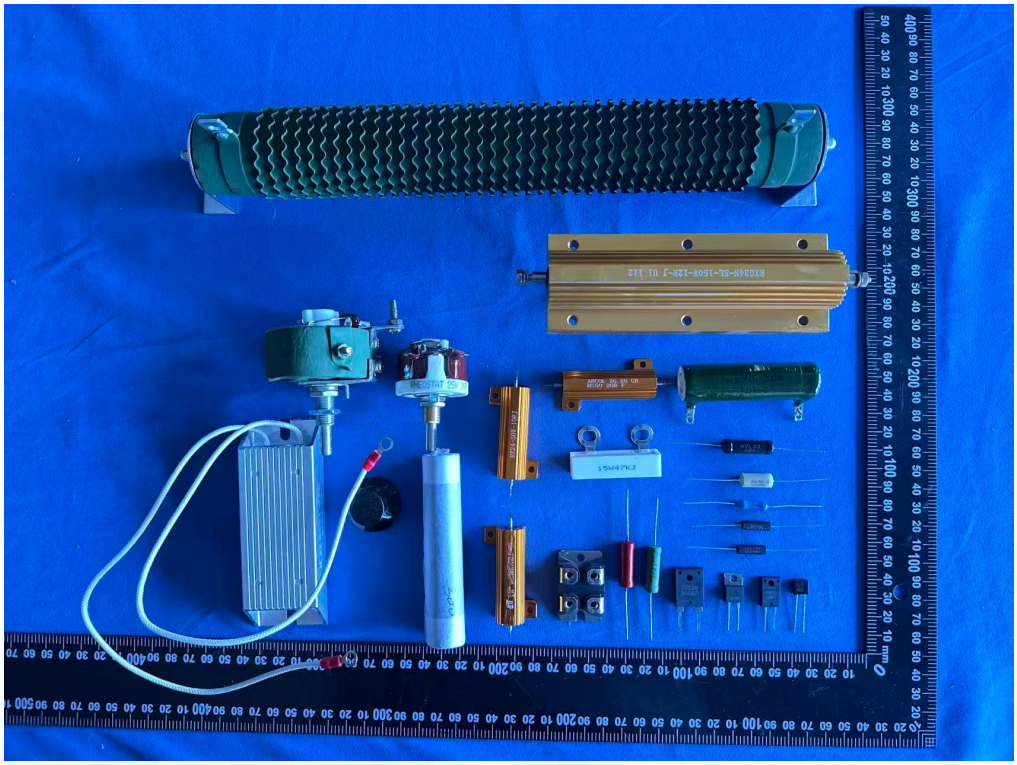


Fig. 1

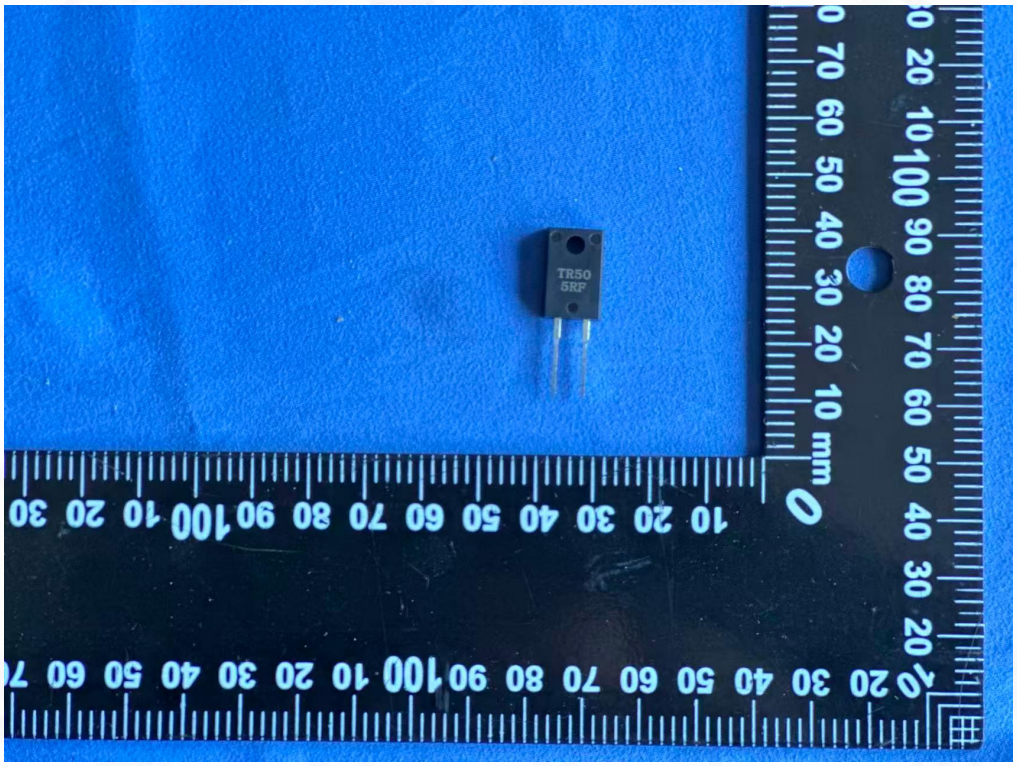


Fig. 2

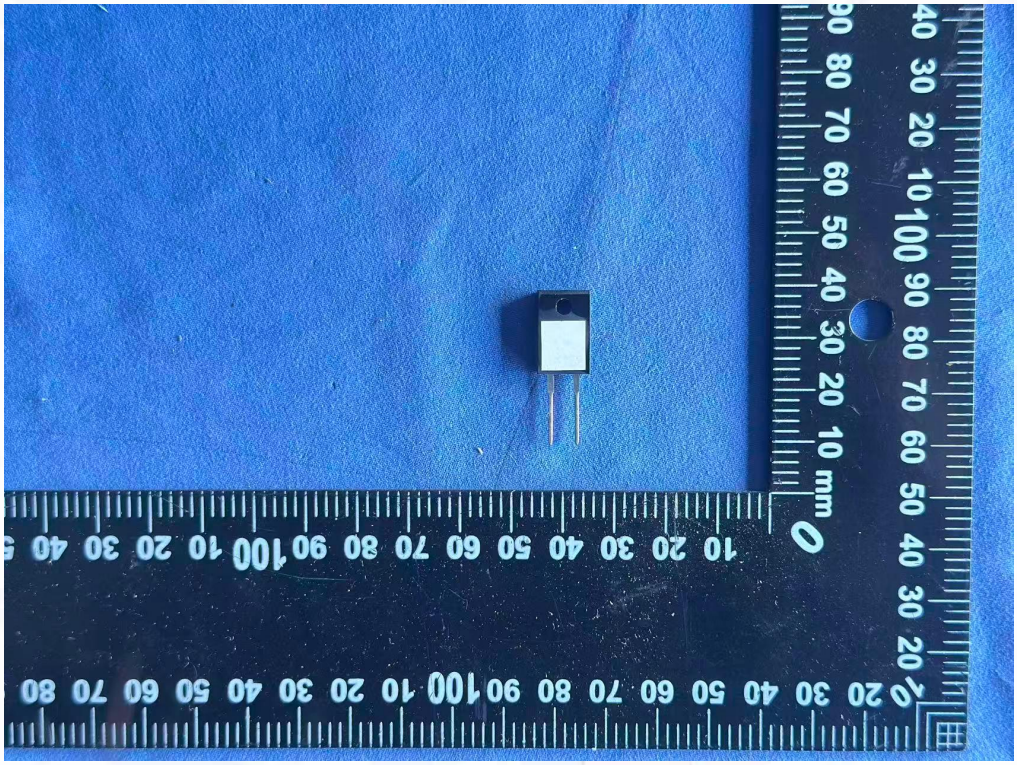


Fig. 3

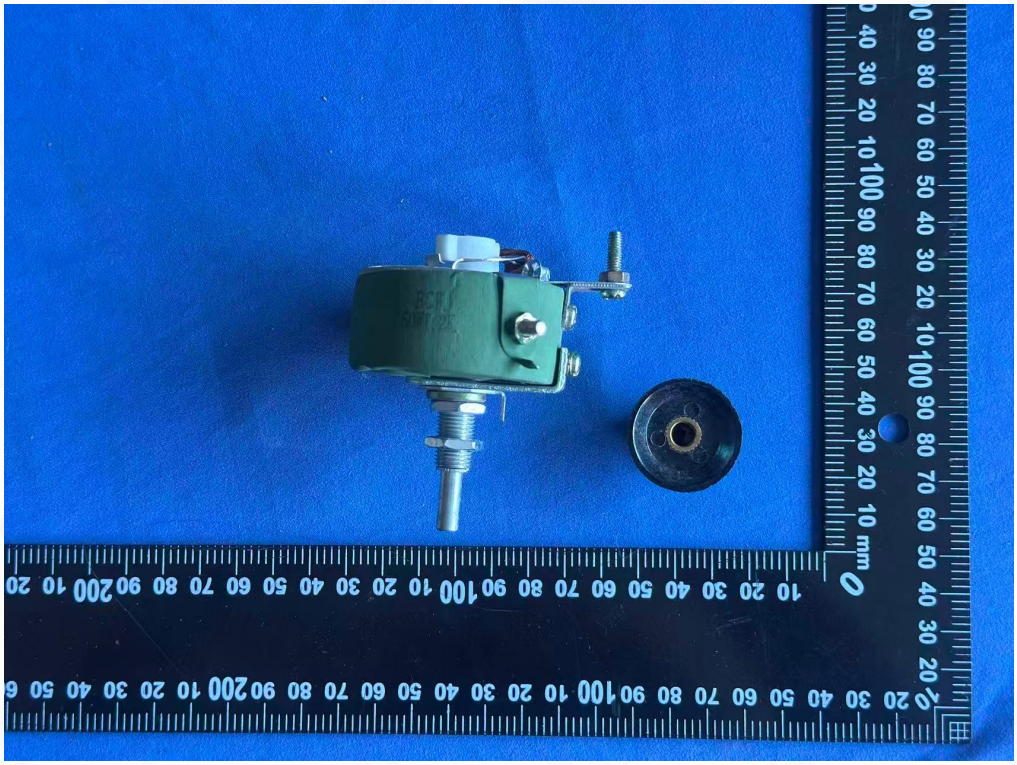


Fig. 4

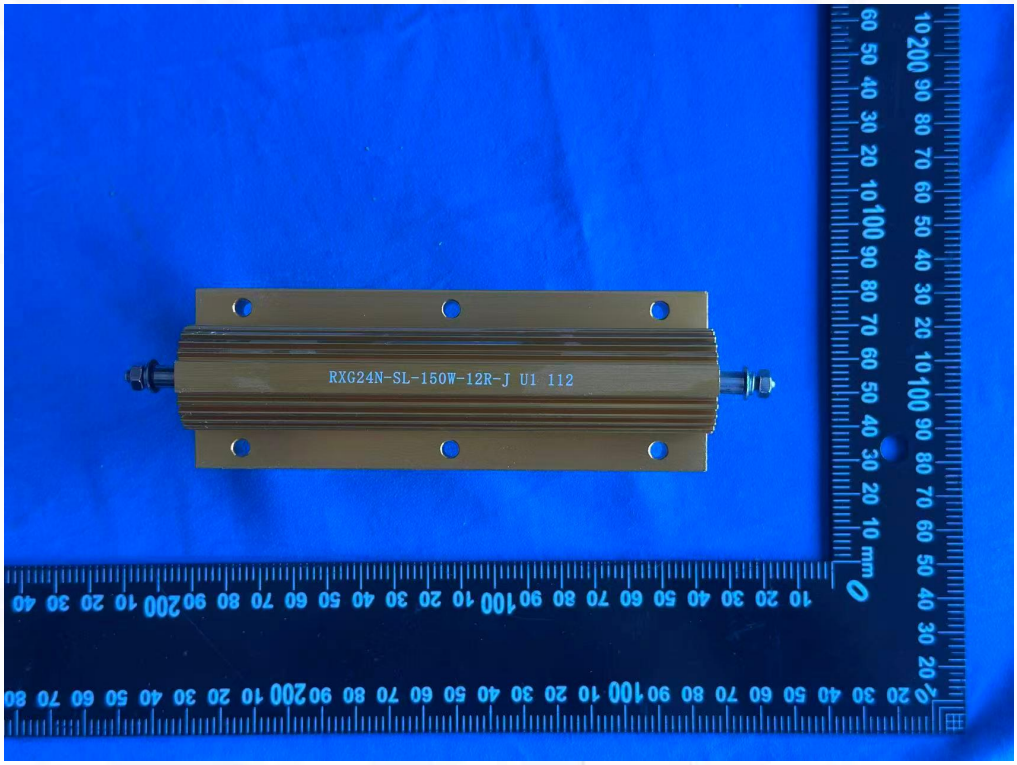


Fig. 5

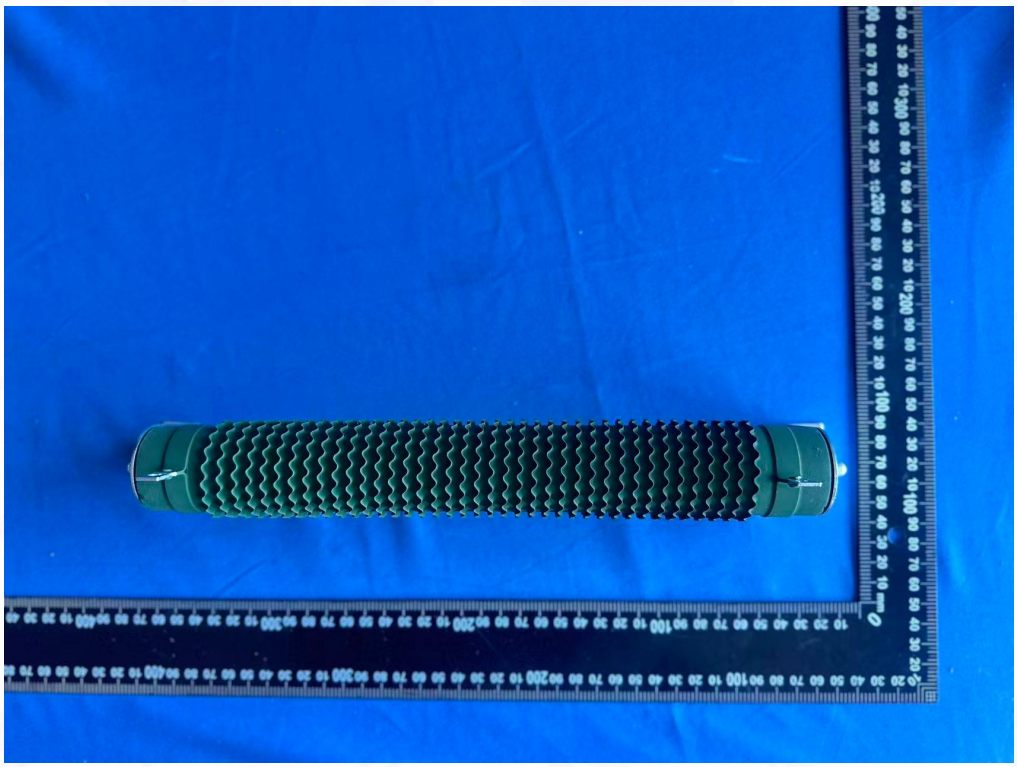


Fig. 6

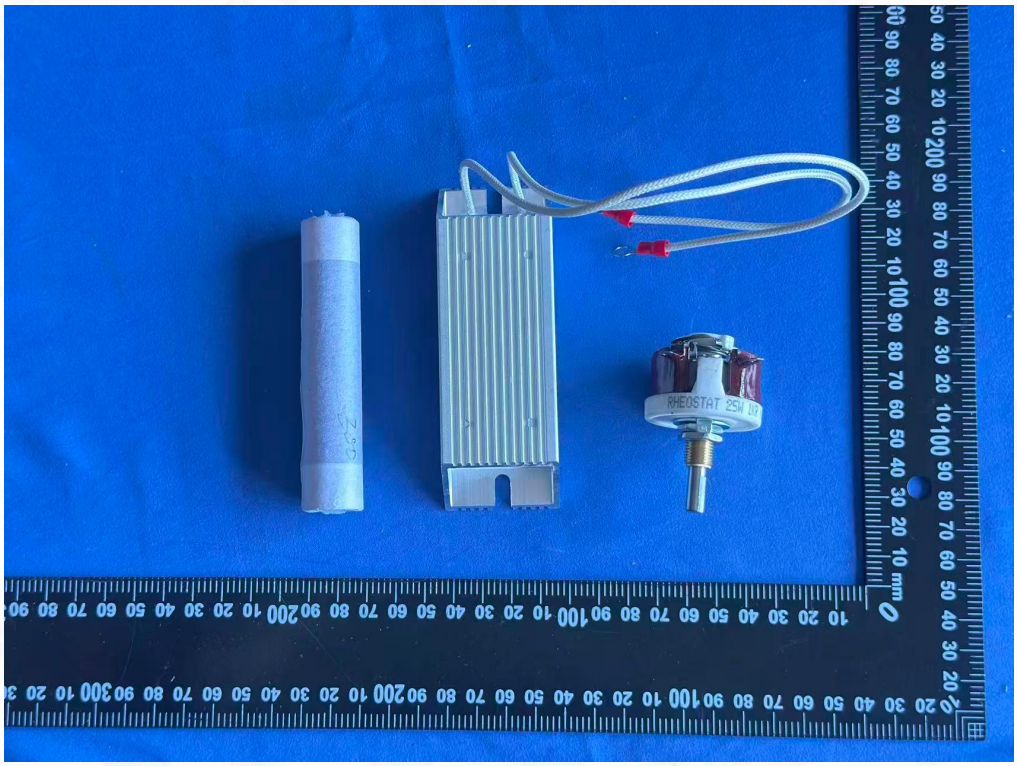


Fig. 7

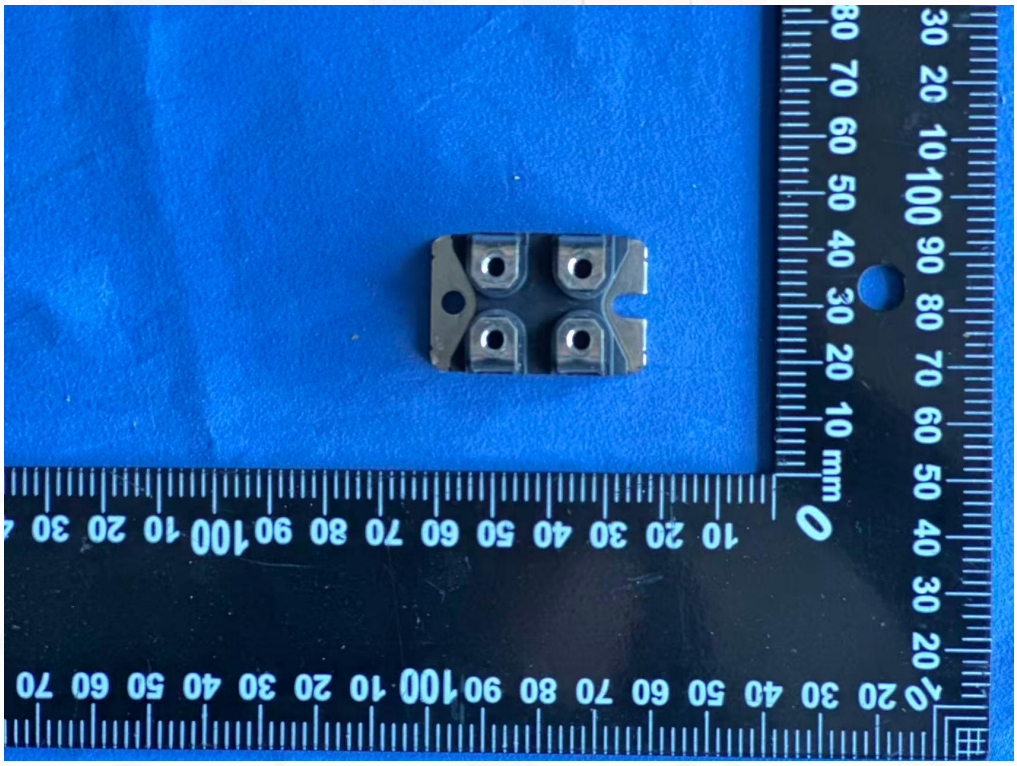


Fig. 8

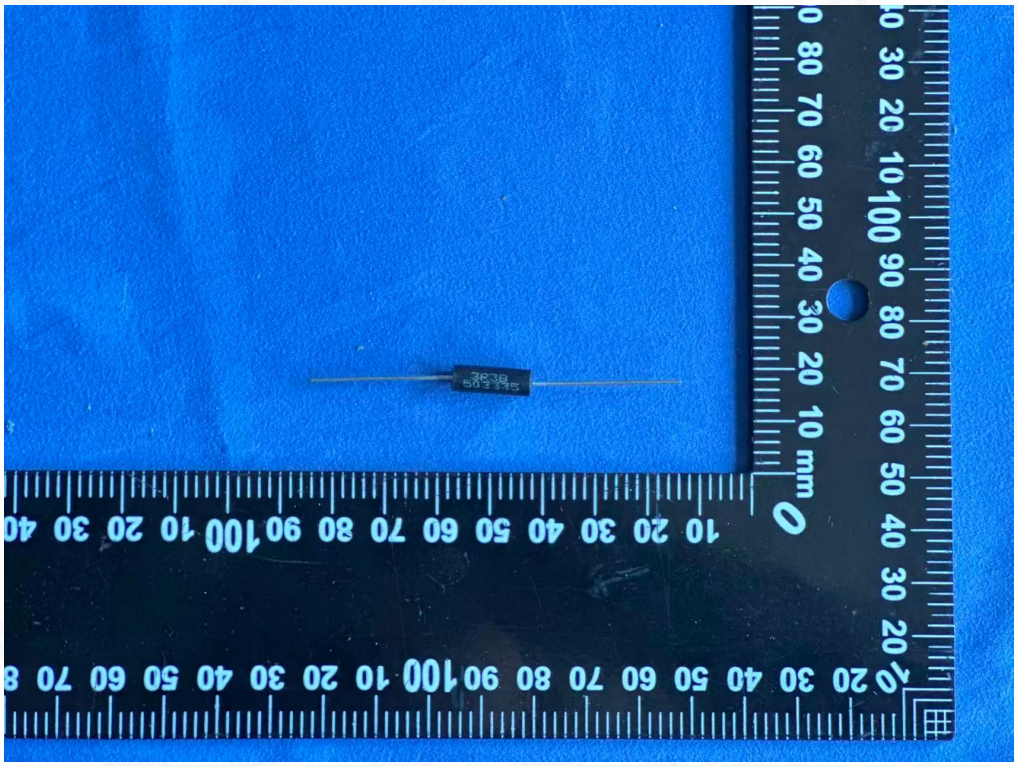


Fig. 9

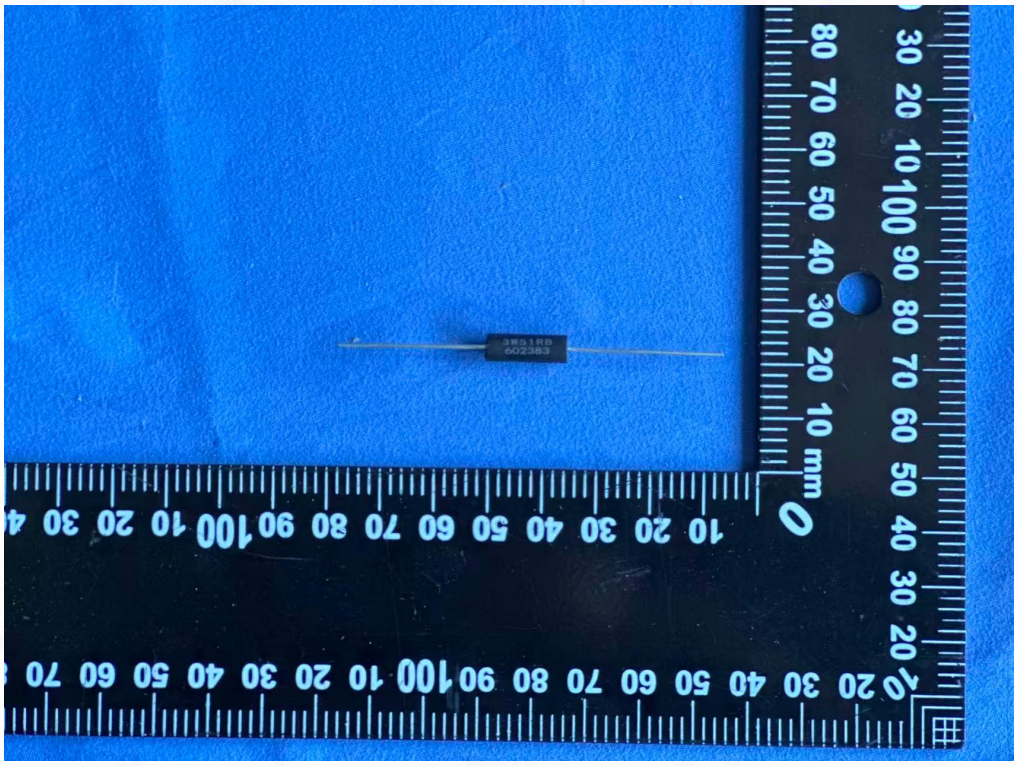


Fig. 10

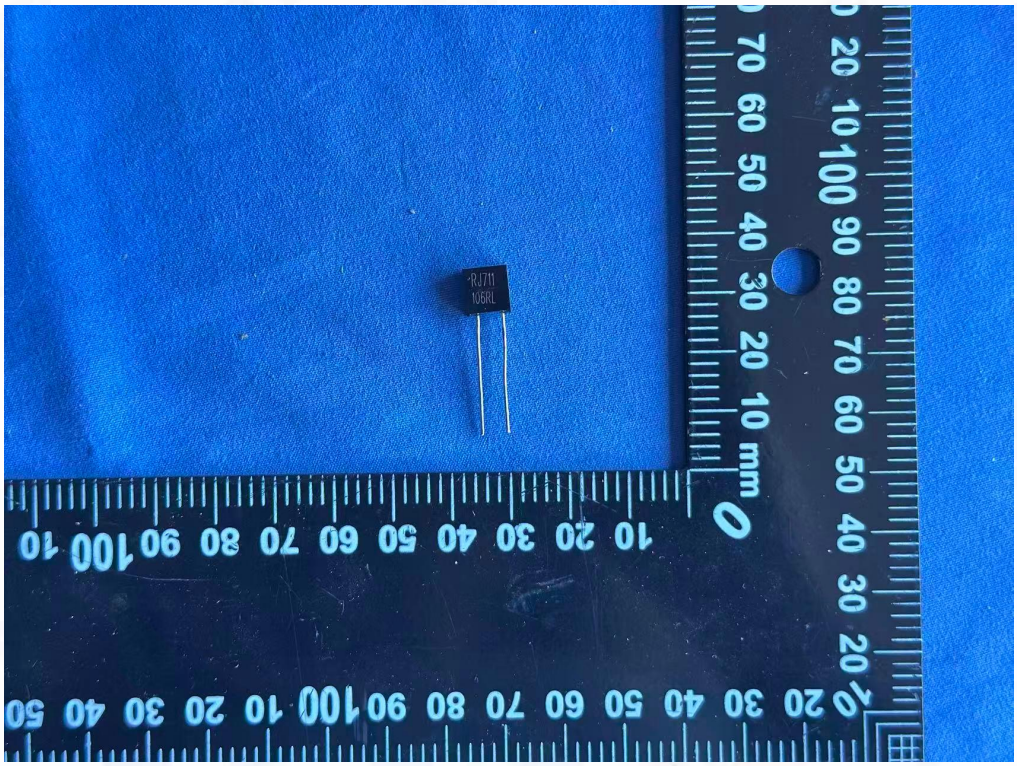


Fig. 11

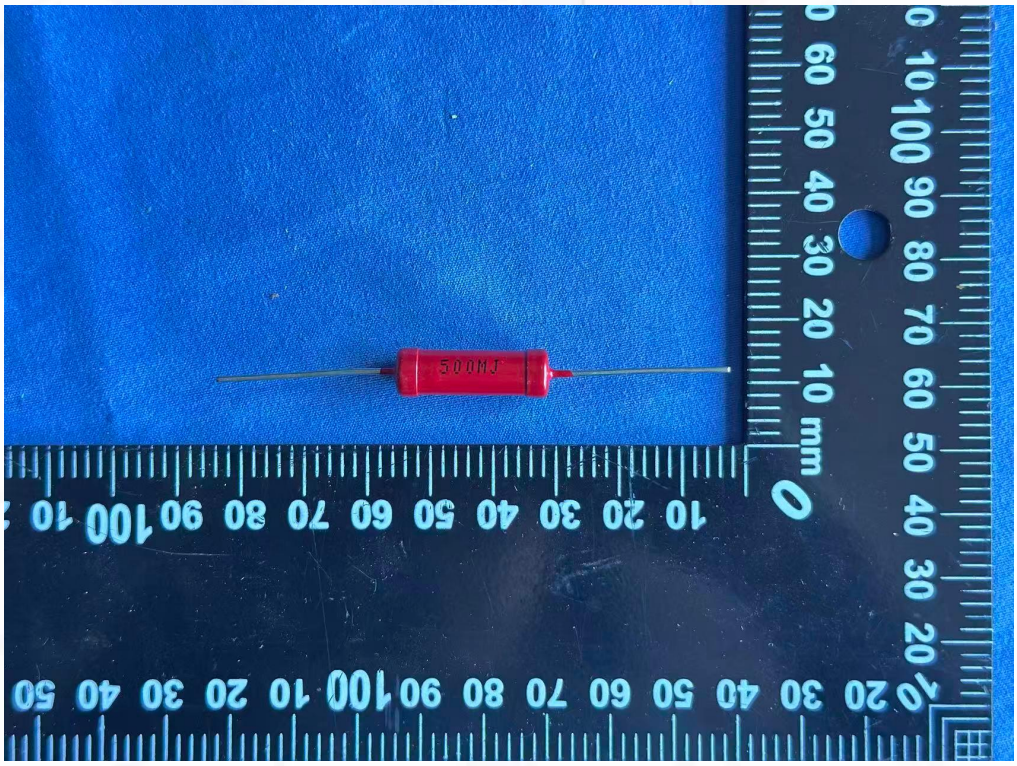


Fig. 12

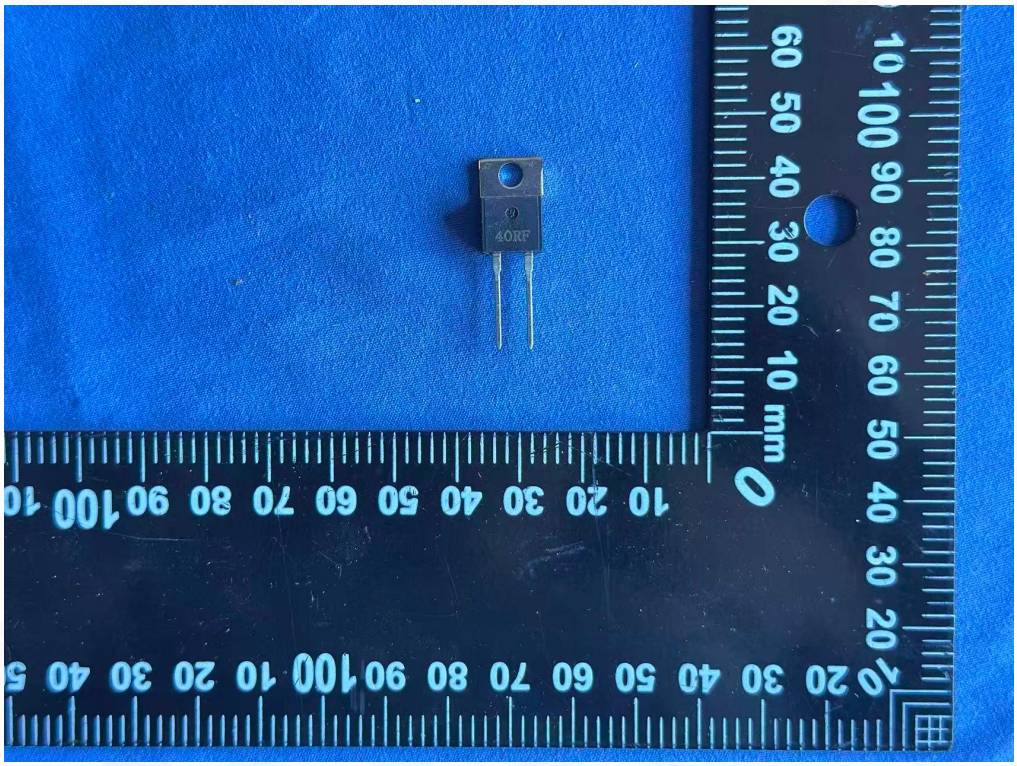


Fig. 13

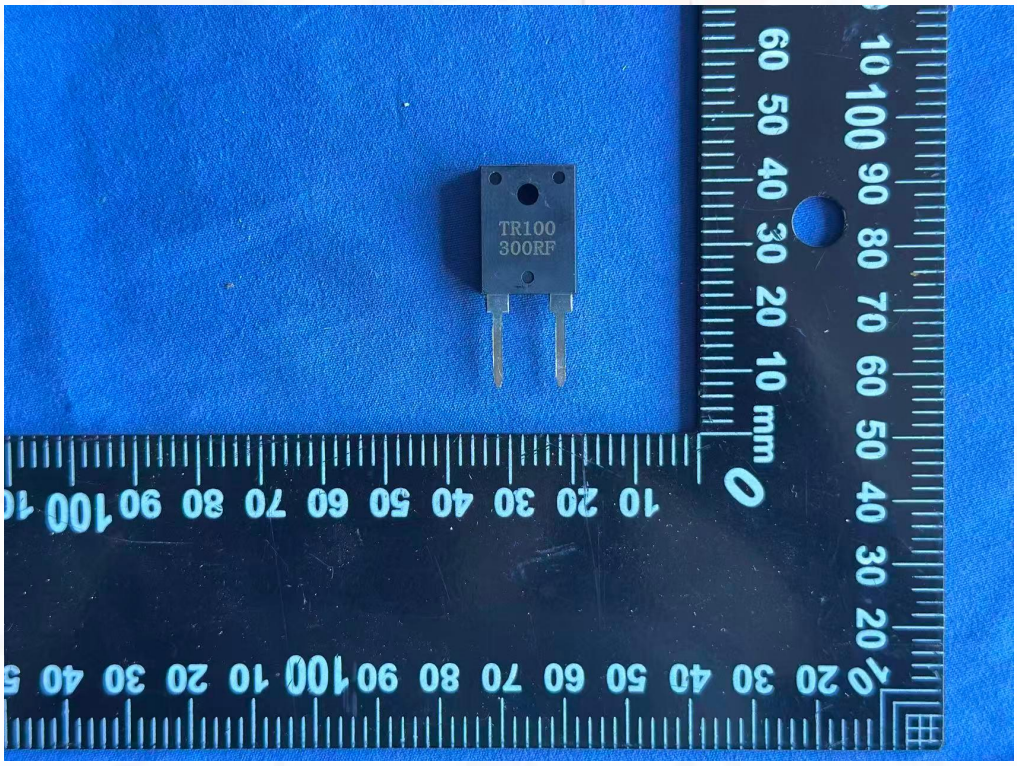


Fig. 14

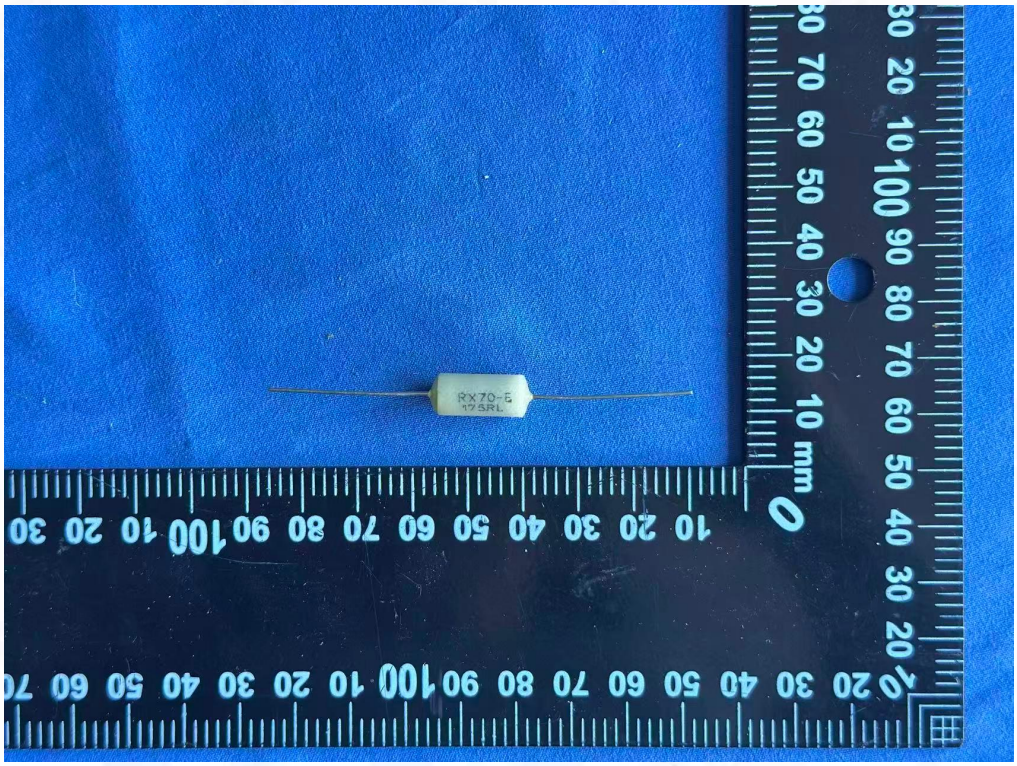


Fig. 15

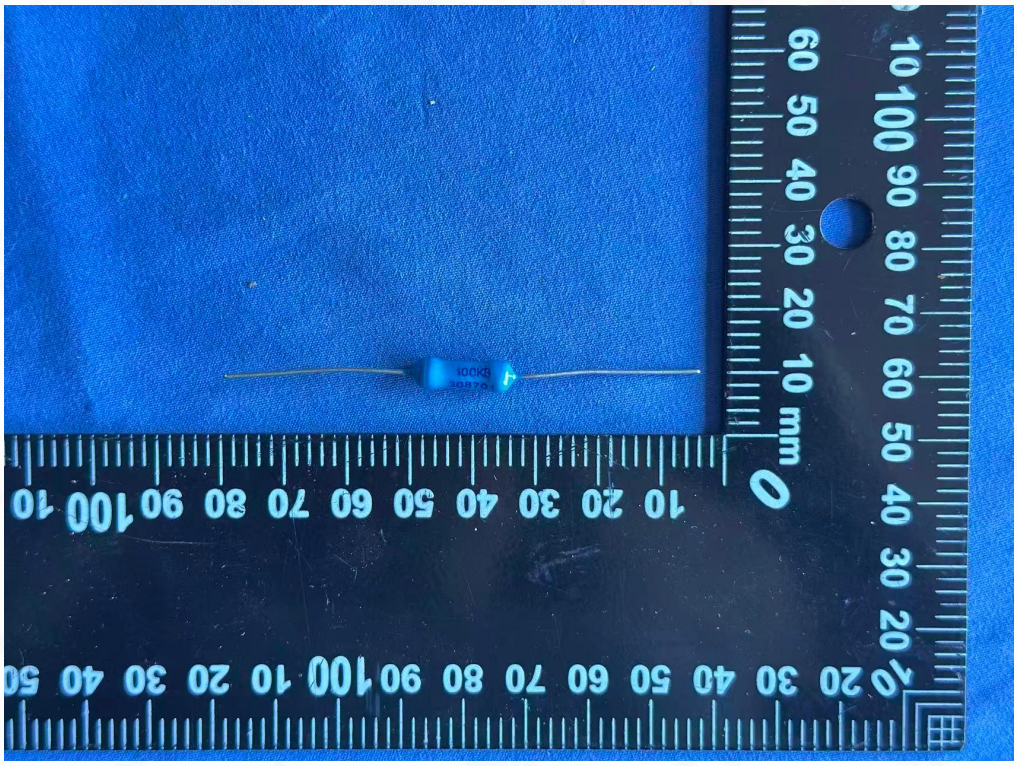


Fig. 16

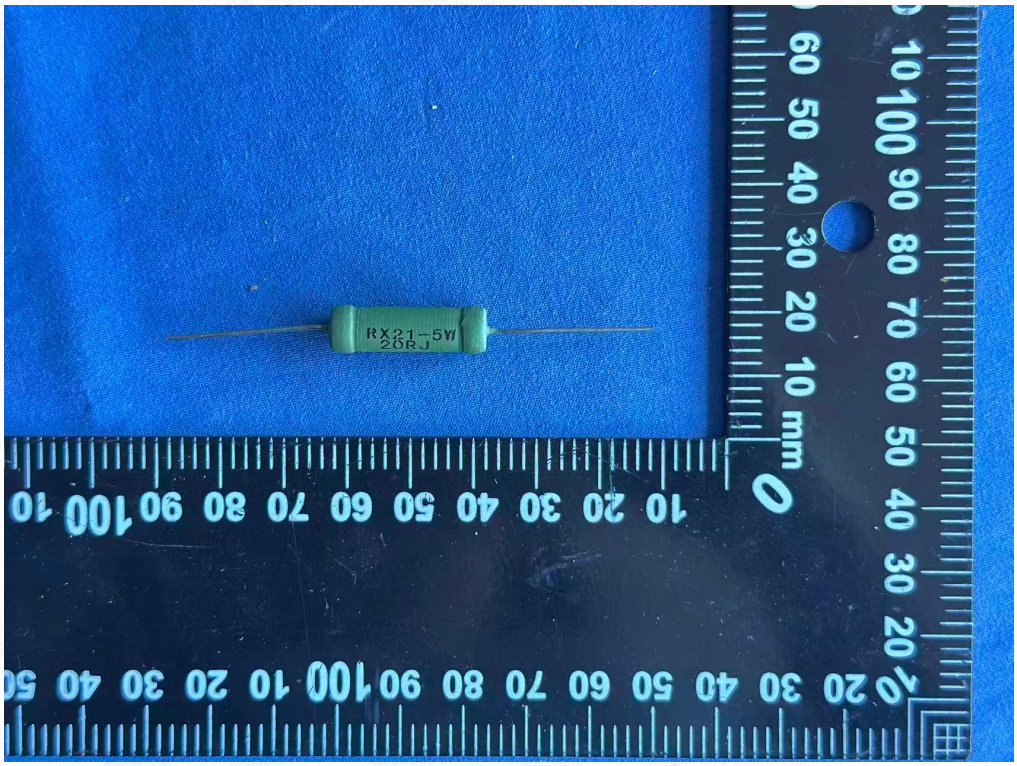


Fig. 17

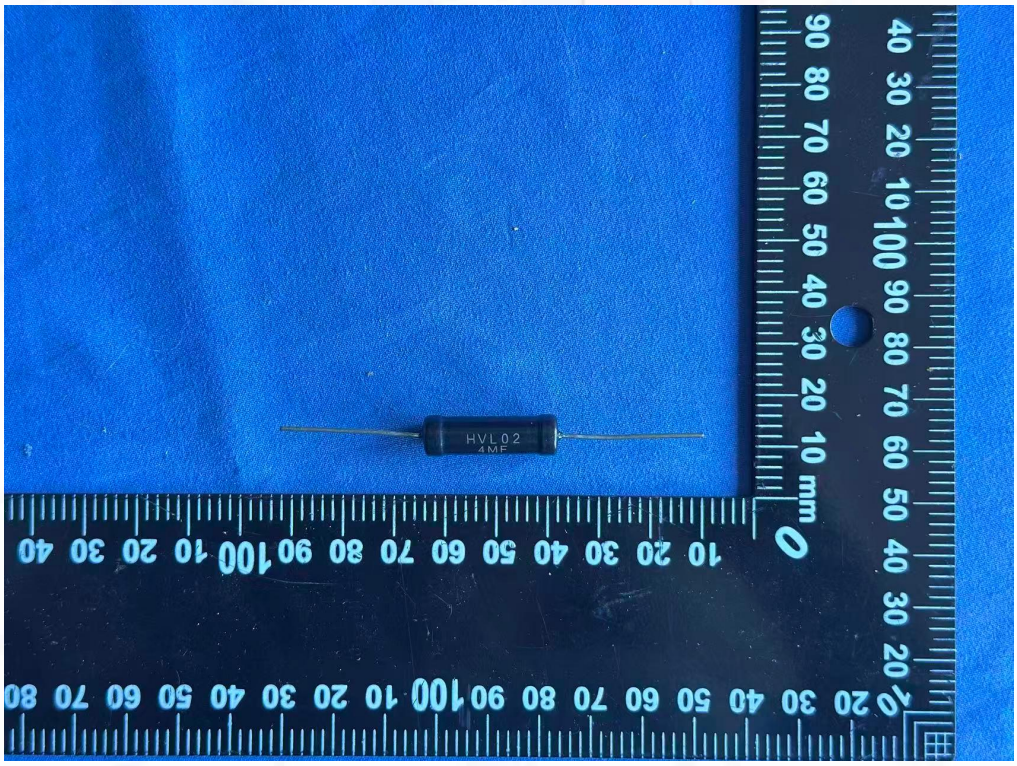


Fig. 18

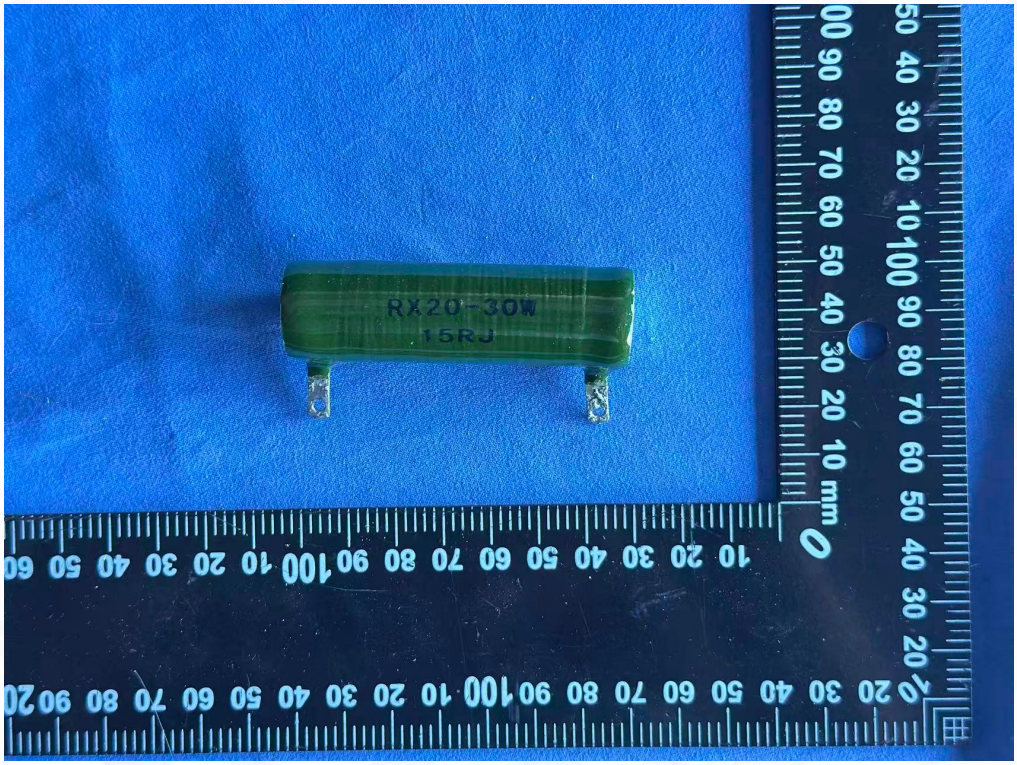


Fig. 19

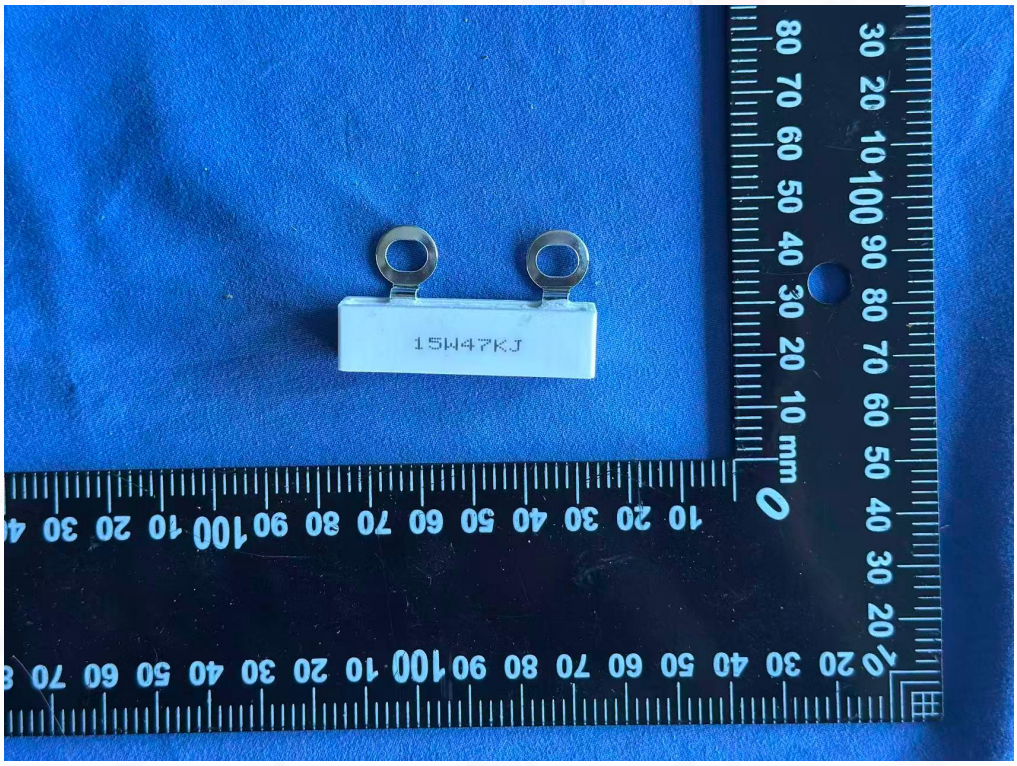


Fig. 20

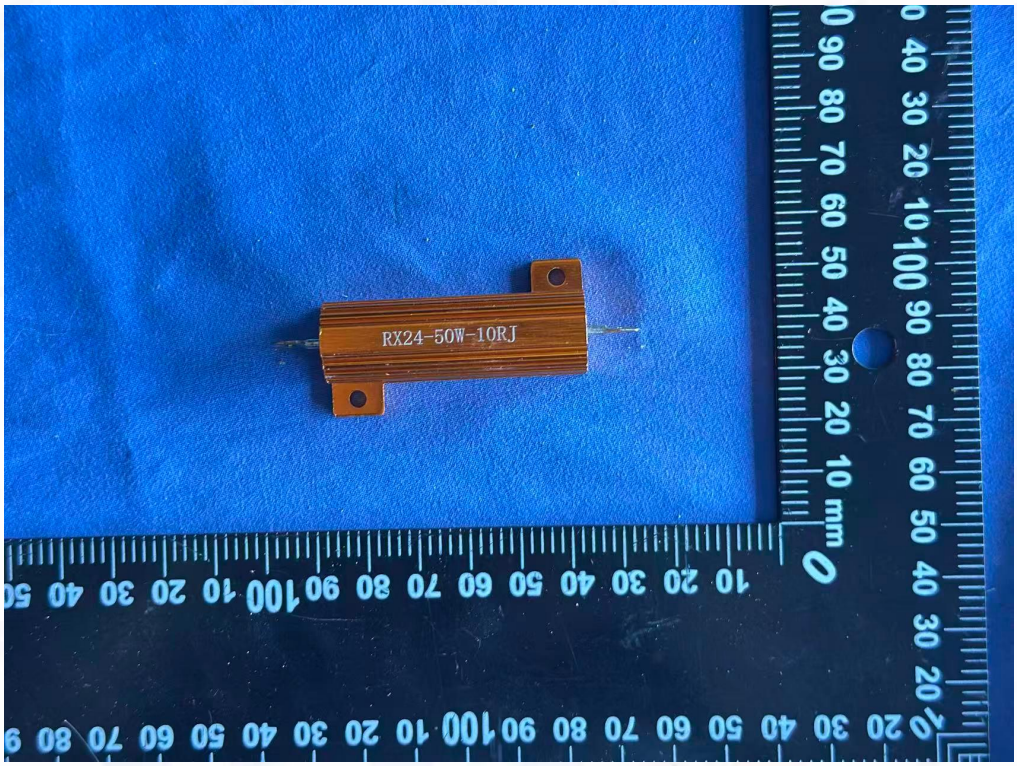


Fig. 21

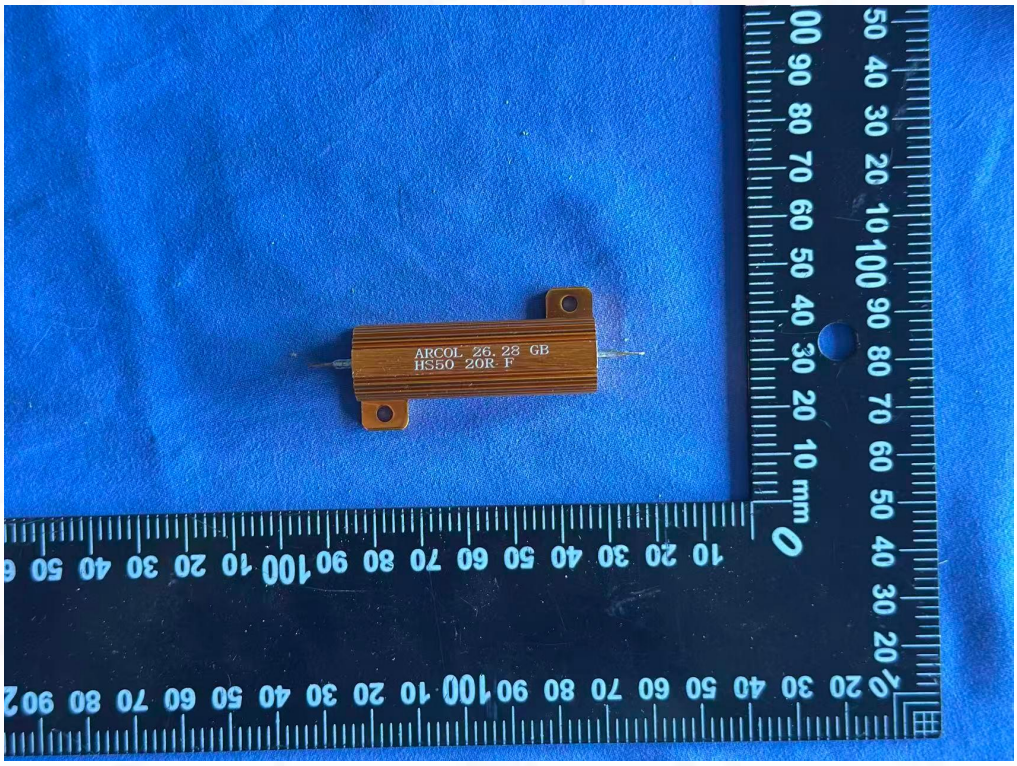


Fig. 22

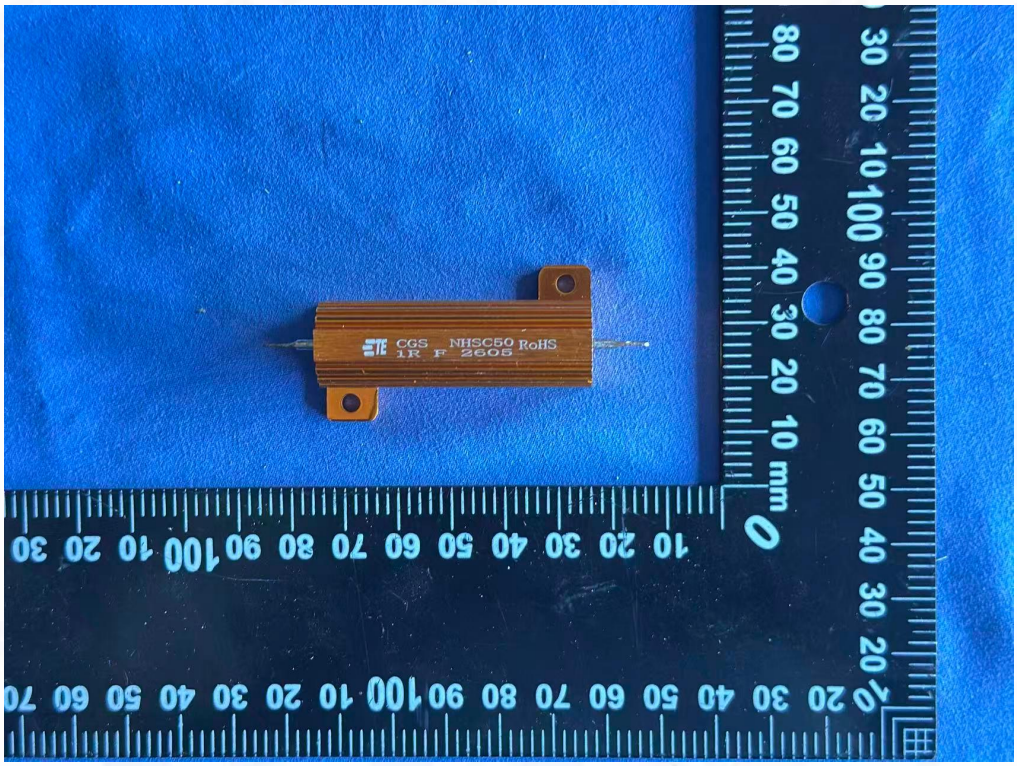


Fig. 23

---------- THE END OF TEST REPORT ----------