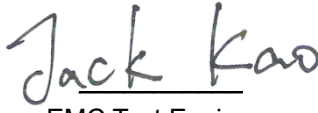
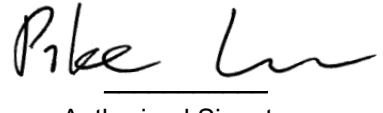


TEST REPORT

	South African Bureau of Standards Dr. Lategan Street, Groenkloof, 0001 Pretoria, South Africa info@sabs.co.za www.sabs.co.za	Report No.: 002621 Page (1) / (97) Pages		
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1	Test Report No	002621		
2	Applicant	▪ Name iSERT(Pty) Ltd. ▪ Street Address 129 Khai-Apple street, Montana, pretoria ▪ Postal Address 129 Khai-Apple street, Montana, pretoria ▪ Date of Receipt 2022/1/24 ▪ Contact Person Johan Deysel ▪ Telephone No 012 548 0940 ▪Fax No N/A		
3	Manufacturer	▪ Name GlobTek (Suzhou) Co., Ltd ▪ Address Building 4, No. 76 JinLing East Road, Suzhou Industrial Park, Suzhou, JiangSu, 215021, China ▪ Telephone No 62790301-189 ▪Fax No N/A		
4	Use of Report	For SABS COC application.		
5	Kind of Product	ITE /ICT POWER SUPPLY		
6	Model Name	GTM96300-2307.5-2.5-T3		
7	Variant Model	GTM96300-3624-T3, GTM96300-3614.5-2.5-T3, GTM96300-3619.5-4.5-T3		
8	Sample Receipt Date	2022/1/24		
9	Issuance Date	2022/3/25		
10	Test Period	2022/1/24 ~ 2022/3/21		
11	Test Standard(method) used	SANS 2332:2017 Class B/CISPR 32:2015 Class B SANS 61000-3-2:2009/IEC 61000-3-2:2014 SANS 61000-3-3:2009/IEC 61000-3-3:2013 SANS 2335:2018/CISPR 35:2016 SANS 61000-4-2:2009/IEC 61000-4-2:2008 SANS 61000-4-3:2008/ IEC 61000-4-3:2006+A1:2007+A2:2010 SANS 61000-4-4:2011/IEC 61000-4-4:2012 SANS 61000-4-5:2006/IEC 61000-4-5:2014 SANS 61000-4-6:2009/IEC 61000-4-6:2013 SANS 61000-4-8:2009/IEC 61000-4-8:2009 SANS 61000-4-11:2005/IEC 61000-4-11:2004		
12	Test Results	Pass		
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.				
Conformation	Reviewed by Jack Kao  EMC Test Engineer		Approved by Pike Lee  Authorized Signatory	

REPORT REVISION HISTORY

Date	Revision	Page No
2022/3/25	Issued (1)	All

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1.0 General Product Description

1.0.1 Product Specification

No.	ITEM	APPLICATION
1	Test Sample	ITE /ICT POWER SUPPLY
2	Model	GTM96300-2307.5-2.5-T3
3	Variant Model/Type No.	GTM96300-3624-T3, GTM96300-3614.5-2.5-T3, GTM96300-3619.5-4.5-T3
4	Model Difference	The output voltage, power and current are different.
4	Test Sample Serial Number	701815117/19
5	Dimensions (W x L x H)	107 (W)mm x 35 (L)mm x 50 (H)mm
6	Maximum Clock Frequency	60 Hz

1.0.2 Electrical Ratings

(1) GTM96300-2307.5-2.5-T3:	Input: 100-240VAC, 50-60Hz 1A	Output: 5V $\overline{\text{---}}$ 4.5A
(2) GTM96300-3624-T3:	Input: 100-240VAC, 50-60Hz 1A	Output: 24V $\overline{\text{---}}$ 1.5A
(3) GTM96300-3614.5-2.5-T3:	Input: 100-240VAC, 50-60Hz 1A	Output: 12V $\overline{\text{---}}$ 3.0A
(4) GTM96300-3619.5-4.5-T3:	Input: 100-240VAC, 50-60Hz 1A	Output: 15V $\overline{\text{---}}$ 2.4A

1.0.3 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Power supply voltage	☒ 230V/50 Hz / 1 ϕ	☐ 115V/60Hz / 1 ϕ
	☐ 400V/50 Hz 3PE	☐ 400V/50 Hz 3NPE
	☐ 12 V DC	☐ 24 V DC
	☐ 220V/50 Hz / 1 ϕ	

1.1 Model Differences

The output voltage, power and current are different.

1.2 Device Modifications

Not applicable

1.3 Difference Table between Basic Model and Variant Models

Not applicable

1.4 EUT Configuration(s)

See Appendix A for individual test set-up configuration(s). The following peripheral devices and/or interface cables were connected during the measurement:

☒ Peripheral Devices

Device	Model No.	Serial No.	Manufacturer
Dummy Load	N/A	N/A	N/A

☒ Cable Description

No.	From		To		Type of Cable		
	Device	I/O Port	Device	I/O Port	Length (m)	Shielded or Unshielded	Ferrite Core [Y/N]
1	AC main	N/A	EUT	AC in	1.8	U	N
2	EUT	DC	Dummy Load	DC	1.5	U	N

* Shielded or Unshielded: Unshielded=U, Shielded=S

1.5 Test Software

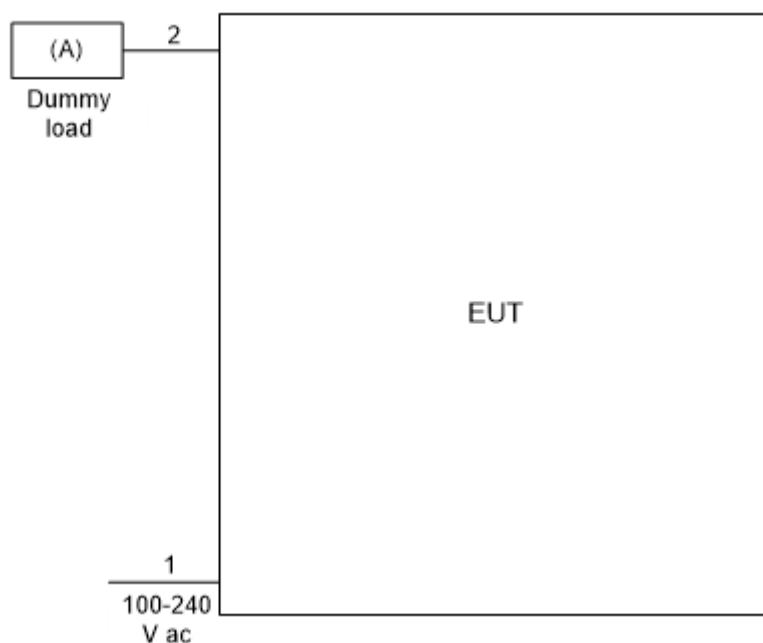
Not applicable

1.6 EUT Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

Operating Mode	Function	Test Item
1	Full load 24V / 1.5A	Pretest
2	Full load 15V / 2.4A	Pretest
3	Full load 12V / 2.5A	Article 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8
4	Full load 5V / 4.5A	Pretest

1.7 Configuration



1.8 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable, therefore, all test data recorded in this report is traceable.

1.9 Test Facility

The measurement facility is BTL Inc.

The sites are constructed in conformance with the requirements of **CISPR 16-1-4**.

1.10 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Registration Number	Logo
Taiwan	Taiwan Accreditation Forum (TAF)	CISPR 32, CISPR 35, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11	0659	

1.11 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The measurement instrumentation uncertainty considerations contained in **CISPR 16-4-2**. The BTL measurement uncertainty is less than the **CISPR 16-4-2** U_{CISPR} requirement.

1.11.1 Radiated disturbance (Up to 1 GHz)

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
CB20 (3m)	CISPR	30 MHz ~ 200 MHz	V	4.26
		30 MHz ~ 200 MHz	H	3.76
		200 MHz ~ 1,000 MHz	V	4.46
		200 MHz ~ 1,000 MHz	H	3.84

1.11.2 Conducted emissions AC mains power port

Test Site	Method	Measurement Frequency Range	U,(dB)
C05	CISPR	150 kHz ~ 30 MHz	3.44

1.11.3 Harmonic current emissions and Voltage changes, voltage fluctuations and flicker

Test Site	Method	Test Item	U(%)
SR06	IEC 61000-3-2	Voltage	1.28
	IEC 61000-3-3	Current	0.42

1.11.4 Immunity

Test Site	Method	Test Item	U
SR02	IEC 61000-4-2	Rise time	≤12.5 %
		Peak Current	≤6.0 %
		Current at 30ns	≤6.0 %
		Current at 60ns	≤6.0 %
CB17	IEC 61000-4-3	General test	
		80 MHz~1 GHz 1 GHz~6 GHz	3.68 dB 3.68 dB
SR01	IEC 61000-4-4	voltage peak value (VP)	4.95 %
		voltage rise time (tr)	12.00 %
		voltage pulse width(pw)	11.80 %
		Pulse Freq. (kHz)	0.00 %
		Burst Duration (ms)	0.13 %
		Burst Period (ms)	0.07 %
SR01	IEC 61000-4-5	voltage peak value (VP)	8.82 %
		voltage rise time (Tfv)	17.50 %
		voltage duration time (td)	13.20 %
SR09	IEC 61000-4-6	CDN M3 test process	1.34 dB
SR06	IEC 61000-4-8	PFMF mG Calibration	8.33 %
SR01	IEC 61000-4-11	DIP Amplitude	3.21 %
		DIP Time Event	4.40 %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in **CISPR 16-4-2** terminology.

Since Table 1 of **CISPR 16-4-2** has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

2.0 EMC Test Regulations/Standards

The tests were performed according to following regulations:

EMC – SANS 2332:2017 and CISPR 32:2015.

EMC – SANS 61000-3-2:2009 and IEC 61000-3-2:2014.

EMC – SANS 61000-3-3:2009 and IEC 61000-3-3:2013.

EMC – SANS 2335:2018 and CISPR 35:2016.

2.1 Emission and Immunity Test Regulations/Standards

Electromagnetic compatibility of multimedia equipment — Emission requirements

Electromagnetic compatibility (EMC)

Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

Electromagnetic compatibility (EMC)

Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

Information technology equipment — Immunity characteristics — Limits and methods of measurement

Electromagnetic compatibility of multimedia equipment – Immunity requirements

2.2 Purpose of Test

To determine whether the equipment under test fulfils the EMC emission and immunity requirements of the standards.

2.3 Name and Address of the Laboratory

Name: BTL Inc.

Address: No.18, Ln. 171, Sec. 2, Jiuzong Rd., Neihu Dist., Taipei City 114, Taiwan

2.4 Summary of Test Results

Applied standard	Title		Applied	Test Result
SANS 2332:2017 CISPR 32:2015	Radiated emissions up to 1 GHz		YES	Pass
	Radiated emissions above 1 GHz		NO	N/A NOTE (2)
	Radiated emissions from FM receivers		NO	N/A NOTE (1)
	Conducted emissions AC mains power port		YES	Pass
	Asymmetric mode conducted emissions	AAN	NO	N/A NOTE (1)
		Current Probe	NO	N/A NOTE (1)
		CVP	NO	N/A NOTE (1)
	Conducted differential voltage emissions		NO	N/A NOTE (1)

NOTE: (1) "N/A" denotes test is not applicable in this Test Report.
 (2) The EUT's max operating frequency does not exceed 108 MHz,
 so the test will not be performed.

(3)

Cable Type	Number of pairs	Measurement type	Procedures
Balanced Unscreened	1 (2 wire) ;2 (4 wire); 3 (6 wire) ;4 (8 wire)	Voltage	AAN
Balanced Unscreened	See a)	Voltage and Current	CP+CVP
Screened or Coaxial	n/a	Voltage	AAN
Screened or Coaxial	n/a	Voltage or Current	CP or CVP
Unbalanced cables	n/a	Voltage and Current	CP+CVP

Ports connected to cables with more than 4 balanced pairs or where the port is unable to function correctly when connected through an AAN.

Applied standard	Title	Applied	Test Result
SANS 61000-3-2:2009 IEC 61000-3-2:2014	Harmonic current emissions	YES	Pass
SANS 61000-3-3:2009 IEC 61000-3-3:2013	Voltage changes, voltage fluctuations and flicker	YES	Pass

NOTE: (1) "N/A" denotes test is not applicable in this Test Report.
 (2) For equipment with a rated power of 75 W or less, limits are not specified.

Applied standard	SANS 2335:2018 and CISPR 35:2016		
Basic Standard	Title	Applied	Test Result
SANS 61000-4-2:2009 IEC 61000-4-2:2008	Electrostatic discharge immunity	YES	Pass
SANS 61000-4-3:2008 IEC 61000-4-3:2006 +A1:2007+A2:2010	Continuous RF electromagnetic field disturbances immunity	YES	Pass
SANS 61000-4-4:2011 IEC 61000-4-4:2012	Electrical fast transient/burst immunity	YES	Pass
SANS 61000-4-5:2006 IEC 61000-4-5:2014	Surge immunity	YES	Pass
SANS 61000-4-6:2009 IEC 61000-4-6:2013	Continuous induced RF disturbances immunity	YES	Pass
SANS 61000-4-8:2009 IEC 61000-4-8:2009	Power frequency magnetic field immunity	YES	Pass
SANS 61000-4-11:2005 IEC 61000-4-11:2004	Voltage dips, short interruptions and voltage variations immunity	YES	Pass

NOTE: (1) "N/A" denotes test is not applicable in this Test Report.

3.0 Results of Individual Test

3.1 Radiated Disturbance (Up to 1 GHz)

3.1.1 Test Date

2022/3/8

3.1.2 Test Location

CB20: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

3.1.3 Limits for radiated disturbance

Table 1 – Requirements for radiated emissions at frequencies up to 1 GHz for class A equipment.

Table clause	Frequency range MHz	Measurement			Class A limits dB(μV/m)
		Facility (see Table A.1)	Distance m	Detector type / bandwidth	
A2.1	30 to 230	OATS/SAC	10	Quasi Peak / 120 kHz	40
	230 to 1 000				47
A2.2	30 to 230	OATS/SAC	3		50
	230 to 1 000				57
A2.3	30 to 230	FAR	10	Quasi Peak / 120 kHz	42 to 35
	230 to 1 000				42
A2.4	30 to 230	FAR	3		52 to 45
	230 to 1 000				52
Apply only A2.1 or A2.2 or A2.3 or A2.4 across the entire frequency range.					

Apply only A2.1 or A2.2 or A2.3 or A2.4 across the entire frequency range.

Table 2 – Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment.

Table clause	Frequency range MHz	Measurement			Class B limits dB(μV/m)
		Facility (see Table A.1)	Distance m	Detector type / bandwidth	
A4.1	30 to 230	OATS/SAC	10	Quasi Peak / 120 kHz	30
	230 to 1 000				37
A4.2	30 to 230	OATS/SAC	3		40
	230 to 1 000				47
A4.3	30 to 230	FAR	10	Quasi Peak / 120 kHz	32 to 25
	230 to 1 000				32
A4.4	30 to 230	FAR	3		42 to 35
	230 to 1 000				42

Apply only table clause A4.1 or A4.2 or A4.3 or A4.4 across the entire frequency range.

These requirements are not applicable to the local oscillator and harmonics frequencies of equipment covered by Table A.6.

Apply only table clause A4.1 or A4.2 or A4.3 or A4.4 across the entire frequency range.

These requirements are not applicable to the local oscillator and harmonics frequencies of equipment covered by Table A.6.

The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

3.1.4 Test Procedure

The radiated emissions test will then be repeated on the open site or chamber to measure the amplitudes accurately and without the multiple reflections existing in the shielded room. The EUT and support equipment are set up on the turntable of 3 meter semi anechoic chamber. Desktop EUT are set up on a wooden stand 0.8 meter above the ground or floor-standing arrangement shall be placed on the horizontal ground reference plane. The test volume for a height of up to 30 cm may be obstructed by absorber placed on the ground plane.

Cables connecting to AE located outside the measurement area drop directly to, but be insulated from, the RGP (or turntable where applicable), and then be routed directly to the place where they leave the test site. The thickness of the insulation is not more than 150 mm. However, cables which would normally be bonded to ground should be bonded to the RGP in accordance with normal practice or the manufacturer's recommendation.

For the initial measurements, the receiving antenna is varied from 1-4 meter height and is changed in the vertical plane from vertical to horizontal polarization at each frequency. The highest emissions between 30 MHz to 1000 MHz were analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions.

At the highest amplitudes observed, the EUT is rotated in the horizontal plane while changing the antenna polarization in the vertical plane to maximize the reading. The interconnecting cables were arranged and moved to get the maximum measurement. Once the maximum reading is obtained, the antenna elevation and polarization will be varied between specified limits to maximize the readings. All of the interface cables were manipulated according to CISPR 32 requirements.

3.1.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Log-Bicon Antenna	Schwarzbeck	VULB 9168	9168-1207	2023/1/4	YES
Attenuator	Inmet	EMCI-N-6-05	AT-N0690	2023/1/4	YES
Pre-Amplifier	EMCI	EMC001330	980807	2023/1/21	YES
Test Cable	EMCI	EMCCFD400-NM-NM-3300	200348	2022/3/8	YES
Test Cable	EMCI	EMCCFD400-NM-NM-8000	200343	2022/3/8	YES
Test Cable	EMCI	EMC8D-NM-NM-5000	150106	2022/3/8	YES
EMI Test Receiver	Keysight	N9038A	MY57190113	2022/3/23	YES
Measurement Software	Farad	EZ EMC (Ver. NB-03A1-01)	N/A	N/A	YES

3.1.6 Test Software

Not applicable

3.1.7 Frequency Range of Measurement

30 MHz to 1 GHz

3.1.8 Instrument Setting

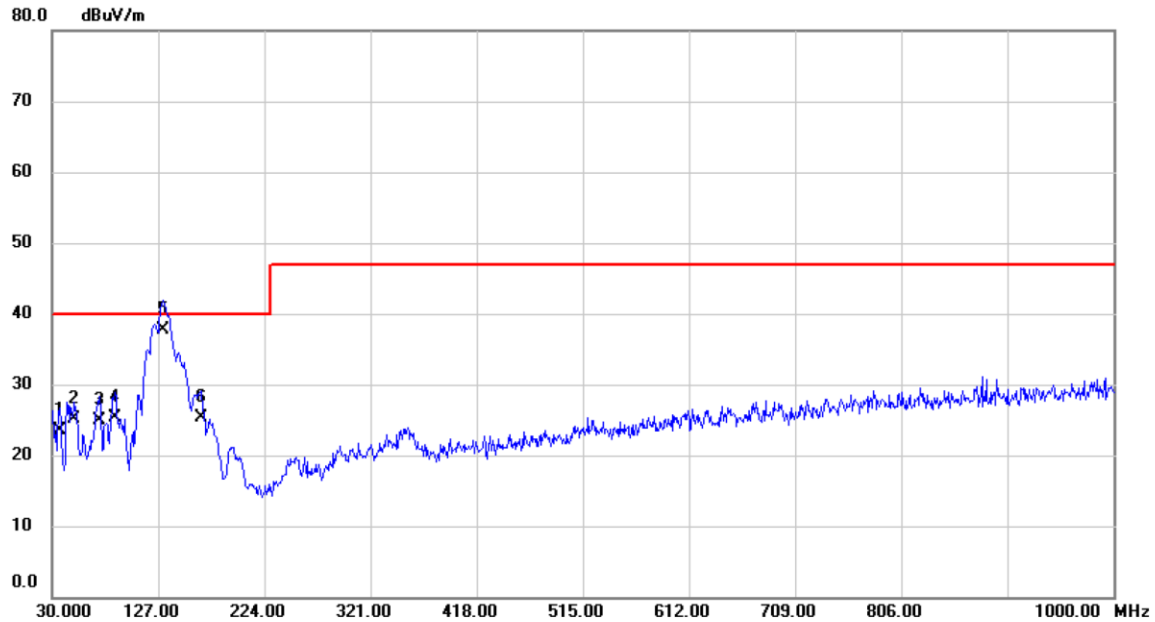
Band Width: 120 kHz.

3.1.9 Climate Condition

Temperature: 20°C
 Relative Humidity: 63%

■ Operating Mode 3: Vertical

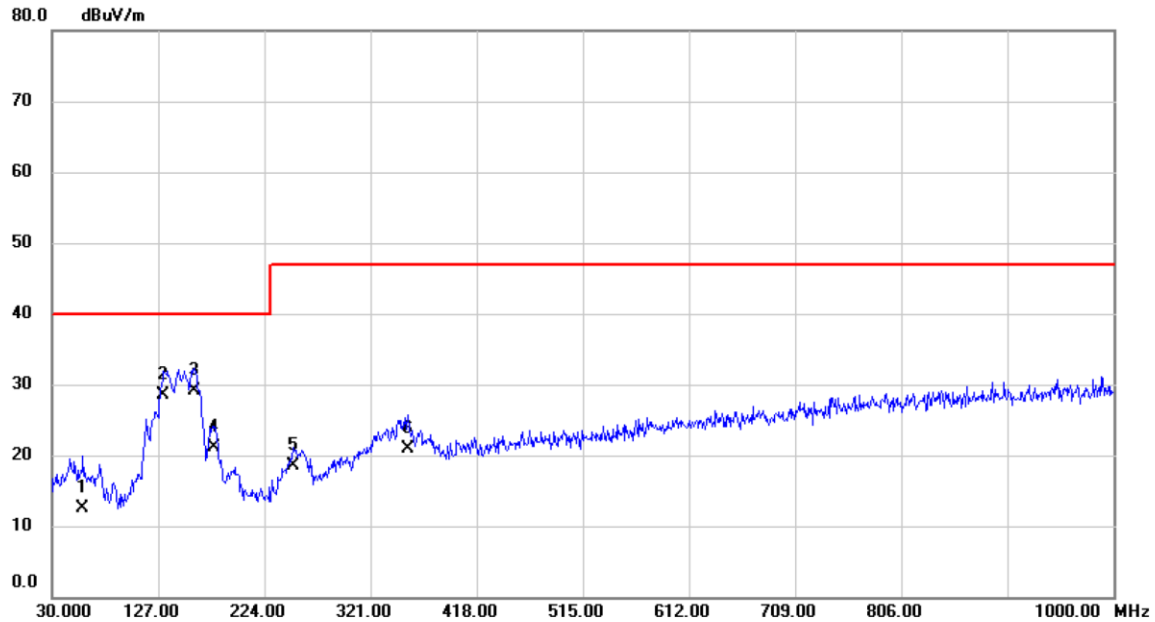
■ Test Data & Graph



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree degree	Comment
1		36.7900	36.47	-13.02	23.45	40.00	-16.55	QP	100	144
2		50.3700	36.58	-11.56	25.02	40.00	-14.98	QP	100	82
3		72.6800	39.38	-14.53	24.85	40.00	-15.15	QP	100	296
4		87.2300	42.16	-16.95	25.21	40.00	-14.79	QP	100	334
5	*	131.8500	50.63	-12.95	37.68	40.00	-2.32	QP	100	45
6		165.8000	37.22	-11.86	25.36	40.00	-14.64	QP	100	241

■ Operating Mode 3: Horizontal

■ Test Data & Graph



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree degree	Comment
1		58.1300	24.37	-11.85	12.52	40.00	-27.48	QP	200	163
2		131.8500	41.46	-12.95	28.51	40.00	-11.49	QP	200	62
3	*	159.9800	40.58	-11.45	29.13	40.00	-10.87	QP	200	271
4		177.4400	33.71	-12.69	21.02	40.00	-18.98	QP	200	109
5		250.1900	30.64	-12.12	18.52	47.00	-28.48	QP	100	243
6		354.9500	30.15	-9.16	20.99	47.00	-26.01	QP	100	279

3.2 Conducted emissions AC mains power port

3.2.1 Test Date

2022/3/14

3.2.2 Test Location

C05: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

3.2.3 Limits of conducted emissions AC mains power port

Table 5 – Requirements for conducted emissions from the AC mains power ports of Class A equipment.

Applicable to				
1. AC mains power ports (3.1.1)				
Table clause	Frequency range MHz	Coupling device (see Table A.8)	Detector type / bandwidth	Class A limits dB(μV)
A9.1	0,15 to 0,5	AMN	Quasi Peak / 9 kHz	79
	0,5 to 30			73
A9.2	0,15 to 0,5	AMN	Average / 9 kHz	66
	0,5 to 30			60
Apply A9.1 and A9.2 across the entire frequency range.				

Table 6 – Requirements for conducted emissions from the AC mains power ports of Class B equipment.

Applicable to				
1. AC mains power ports (3.1.1)				
Table clause	Frequency range MHz	Coupling device (see Table A.8)	Detector type / bandwidth	Class B limits dB(μV)
A10.1	0,15 to 0,5	AMN	Quasi Peak / 9 kHz	66 to 56
	0,5 to 5			56
	5 to 30			60
A10.2	0,15 to 0,5	AMN	Average / 9 kHz	56 to 46
	0,5 to 5			46
	5 to 30			50
Apply A10.1 and A10.2 across the entire frequency range.				

The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)

Margin Level = Measurement Value – Limit Value

3.2.4 Test Procedure

The EUT was placed on non-conduction table, which is 0.8 meters above an earth-grounded.

Power to the EUT was provided through the LISN which has the Impedance (50ohm/50uH) vs. Frequency Characteristic in accordance with the standard. Power to the LISNs were filtered to eliminate ambient signal interference and these filters were bonded to the ground plane. Peripheral equipment required to provide a functional system (support equipment) for EUT testing was powered from the second LISN through a ganged, metal power outlet box which is bonded to the ground plane at the LISN.

Cables connecting to AE located outside the measurement area drop directly to, but be insulated from, the RGP (or turntable where applicable), and then be routed directly to the place where they leave the test site. The thickness of the insulation is not more than 150 mm. However, cables which would normally be bonded to ground should be bonded to the RGP in accordance with normal practice or the manufacturer's recommendation.

The interconnecting cables were arranged and moved to get the maximum measurement. Both the line of power cord, hot and neutral, were measured. All of the interface cables were manipulated according to CISPR 32 requirements.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

3.2.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
TWO-LINE V-NETWORK	R&S	ENV216	101051	2022/5/25	YES
Test Cable	EMCI	EMCRG58-BM-BM-9000	210501	2022/5/2	YES
EMI Test Receiver	R&S	ESR7	101433	2022/11/23	YES
Measurement Software	Farad	EZ_EMC (Ver. NB-03A1-01)	N/A	N/A	YES

3.2.6 Test Software

Not applicable

3.2.7 Frequency Range of Measurement

150 kHz to 30 MHz

3.2.8 Instrument Setting

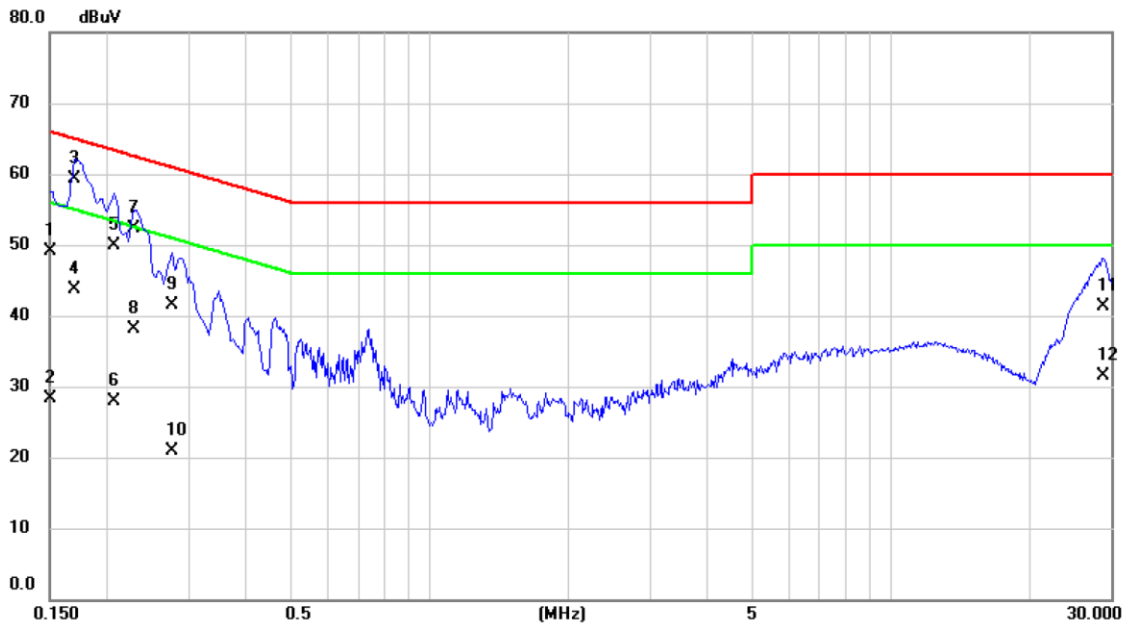
Band Width: 9 kHz.

3.2.9 Climate Condition

Temperature: 23°C
 Relative Humidity: 60%

■ Operating Mode 3: Line L1

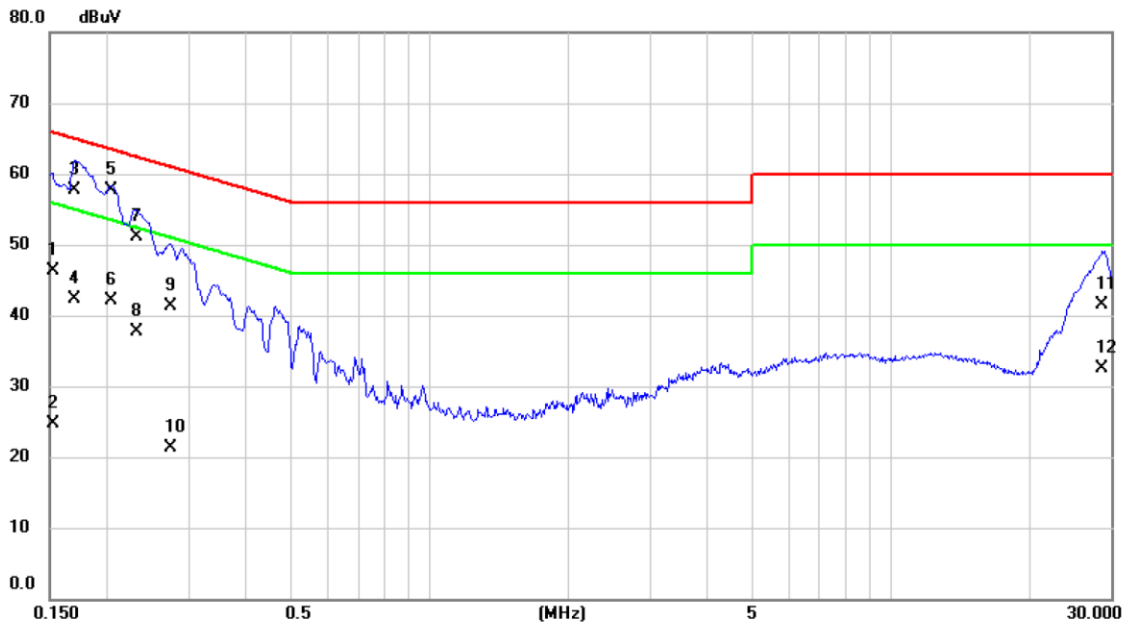
■ Test Data & Graph



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	39.40	9.70	49.10	66.00	-16.90	QP	
2		0.1500	18.70	9.70	28.40	56.00	-27.60	AVG	
3	*	0.1703	49.69	9.71	59.40	64.95	-5.55	QP	
4		0.1703	34.00	9.71	43.71	54.95	-11.24	AVG	
5		0.2063	40.30	9.70	50.00	63.35	-13.35	QP	
6		0.2063	18.30	9.70	28.00	53.35	-25.35	AVG	
7		0.2288	42.70	9.70	52.40	62.49	-10.09	QP	
8		0.2288	28.50	9.70	38.20	52.49	-14.29	AVG	
9		0.2760	31.80	9.71	41.51	60.94	-19.43	QP	
10		0.2760	11.10	9.71	20.81	50.94	-30.13	AVG	
11		28.9118	31.00	10.39	41.39	60.00	-18.61	QP	
12		28.9118	21.20	10.39	31.59	50.00	-18.41	AVG	

■ Operating Mode 3: Line N

▪ Test Data & Graph



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1522	36.60	9.72	46.32	65.88	-19.56	QP	
2		0.1522	15.00	9.72	24.72	55.88	-31.16	AVG	
3		0.1703	48.00	9.71	57.71	64.95	-7.24	QP	
4		0.1703	32.50	9.71	42.21	54.95	-12.74	AVG	
5	*	0.2040	48.00	9.70	57.70	63.45	-5.75	QP	
6		0.2040	32.50	9.70	42.20	53.45	-11.25	AVG	
7		0.2310	41.40	9.70	51.10	62.41	-11.31	QP	
8		0.2310	28.00	9.70	37.70	52.41	-14.71	AVG	
9		0.2737	31.60	9.71	41.31	61.00	-19.69	QP	
10		0.2737	11.60	9.71	21.31	51.00	-29.69	AVG	
11		28.6733	31.10	10.50	41.60	60.00	-18.40	QP	
12		28.6733	22.00	10.50	32.50	50.00	-17.50	AVG	

3.3 Harmonic current emissions

3.3.1 Test Date

2022/3/21

3.3.2 Test Location

SR06: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

3.3.3 Limits for harmonic current emissions

Table 1 – Limits for harmonic current emissions.

Equipment Category	Harmonic Order	Max. Permissible Harmonic Current	Equipment Category	Harmonic Order	Max. Permissible Harmonic Current	
	n	A		n	A	mA/w
Class A	Odd Harmonics		Class D	Odd Harmonics only		
	3	2.30		3	2.30	3.4
	5	1.14		5	1.14	1.9
	7	0.77		7	0.77	1.0
	9	0.40		9	0.40	0.5
	11	0.33		11	0.33	0.35
	13	0.21		13	0.21	0.30
	15≤n≤39	0.15 x 15/n		15≤n≤39	0.15 x 15/n	3.85/n
	Even Harmonics					
	2	1.08				
	4	0.43				
	6	0.30				
	8≤n≤40	0.23 x 8/n				

3.3.4 Conditional Testing Procedure

The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions.

The classification of EUT is according to of **SANS 61000-3-2/IEC 61000-3-2**. The EUT is classified as follows:

Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.

Class B: Portable tools; Arc welding equipment which is not professional equipment.

Class C: Lighting equipment.

Class D: Equipment having a specified power less than or equal to 600 W of the following types: Personal computers and personal computer monitors and television receivers.

The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

3.3.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Signal conditioning unit	TESEQ	CCN 1000-1	1723A00517	2022/8/12	YES
Power Source	TESEQ	NSG 1007	1726A00004	2022/8/12	YES
Measurement Software	TESEQ	CTS 4 (Ver. 4.29)	N/A	N/A	YES

3.3.6 Test Software

Not applicable

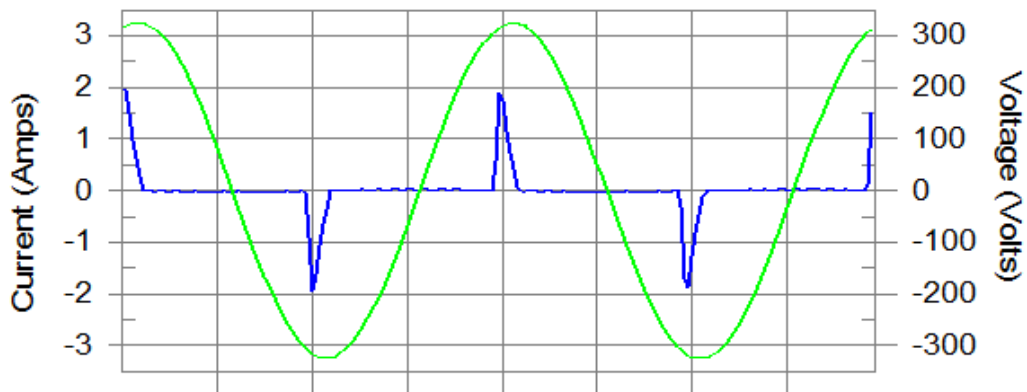
3.3.7 Climate Condition

Temperature: 19°C
 Relative Humidity: 52%

■ Operating Mode 3: Harmonics

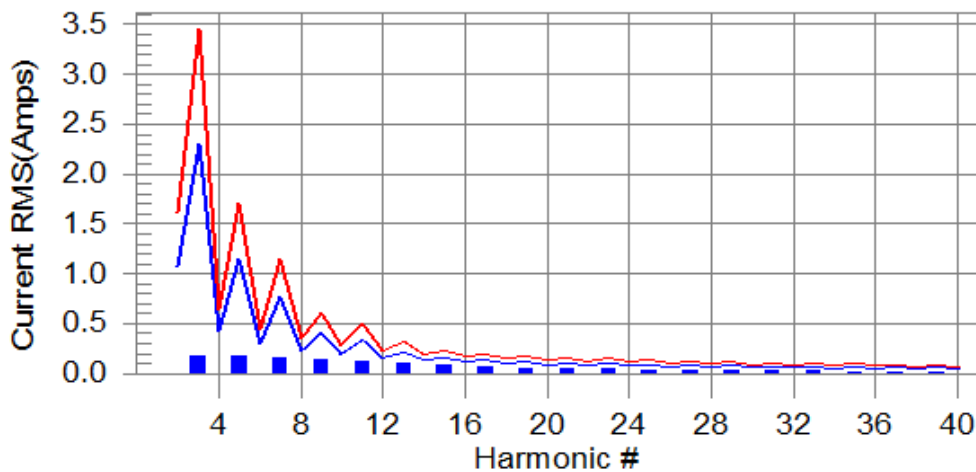
▪ Test Data & Graph

Current & voltage waveforms



Harmonics and Class A limit line

European Limits



Test result: Pass Worst harmonics H15-34.7% of 150% limit, H15-51.7% of 100% limit

■ Operating Mode 3: Current Test Result Summary (Run time)

▪ Test Data & Graph

THC(A): 0.377 I-THD(%): 204.4 POHC(A): 0.092 POHC Limit(A): 0.251

Highest parameter values during test:

V _{RMS} (Volts): 229.67	Frequency(Hz): 50.00
I _{Peak} (Amps): 2.005	I _{RMS} (Amps): 0.420
I _{Fund} (Amps): 0.184	Crest Factor: 4.780
Power (Watts): 40.9	Power Factor: 0.426

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	N/A	0.001	1.620	N/A	Pass
3	0.176	2.300	7.6	0.176	3.450	5.1	Pass
4	0.001	0.430	N/A	0.001	0.645	N/A	Pass
5	0.165	1.140	14.5	0.166	1.710	9.7	Pass
6	0.001	0.300	N/A	0.001	0.450	N/A	Pass
7	0.151	0.770	19.6	0.151	1.155	13.1	Pass
8	0.001	0.230	N/A	0.001	0.345	N/A	Pass
9	0.134	0.400	33.5	0.134	0.600	22.4	Pass
10	0.001	0.184	N/A	0.001	0.276	N/A	Pass
11	0.115	0.330	34.8	0.115	0.495	23.3	Pass
12	0.001	0.153	N/A	0.001	0.230	N/A	Pass
13	0.096	0.210	45.5	0.096	0.315	30.5	Pass
14	0.001	0.131	N/A	0.001	0.197	N/A	Pass
15	0.078	0.150	51.7	0.078	0.225	34.7	Pass
16	0.001	0.115	N/A	0.001	0.173	N/A	Pass
17	0.062	0.132	47.0	0.063	0.198	31.7	Pass
18	0.001	0.102	N/A	0.001	0.153	N/A	Pass
19	0.050	0.118	42.4	0.051	0.178	28.7	Pass
20	0.001	0.092	N/A	0.001	0.138	N/A	Pass
21	0.043	0.107	39.9	0.043	0.161	27.0	Pass
22	0.001	0.084	N/A	0.001	0.125	N/A	Pass
23	0.039	0.098	39.4	0.039	0.147	26.7	Pass
24	0.001	0.077	N/A	0.001	0.115	N/A	Pass
25	0.036	0.090	40.1	0.037	0.135	27.1	Pass
26	0.001	0.071	N/A	0.001	0.107	N/A	Pass
27	0.034	0.083	40.5	0.034	0.125	27.4	Pass
28	0.001	0.066	N/A	0.001	0.099	N/A	Pass
29	0.031	0.078	39.6	0.031	0.116	26.8	Pass
30	0.001	0.061	N/A	0.001	0.092	N/A	Pass
31	0.027	0.073	37.0	0.027	0.109	25.0	Pass
32	0.001	0.058	N/A	0.001	0.086	N/A	Pass
33	0.022	0.068	32.7	0.023	0.102	22.2	Pass
34	0.001	0.054	N/A	0.001	0.081	N/A	Pass
35	0.018	0.064	27.6	0.018	0.096	18.8	Pass
36	0.001	0.051	N/A	0.001	0.077	N/A	Pass
37	0.014	0.061	22.7	0.014	0.091	15.4	Pass
38	0.001	0.048	N/A	0.001	0.073	N/A	Pass
39	0.011	0.058	19.0	0.011	0.087	12.9	Pass
40	0.001	0.046	N/A	0.001	0.069	N/A	Pass

■ Operating Mode 3: Voltage Source Verification Data (Run time)

▪ Test Data & Graph

Highest parameter values during test:

Voltage (Vrms): 229.67
 I_{Peak} (Amps): 2.005
 I_{Fund} (Amps): 0.184
 Power (Watts): 40.9

Frequency(Hz): 50.00
 I_{RMS} (Amps): 0.420
 Crest Factor: 4.780
 Power Factor: 0.426

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.021	0.459	4.55	OK
3	0.336	2.066	16.26	OK
4	0.010	0.459	2.27	OK
5	0.038	0.918	4.14	OK
6	0.014	0.459	2.95	OK
7	0.041	0.689	6.02	OK
8	0.009	0.459	2.01	OK
9	0.059	0.459	12.83	OK
10	0.009	0.459	1.95	OK
11	0.053	0.230	22.91	OK
12	0.009	0.230	3.85	OK
13	0.048	0.230	20.77	OK
14	0.004	0.230	1.82	OK
15	0.046	0.230	19.86	OK
16	0.002	0.230	1.02	OK
17	0.045	0.230	19.51	OK
18	0.007	0.230	3.07	OK
19	0.038	0.230	16.46	OK
20	0.010	0.230	4.45	OK
21	0.037	0.230	15.92	OK
22	0.002	0.230	1.06	OK
23	0.037	0.230	16.04	OK
24	0.004	0.230	1.61	OK
25	0.031	0.230	13.59	OK
26	0.003	0.230	1.38	OK
27	0.038	0.230	16.37	OK
28	0.003	0.230	1.25	OK
29	0.037	0.230	16.26	OK
30	0.004	0.230	1.59	OK
31	0.035	0.230	15.37	OK
32	0.003	0.230	1.29	OK
33	0.032	0.230	13.83	OK
34	0.003	0.230	1.21	OK
35	0.025	0.230	10.99	OK
36	0.003	0.230	1.15	OK
37	0.027	0.230	11.58	OK
38	0.002	0.230	0.96	OK
39	0.018	0.230	7.89	OK
40	0.008	0.230	3.68	OK

3.4 Voltage changes, voltage fluctuations and flicker

3.4.1 Test Date

2022/3/21

3.4.2 Test Location

SR06: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

3.4.3 Limits for voltage changes, voltage fluctuations and flicker

Table 2 – Limits for voltage changes, voltage fluctuations and flicker.

Tests	Limits	Descriptions
Pst	≤ 1.0 , $T_p = 10$ min.	Short Term Flicker Indicator
Plt	≤ 0.65 , $T_p = 2$ hr.	Long Term Flicker Indicator
dc	$\leq 3.3\%$	Relative Steady-State V-change
dmax	$\leq 4\%$	Maximum Relative V-change
d (t)	$\leq 3.3\%$ for > 500 ms	Relative V-change characteristic

3.4.4 Conditional Testing Procedure

Tests was performed according to the Test Conditions/Assessment of Voltage Fluctuations specified in **SANS 61000-3-3/IEC 61000-3-3** depend on which standard adopted for compliance measurement.

All types of harmonic current and/or voltage fluctuation in this report are assessed by direct measurement using flicker-meter.

3.4.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Signal conditioning unit	TESEQ	CCN 1000-1	1723A00517	2022/8/12	YES
Power Source	TESEQ	NSG 1007	1726A00004	2022/8/12	YES
Measurement Software	TESEQ	CTS 4 (Ver. 4.29)	N/A	N/A	YES

3.4.6 Test Software

Not applicable

3.4.7 Climate Condition

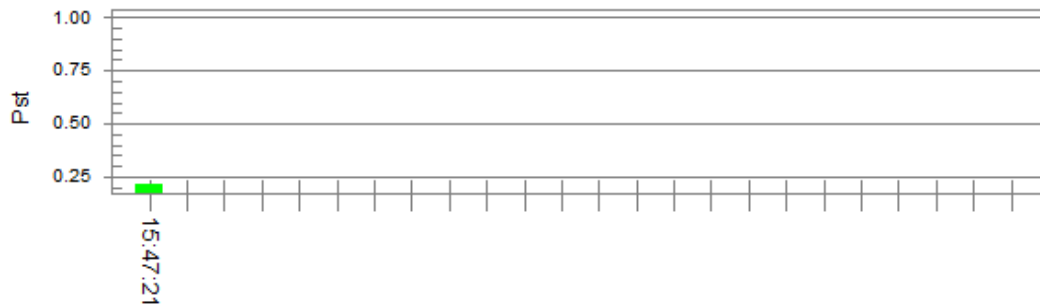
Temperature: 19°C
 Relative Humidity: 52%

■ Operating Mode 3:

▪ Test Data & Graph

Pst_i and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt): 229.62

Highest dt (%):

0

T-max (mS):

0.00

Highest dc (%):

0.00

Highest dmax (%):

0.00

Highest Pst (10 min. period):

0.213

Highest Plt (2 hr. period):

0.093

Test limit (%):

500.0

Pass

Test limit (mS):

3.30

Pass

Test limit (%):

4.00

Pass

Test limit:

1.000

Pass

Test limit:

0.650

Pass

4.0 Results of Immunity Test

4.1 Immunity Performance Criteria and Requirements

4.1.1 Performance Criteria

Criterion A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer 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 derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
Criterion B	During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test. After the test, 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 manufacturer, 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), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
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 manufacturer's instructions. A reboot or re-start operation is allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

4.1.2 Requirements

Table 3 – Requirements for immunity

Environmental phenomenon and Basic Standards	Test Specification	Test Ports	Performance Criterion
Electrostatic discharge immunity SANS 61000-4-2/IEC 61000-4-2	±8 kV air discharge	Enclosure port	B
	±4 kV contact discharge		
	±4 kV HCP discharge		B
	±4 kV VCP discharge		
Continuous RF electromagnetic field disturbances, swept test SANS 61000-4-3/IEC 61000-4-3	80 MHz to 1000 MHz 3 V/m (unmodulated, r.m.s.), 80% AM (1 kHz)	Enclosure port	A
Continuous RF electromagnetic field disturbances, spot test SANS 61000-4-3/IEC 61000-4-3	1800 MHz ±1 % MHz, 2600 MHz ±1 % MHz, 3500 MHz ±1 % MHz, 5000MHz ±1 % MHz 3 V/m (unmodulated, r.m.s), 1 kHz, 80 %, AM modulated	Enclosure port	A
Electrical fast transient/burst immunity SANS 61000-4-4/IEC 61000-4-4	±0.5 kV(peak) 5/50 ns Tr/Th 5 kHz Repetition Frequency (100 kHz Repetition Frequency for xDSL equipment)	Analogue/digital data ports NOTE (1)(2)	B
	±0.5 kV(peak) 5/50 ns Tr/Th 5 kHz Repetition Frequency	DC network power ports NOTE (1)	B
	±1 kV(peak) 5/50 ns Tr/Th 5 kHz Repetition Frequency	AC mains power ports	B
Surge immunity SANS 61000-4-5/IEC 61000-4-5	Port Type: unshielded symmetrical Apply: lines to ground		
	Primary protection is Intended ±1 kV and ±4 Kv 10/700(5/320) Tr/Th µs NOTE (3)	Analogue/digital data ports NOTE (1)	C
	Primary protection is not Intended ±1 kV 10/700(5/320) Tr/Th µs NOTE (3)		C
	Port type: coaxial or shielded Apply: shield to ground		
	±0.5 kV 1.2/50(8/20) Tr/Th µs	Analogue/digital data ports NOTE (1)	B
	line to reference ground for each individual line: ±0.5 kV(peak) 1.2/50(8/20) Tr/Th µs	DC network power ports NOTE (1) & NOTE (2)	B
	±1 kV(peak) 1.2/50(8/20) Tr/Th µs (line to line) ±2 kV(peak) 1.2/50(8/20) Tr/Th µs (line to earth or ground)	AC mains power ports	B

Immunity to conducted disturbances, induced by radio-frequency fields SANS 61000-4-6/IEC 61000-4-6	0.15 MHz to 10 MHz 3 V(unmodulated, r.m.s), 10 MHz to 30 MHz 3 V to 1 V(unmodulated, r.m.s), 30 MHz to 80 MHz 1 V(unmodulated, r.m.s), 1 kHz 80 %, AM 150 Ω source impedance	Analogue/digital data ports NOTE (1)	A
	0.15 MHz to 10 MHz 3 V(unmodulated, r.m.s), 10 MHz to 30 MHz 3 V to 1 V(unmodulated, r.m.s), 30 MHz to 80 MHz 1 V(unmodulated, r.m.s), 1 kHz 80 %, AM 150 Ω source impedance	DC network power ports NOTE (1)	A
	0.15 MHz to 10 MHz 3 V(unmodulated, r.m.s), 10 MHz to 30 MHz 3 V to 1 V(unmodulated, r.m.s), 30 MHz to 80 MHz 1 V(unmodulated, r.m.s), 1 kHz 80 %, AM 150 Ω source impedance	AC mains power ports	A
Power frequency magnetic field immunity SANS 61000-4-8/IEC 61000-4-8	50 Hz or 60Hz, 1 A/m(r.m.s)	Enclosure port	A
Voltage dips, short interruptions and voltage variations immunity SANS 61000-4-11/IEC 61000-4-11	Voltage dips: Residual voltage < 5% 0.5 cycle	AC mains power ports	B
	Residual voltage 70% 25 cycles (50 Hz), 30 cycles (60 Hz)		C
	Voltage interruptions: Residual voltage < 5 % 250 cycles (50 Hz), 300 cycles (60 Hz)		C

NOTE: (1) Applicable only to ports which, according to the manufacturer's specification, support cable lengths greater than 3 m.

(2) Applicable only to ports which, according to the manufacturer's specification, may connect directly to outdoor cables.

(3) Where the coupling network for the 10/700 μ s waveform affects the functioning of high speed data ports, the test shall be carried out using a 1,2/50 (8/20) μ s waveform and appropriate coupling network.

4.2 Electrostatic discharge immunity

4.2.1 Test Date

2022/3/14

4.2.2 Test Location

SR02: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.2.3 Test Specification

Basic Standard	SANS 61000-4-2/IEC 61000-4-2
Discharge Impedance	330 ohm / 150 pF
Required Performance	B
Discharge Voltage	Air Discharge: ± 2 kV, ± 4 kV, ± 8 kV (Direct) Contact Discharge: ± 4 kV (Indirect)
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

4.2.4 Conditional Testing Procedure

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- The test shall be performed with single discharges. On each pre-selected point at least 10 single discharges (in the most sensitive polarity) shall be applied.

NOTE 1 The minimum number of discharges applied is depending on the EUT; for products with synchronized circuits the number of discharges should be larger.

For the time interval between successive single discharges an initial value of 1 s is recommended. Longer intervals may be necessary to determine whether a system failure has occurred.

NOTE 2 The points to which the discharges should be applied may be selected by means of an exploration carried out at a repetition rate of 20 discharges per second, or more.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

- Air discharges at insulation surfaces of the EUT.

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

4.2.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
ESD Simulator	EM TEST	Dito	P1631182437	2022/10/3	YES

4.2.6 Test Software

Not applicable

4.2.7 Climate Condition

Temperature: 22°C
 Relative Humidity: 52%
 Atmospheric Pressure: 1010hPa

■ Operating Mode 3:

▪ Test Data & Graph

Mode	Air Discharge								Contact Discharge							
Level	2 kV		4 kV		8 kV		15 kV		4 kV		6 kV		8 kV		10 kV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1~6	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
Perform Criterion	B						-		B		-					
Result	A						-		-		-					
Judgment	PASS						-		N/A		-					

Mode	HCP Discharge								VCP Discharge							
Level	4 kV		6 kV		8 kV		10 kV		4 kV		6 kV		8 kV		10 kV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	A	A	-	-	-	-	-	-	A	A	-	-	-	-	-	-
2	A	A	-	-	-	-	-	-	A	A	-	-	-	-	-	-
3	A	A	-	-	-	-	-	-	A	A	-	-	-	-	-	-
4	A	A	-	-	-	-	-	-	A	A	-	-	-	-	-	-
Perform Criterion	B		-						B		-					
Result	A		-						A		-					
Judgment	PASS		-						PASS		-					

- NOTE: (1) Test location(s) in which discharge (Air and contact discharge) to be applied illustrated by photos shown in next page(s)
- (2) The Indirect (HCP/VCP) discharges description of test point as following:
 1. left side; 2.right side; 3.front side; 4.rear side.
- (3) N/A - denotes test is not applicable in this test report

PHOTO(S) SHOWN THE LOCATION(S) OF ESD EVALUATED



4.3 Continuous RF electromagnetic field disturbances immunity

4.3.1 Test Date

2022/3/17

4.3.2 Test Location

CB17: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.3.3 Test Specification

Basic Standard	SANS 61000-4-3/IEC 61000-4-3
Required Performance	A
Frequency Range	80 MHz to 1000 MHz, 1800 MHz ± 1 % MHz, 2600 MHz ± 1 % MHz, 3500 MHz ± 1 % MHz, 5000 MHz ± 1 % MHz
Field Strength	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	at least 3 seconds

4.3.4 Conditional Testing 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:

- The field strength is 3 V/m (unmodulated, r.m.s.).
- The frequency ranges are swept from 80 MHz to 1000 MHz, 1800 MHz ± 1 % MHz, 2600 MHz ± 1 % MHz, 3500 MHz ± 1 % MHz and 5000 MHz ± 1 % MHz 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 EUT to be able to respond.
- The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

4.3.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Signal Generator	KEYSIGHT	N5172B	MY56200462	2022/8/9	YES
Antenna	AR	AT1080	320290	N/A	YES
Power Amplifier	MILMEGA	80RF1000-300	1079823	N/A	YES
Antenna	SCHWARZBECK	STLP 9149	524	N/A	YES
Power Amplifier	MILMEGA	AS0860B-50/50	1079824	N/A	YES
RF Power Meter	BOONTON	4232A	12871	2022/11/4	YES
Power Sensor	BOONTON	51075A	36942	2022/11/4	YES
Power Sensor	BOONTON	51075A	36943	2022/11/4	YES
Readout Unit	WAVECONTROL	SMP2	19SN1139	2023/1/5	YES
E-Field Probe	WAVECONTROL	WPF8	19WP041003	2023/1/5	YES
Measurement Software	AUDIX	i2 (Ver. 5.161006)	N/A	N/A	YES

4.3.6 Test Software

Not applicable

4.3.7 Climate Condition

Temperature: 23°C
 Relative Humidity: 47%

■ Operating Mode 3:

▪ Test Data

Frequency (MHz)	Applied Voltage(V/m) – 80% AM 1kHz	Polarity	Azimuth	Criterion	Observation	Result
80~1000	3	V & H	Rear	A	A	PASS
			Front		A	
			Left		A	
			Right		A	

Frequency (MHz)	Applied Voltage(V/m) – 80% AM 1kHz	Polarity	Azimuth	Criterion	Observation	Result
1800±1% 2600±1% 3500±1% 5000±1%	3	V & H	Rear	A	A	PASS
			Front		A	
			Left		A	
			Right		A	

NOTE: (1) N/A - denotes test is not applicable in this test report

4.4 Electrical fast transient/burst immunity

4.4.1 Test Date

2022/3/14

4.4.2 Test Location

SR01: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.4.3 Test Specification

Basic Standard	SANS 61000-4-4/IEC 61000-4-4
Required Performance	B
Test Voltage	AC mains power ports: ± 1 kV
Polarity	Positive & Negative
Impulse Frequency	5 kHz: except for xDSL equipment 100 kHz: only for single lines of xDSL equipment.
Impulse Wave shape	5/50 ns
Burst Duration	15 ms
Burst Period	300 ms
Test Duration	Not less than 1 min.
Dwell Time	at least 3 seconds

4.4.4 Conditional Testing Procedure

The EUT and support equipment(s) are placed on a table that is 0.8 meter high above a metal ground plane and should be located 0.1 m+/- 0.01m high above the Ground Reference Plane (1m*1m min. and 0.65mm thick min).

The other condition as following manner:

- The length of power cord between the coupling device and the EUT should not exceed 1 meter.
- Both positive and negative polarity discharges were applied.
- The duration time of each test sequential was 1 minute.

4.4.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
EMC Immunity Test System	TESEQ	NSG 3060	4026	2022/11/4	YES
EMC Immunity Test System	TESEQ	CDN 3061	5012	2022/11/4	YES
Single motor driven variable transformer	TESEQ	VAR 3005-S16	3009	2022/11/4	YES

4.4.6 Test Software

Not applicable

4.4.7 Climate Condition

Temperature: 20°C
 Relative Humidity: 50%

■ Operating Mode 3:

▪ Test Data

AC Power Ports – 5/50Tr/Th ns						
Tested on	Test Voltage(kV)		Pulse Rate	Criterion	Observation	Result
L	+/-	1	5 kHz	B	A	PASS
N	+/-	1	5 kHz	B	A	
PE	+/-	1	5 kHz	B	A	
L+N+PE	+/-	1	5 kHz	B	A	

NOTE: (1) N/A - denotes test is not applicable in this test report.

4.5 Surge immunity

4.5.1 Test Date

2022/3/14

4.5.2 Test Location

SR01: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.5.3 Test Specification

Basic Standard	SANS 61000-4-5/IEC 61000-4-5
Required Performance	B(AC mains power ports) C(Analogue/digital data ports)
Waveform	Combination Wave for power lines 1.2/50 us Open Circuit Voltage 8 /20 us Short Circuit Current
Test Voltage	AC mains power ports: ± 0.5 kV, ± 1 kV, ± 2 kV
Surge Input/Output	L+N, L+PE, N+PE
Generator Source Impedance	2 ohm between networks
The number of pulses	Five positive pulses line-to-neutral at 90° phase Five negative pulses line-to-neutral at 270° phase Five positive pulses line-to-earth at 90° phase Five negative pulses line-to-earth at 270° phase Five negative pulses neutral-to-earth at 90° phase Five positive pulses neutral-to-earth at 270° phase
Pulse Repetition Rate	1 time / min. (maximum)

4.5.4 Conditional Testing Procedure

- For EUT power supply:
The surge is to be applied to the EUT 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 EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).
- 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).
- 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).

4.5.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
EMC Immunity Test System	TESEQ	NSG 3060	4026	2022/11/4	YES
EMC Immunity Test System	TESEQ	CDN 3061	5012	2022/11/4	YES
Single motor driven variable transformer	TESEQ	VAR 3005-S16	3009	2022/11/4	YES

4.5.6 Test Software

Not applicable

4.5.7 Climate Condition

Temperature: 20°C
 Relative Humidity: 50%

■ Operating Mode 3:

■ Test Data

Test Result for AC Power – 1.2/50(8/20)Tr/Thµs								
Tested on	Polarity	Test Voltage(kV)				Criterion	Observation	Result
		0.5	1	2	4			
L+N	+/-	A	A	-	-	B	A	PASS
L+PE	+/-	A	A	A	-	B	A	PASS
N+PE	+/-	A	A	A	-	B	A	

NOTE: (1) N/A - denotes test is not applicable in this test report

4.6 Continuous induced RF disturbances immunity

4.6.1 Test Date

2022/3/18

4.6.2 Test Location

SR06: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.6.3 Test Specification

Basic Standard	SANS 61000-4-6/IEC 61000-4-6
Required Performance	A
Frequency Range & Field Strength	0.15 MHz to 10 MHz: 3 V (unmodulated, r.m.s.) 10 MHz to 30 MHz: 3 V to 1V (unmodulated, r.m.s.) 30 MHz to 80 MHz: 1 V (unmodulated, r.m.s.)
Modulation	1 kHz Sine Wave, 80 %, AM Modulation
Frequency Step	1 % of fundamental
Dwell Time	at least 3 seconds

4.6.4 Conditional Testing Procedure

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

The other condition as following manner:

- The field strength is 3 V to 1 V (unmodulated, r.m.s.).
- The frequency range is swept from 0.15 MHz to 80 MHz, 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 EUT to be able to respond.

4.6.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Conducted Immunity Test System	TESEQ	NSG 4070	30593	2022/8/2	YES
CDN (M3)	TESEQ	CDN M016	42157	2022/11/23	YES
Measurement Software	AUDIX	i2 (Ver. 5.161006)	N/A	N/A	YES

4.6.6 Test Software

Not applicable

4.6.7 Climate Condition

Temperature: 18°C
Relative Humidity: 45%

■ Operating Mode 3:

■ Test Data

Test Result for Power Ports – 80% AM 1kHz					
Tested on	Frequency (MHz)	Applied Voltage (V (unmodulated, r.m.s))	Criterion	Observation	Result
AC	0.15~10 10~30 30~80	3 3~1 1	A	A	PASS

NOTE: (1) N/A - denotes test is not applicable in this test report

4.7 Power frequency magnetic field immunity

4.7.1 Test Date

2022/3/14

4.7.2 Test Location

SR01: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.7.3 Test Specification

Basic Standard	SANS 61000-4-8/IEC 61000-4-8
Required Performance	A
Frequency Range	50 or 60 Hz
Field Strength	1 A/m
Observation Time	1 minute
Inductance Coil	Rectangular type, 1mx1m

4.7.4 Conditional Testing Procedure

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

The other condition as following manner:

- The equipment cabinets shall be connected to the safety earth directly on the GRP via the earth terminal of the EUT.
- 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.

4.7.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
Triaxial ELF Magnetic Field Meter	F.W. BELL	4190	0932008	2022/6/14	YES
Magnetic Field Test Generator	TESEQ	MFO 6501	1010	2022/11/4	YES
Magnetic Field Immunity Loop	TESEQ	INA 702	334	2022/11/4	YES

4.7.6 Test Software

Not applicable

4.7.7 Climate Condition

Temperature: 19°C
 Relative Humidity: 52%

■ Operating Mode 3:

■ Test Data

Test Frequency (Hz)	Magnetic Field (A/m)	Direction	Criterion	Observation	Result
50	1	X Y Z	A	A	PASS
60	1	X Y Z	A	A	PASS

NOTE: (1) N/A - denotes test is not applicable in this test report

4.8 Voltage dips, short interruptions and voltage variations immunity

4.8.1 Test Date

2022/3/14

4.8.2 Test Location

SR01: No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

4.8.3 Test Specification

Basic Standard	SANS 61000-4-11/IEC 61000-4-11
Required Performance	Voltage dips: (B) Residual voltage < 5 %, 0.5 cycle (C) Residual voltage 70 %, 25 cycles (50 Hz), 30 cycles (60 Hz) Voltage interruptions: (C) Residual voltage < 5 %, 250 cycles (50 Hz), 300 cycles (60 Hz)
Test Duration Time	Minimum three test events in sequence
Interval between Event	10 s minimum
Phase Angle	0°/180°
Test Cycle	3 times

4.8.4 Conditional Testing 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.

4.8.5 Test Equipment

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date	Applied
EMC Immunity Test System	TESEQ	NSG 3060	4026	2022/11/4	YES
EMC Immunity Test System	TESEQ	CDN 3061	5012	2022/11/4	YES
Single motor driven variable transformer	TESEQ	VAR 3005-S16	3009	2022/11/4	YES

4.8.6 Test Software

Not applicable

4.8.7 Climate Condition

Temperature: 20°C
 Relative Humidity: 50%

■ Operating Mode 3:

■ Test Data

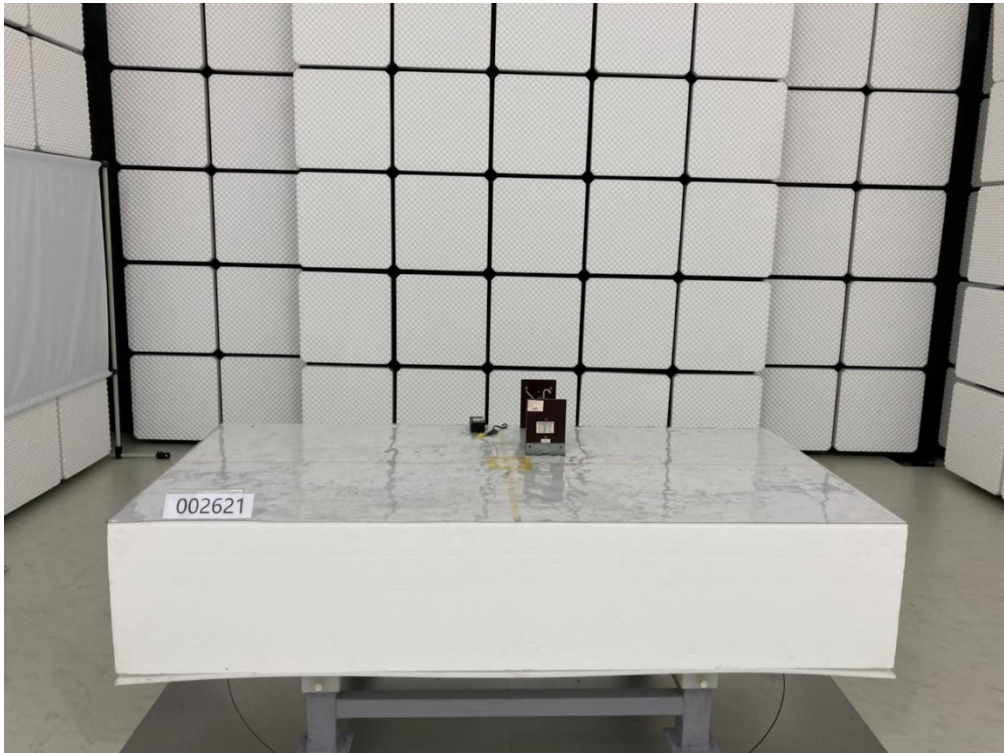
230Vac/50Hz				
Voltage Reduction	Periods	Criterion	Observation	Result
>95%	0.5	B	A	PASS
30%	25	C	A	
>95%	250	C	B	

NOTE: (1) N/A - denotes test is not applicable in this test report
 (2) B is the power interruption which can recover automatically.

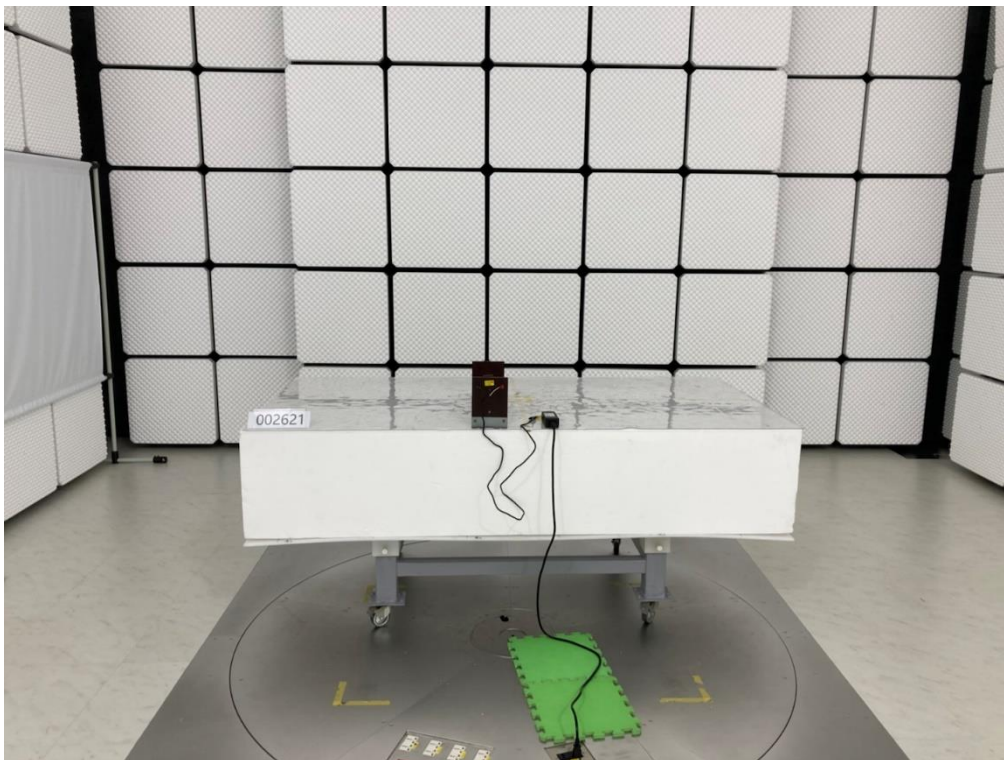
5.0 APPENDIX A - Test Setup Photos and Configuration

CONTINUE ON NEXT PAGE

5.1 Radiated disturbance (Up to 1 GHz)



[Front]



[Rear]

5.2 Conducted emissions AC mains power port

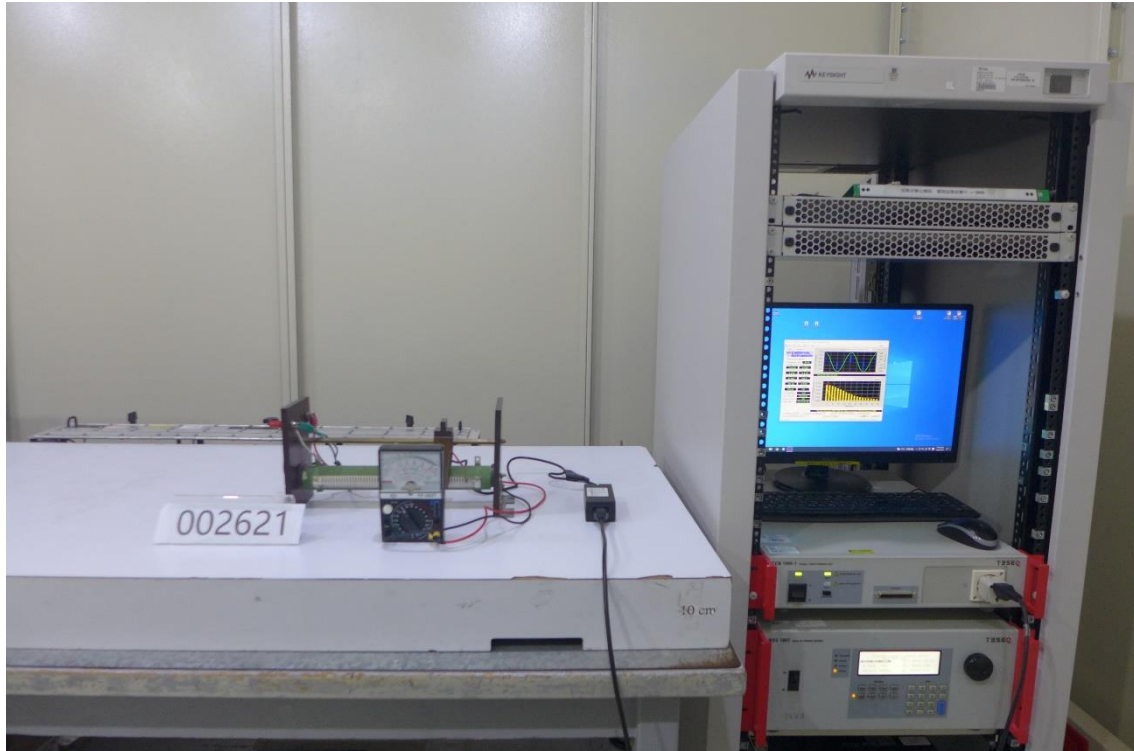


[Front]

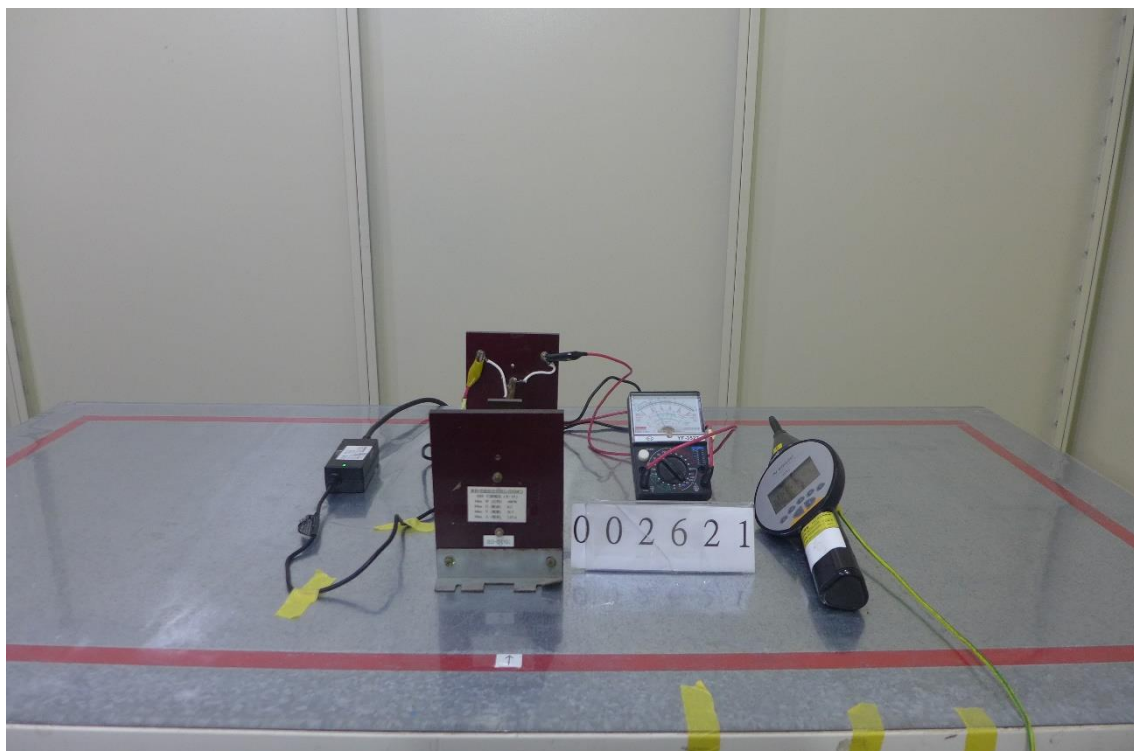


[Rear]

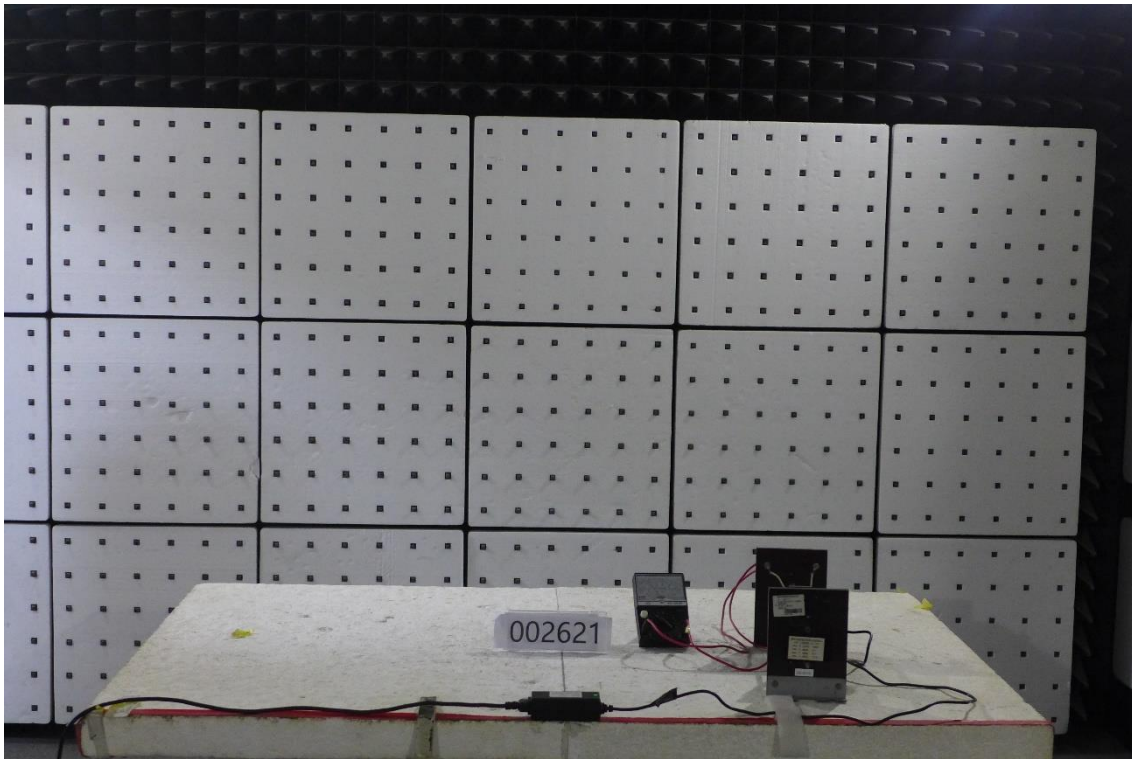
5.3 Harmonic current emissions & Voltage changes, voltage fluctuations and flicker



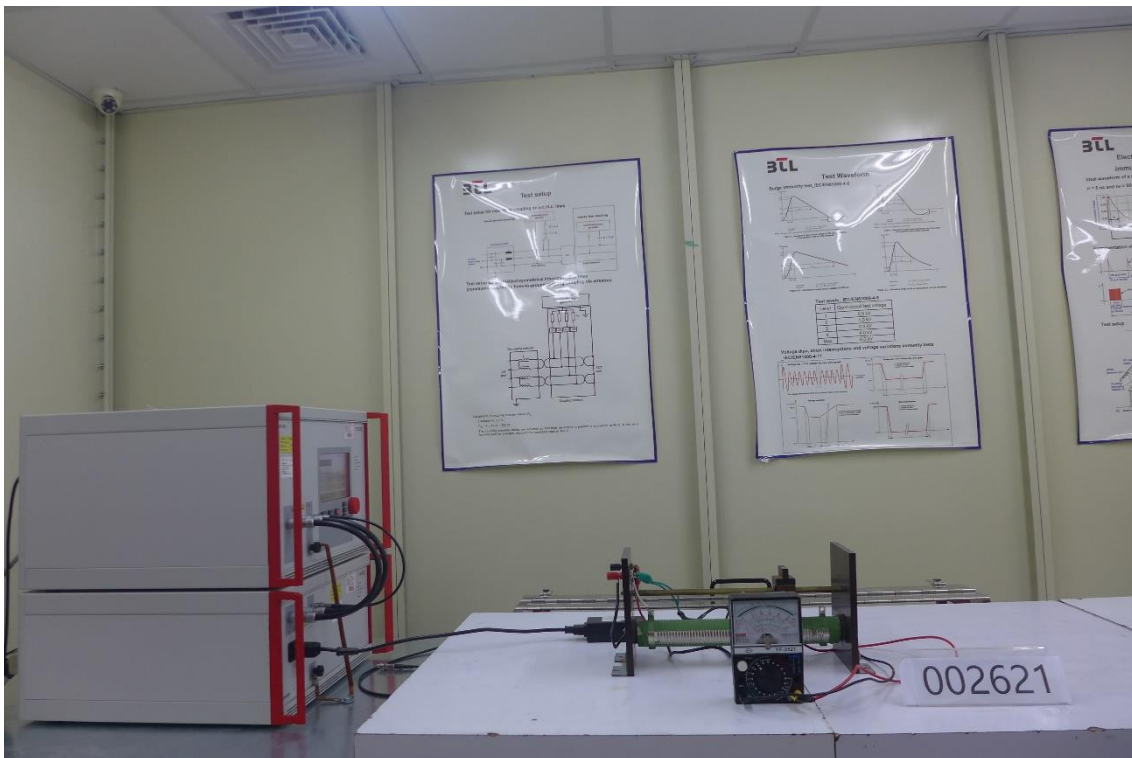
5.4 Electrostatic discharge immunity



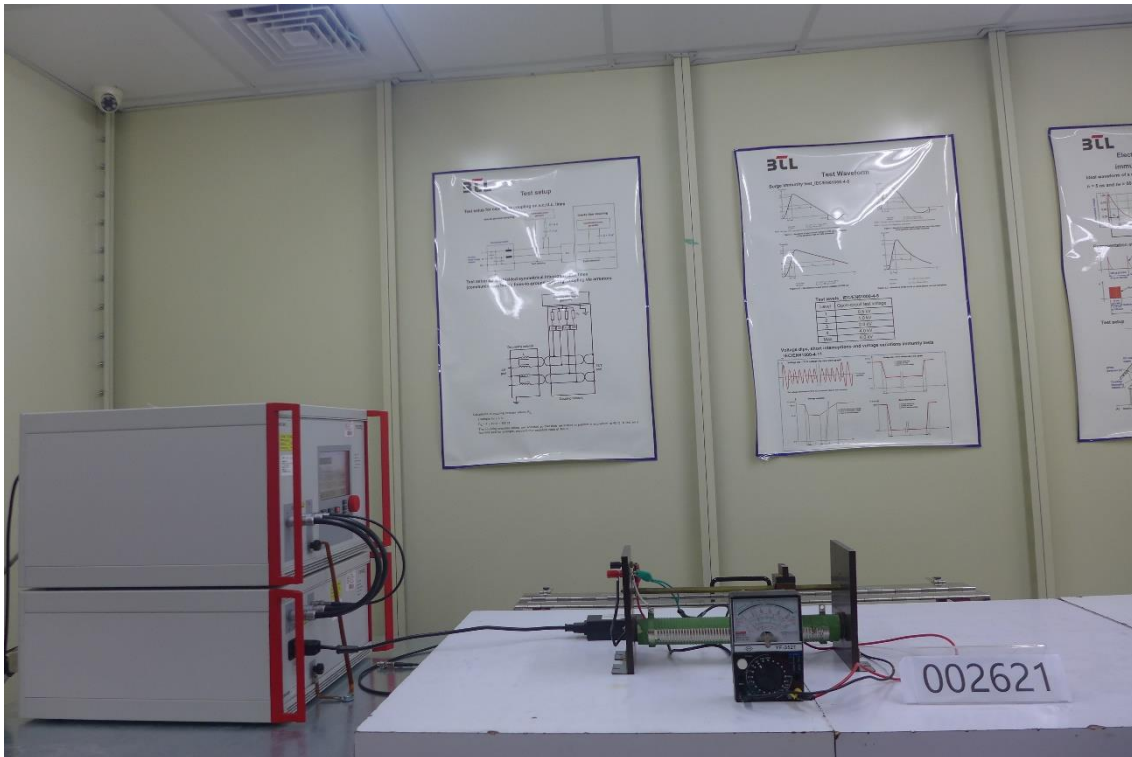
5.5 Radiated, radio-frequency, electromagnetic field immunity



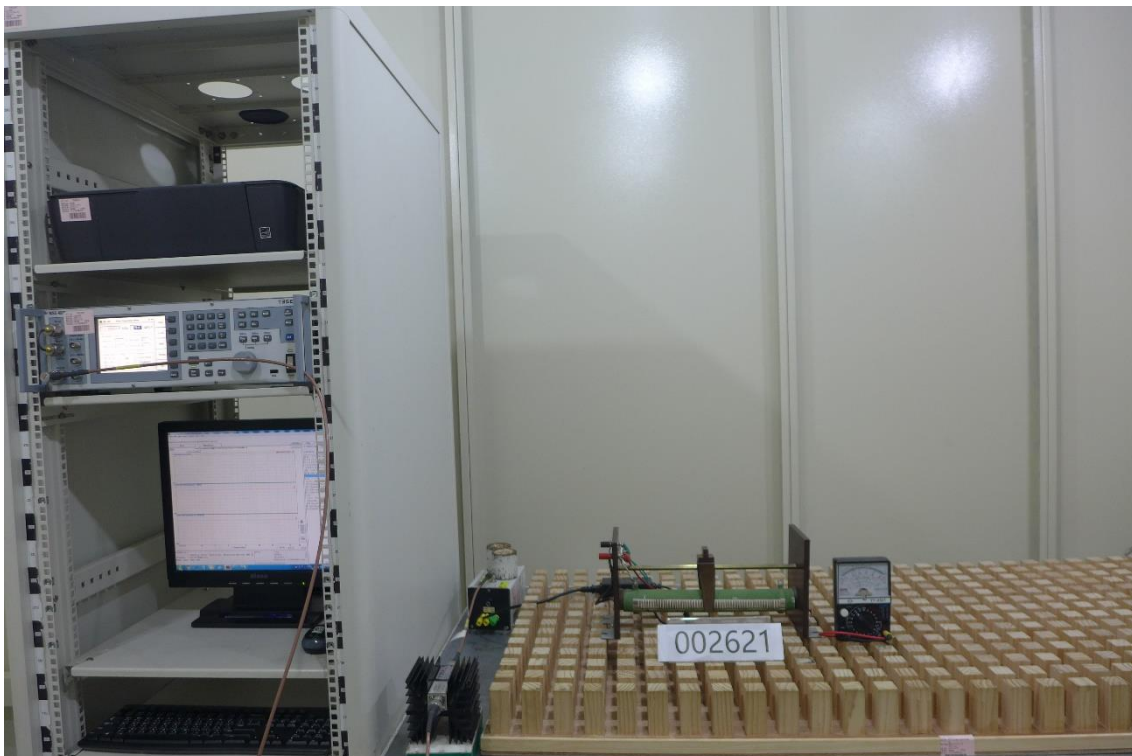
5.6 Electrical fast transient/burst immunity



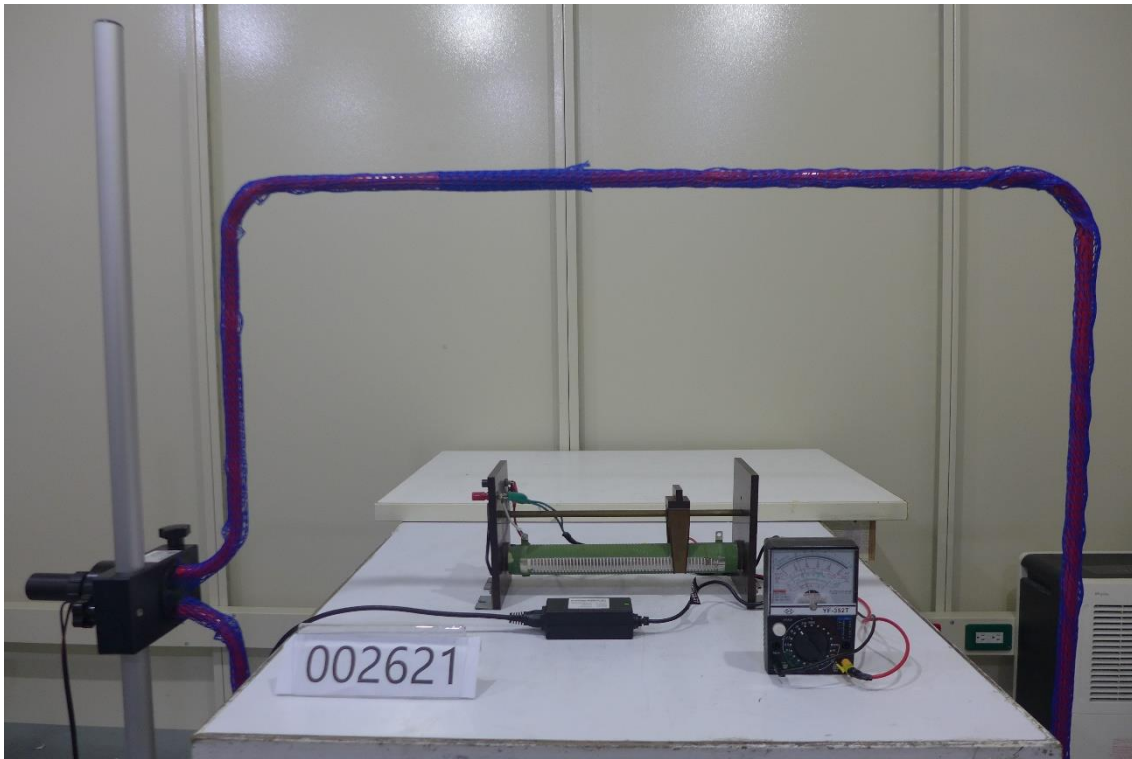
5.7 Surge immunity



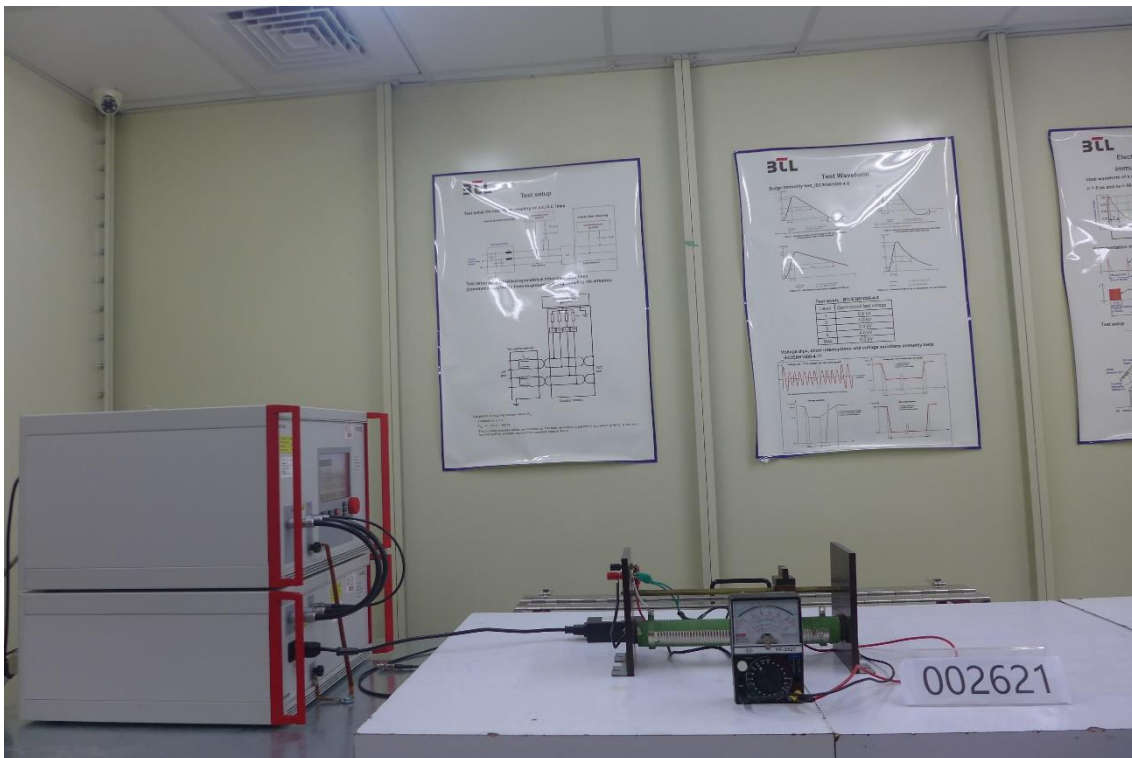
5.8 Immunity to conducted disturbances, induced by radio-frequency fields



5.9 Power frequency magnetic field immunity



5.10 Voltage dips, short interruptions and voltage variations immunity



6.0 APPENDIX B – EUT Photographs

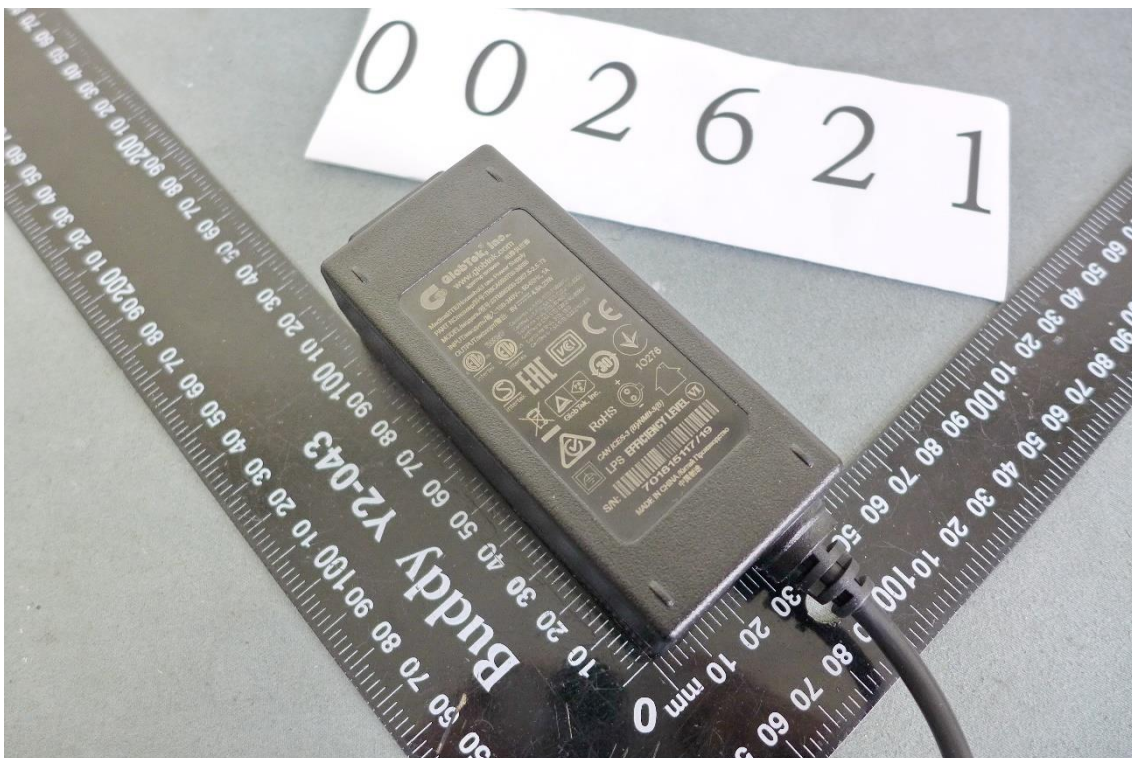
CONTINUE ON NEXT PAGE

6.1 EUT External Photographs

GTM96300-2307.5-2.5-T3



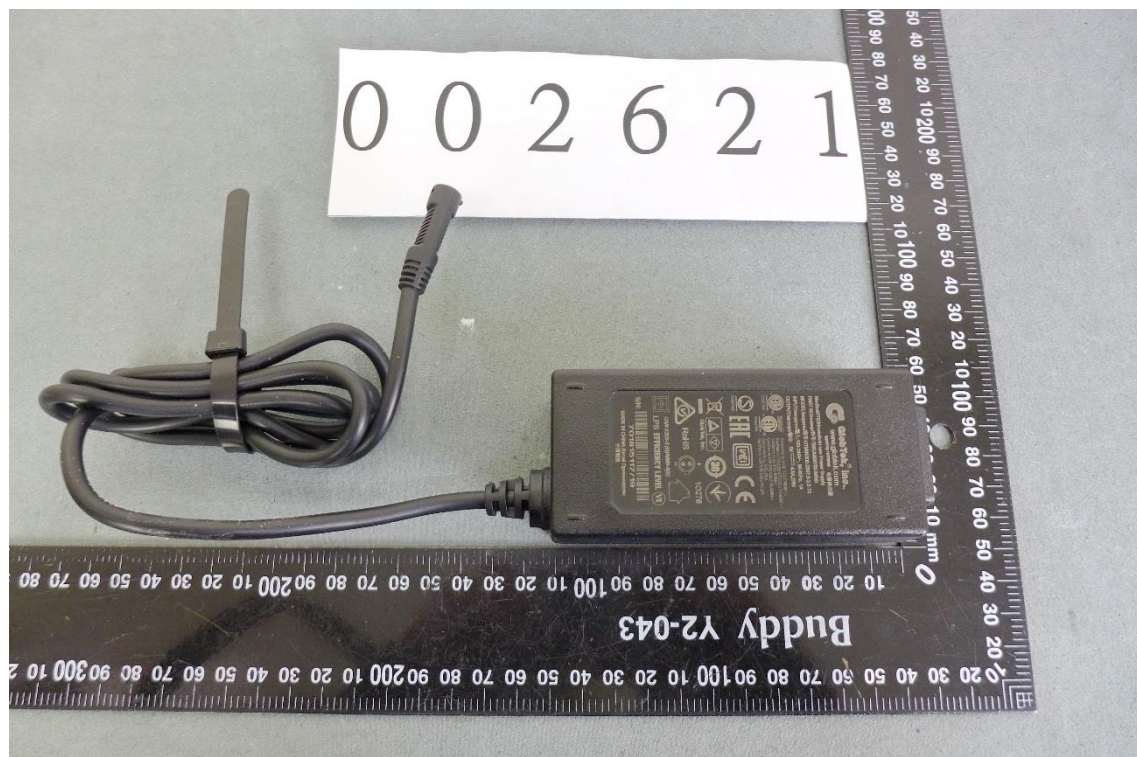
[Front & Side]



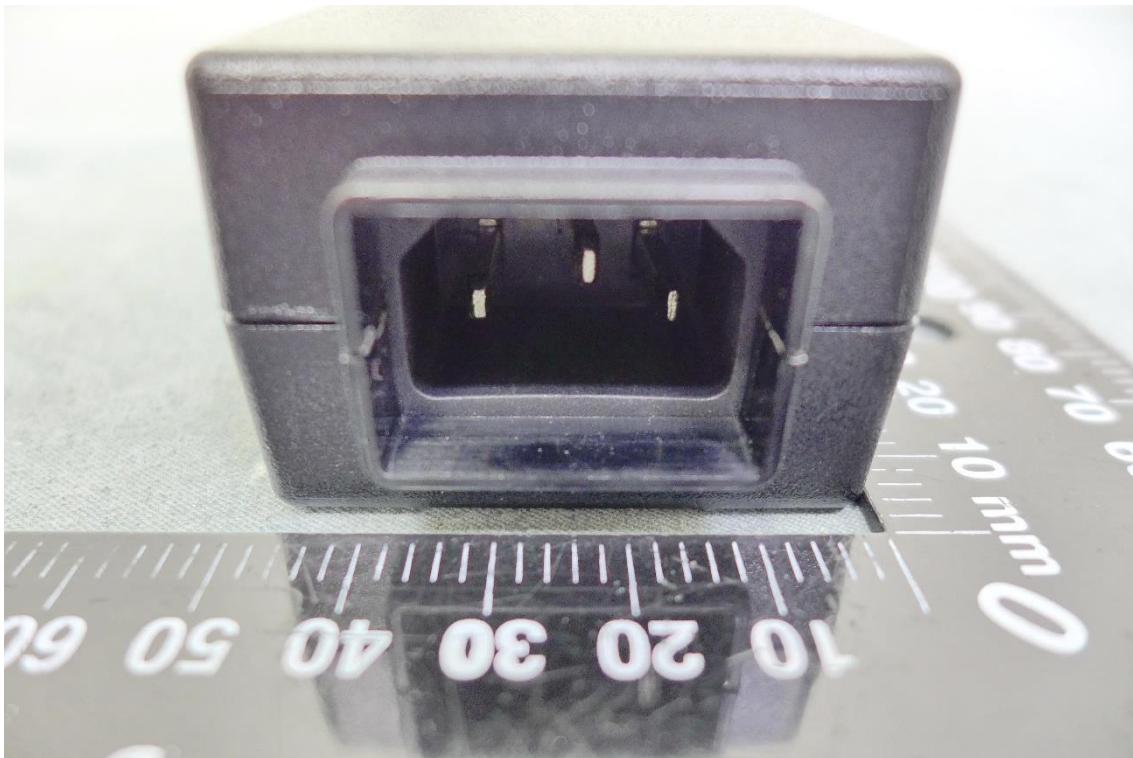
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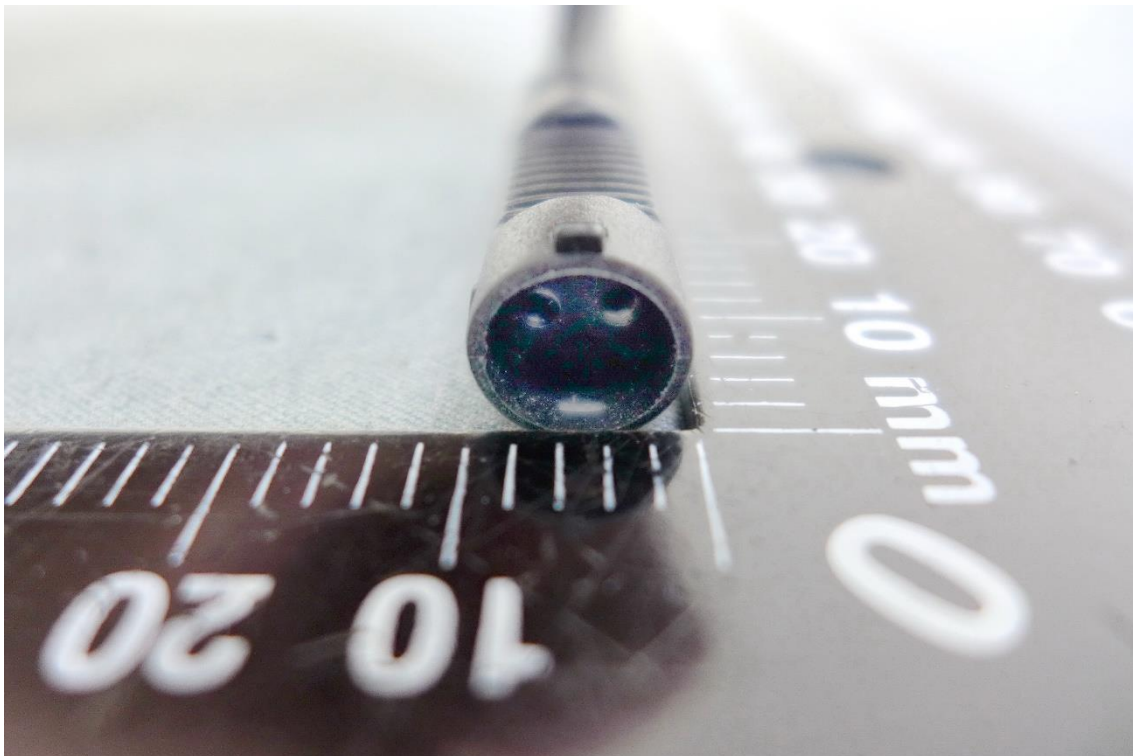
[Top: Aerial view]



[Bottom: Aerial view]



[Connector]

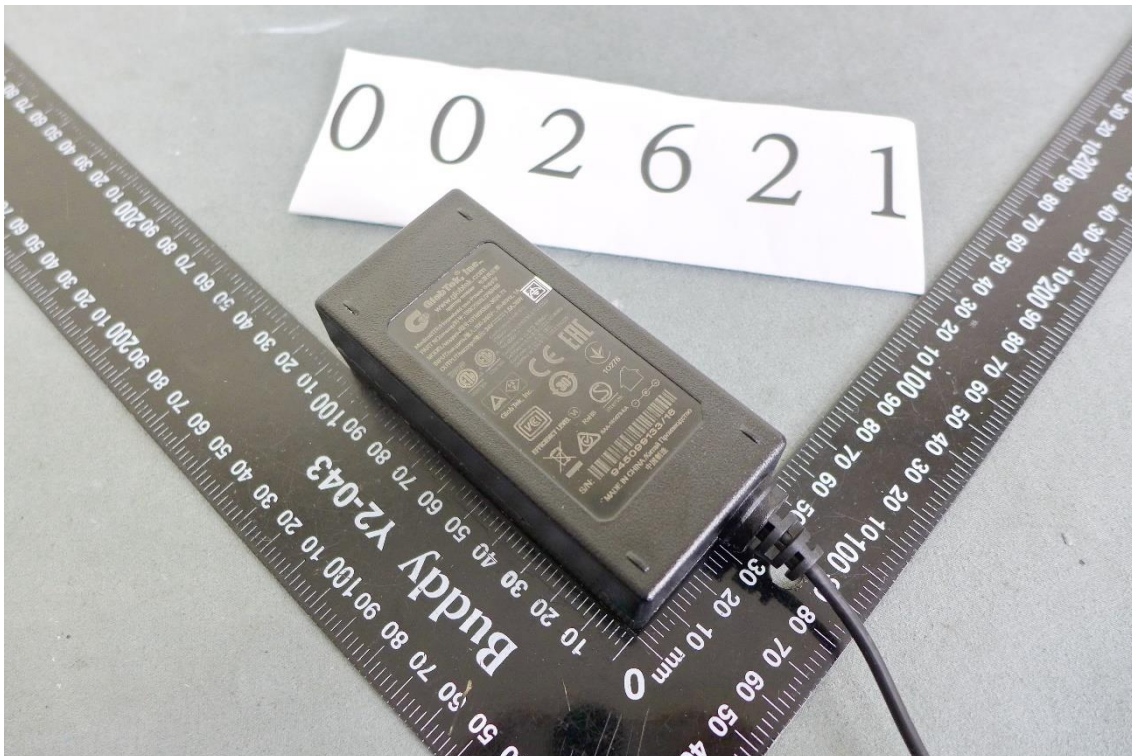


[Plug]

GTM96300-3624-T3



[Front & Side]



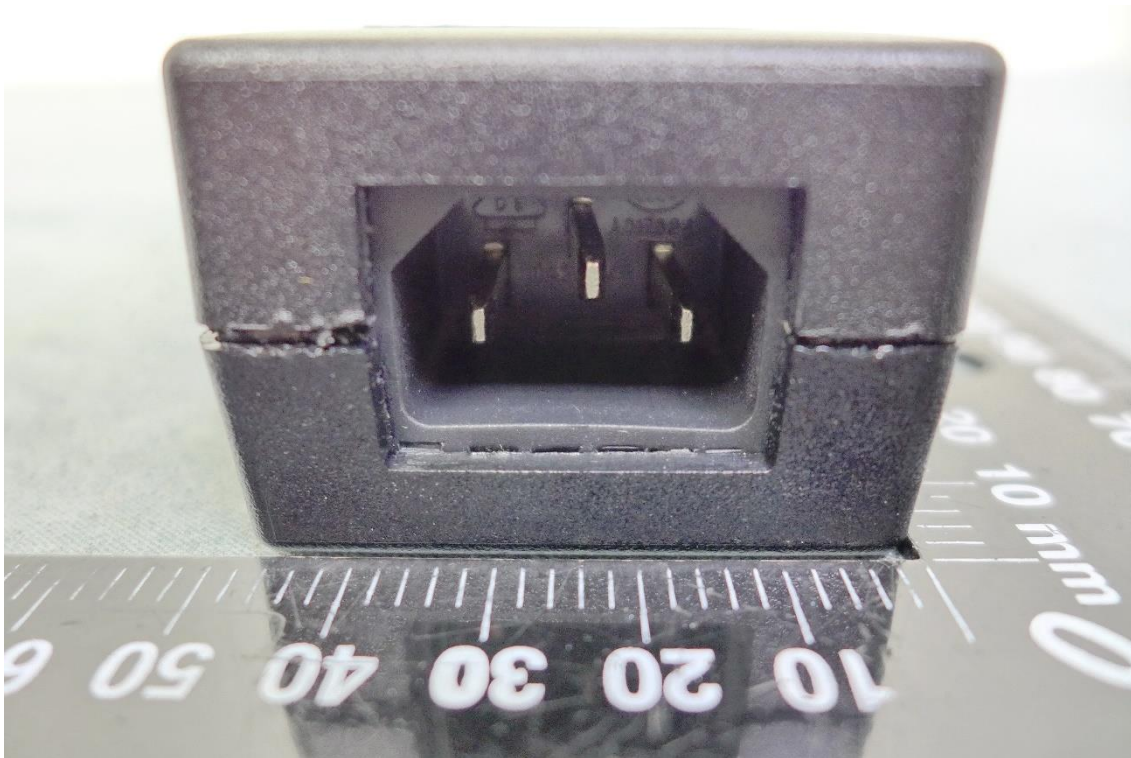
[Rear & Side]



[Top: Aerial view]



[Bottom: Aerial view]



[Connector]

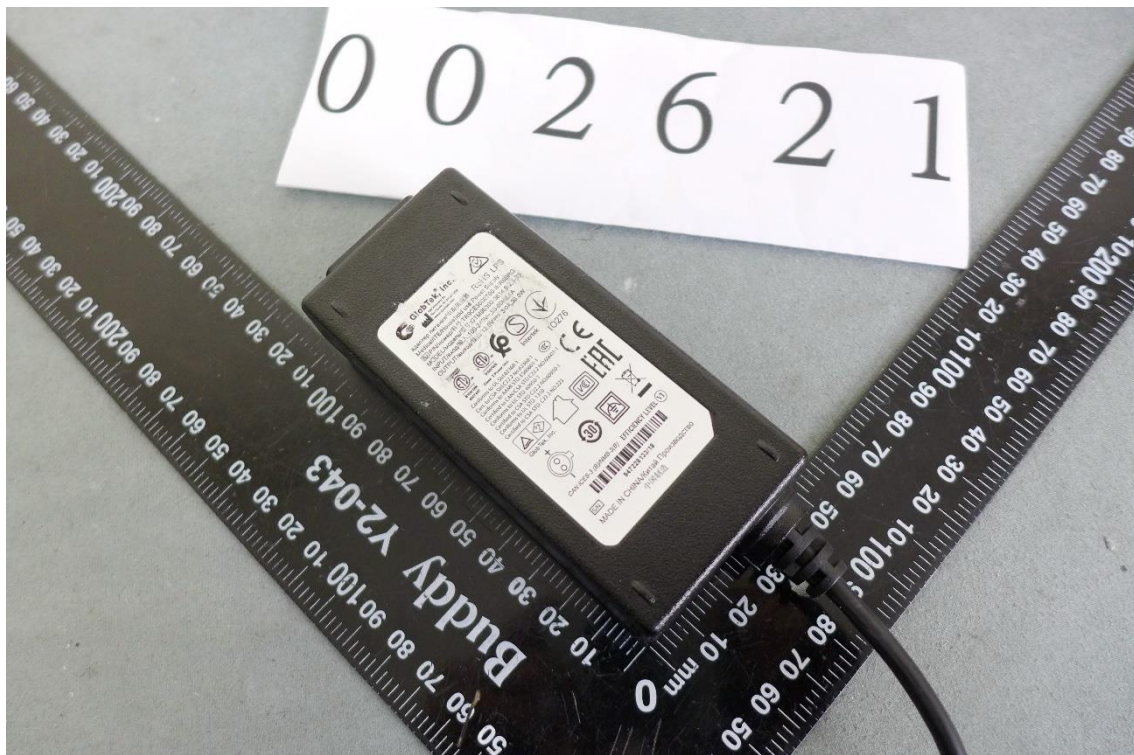


[Plug]

GTM96300-3614.5-2.5-T3



[Front & Side]



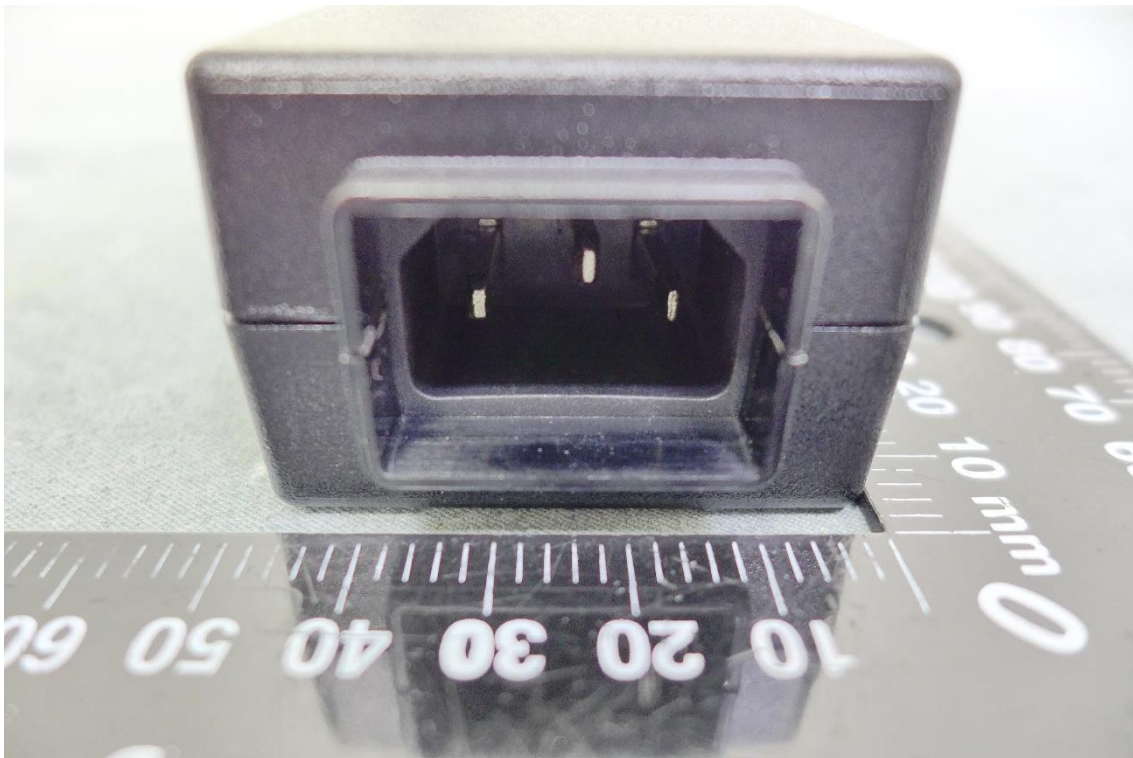
[Rear & Side]



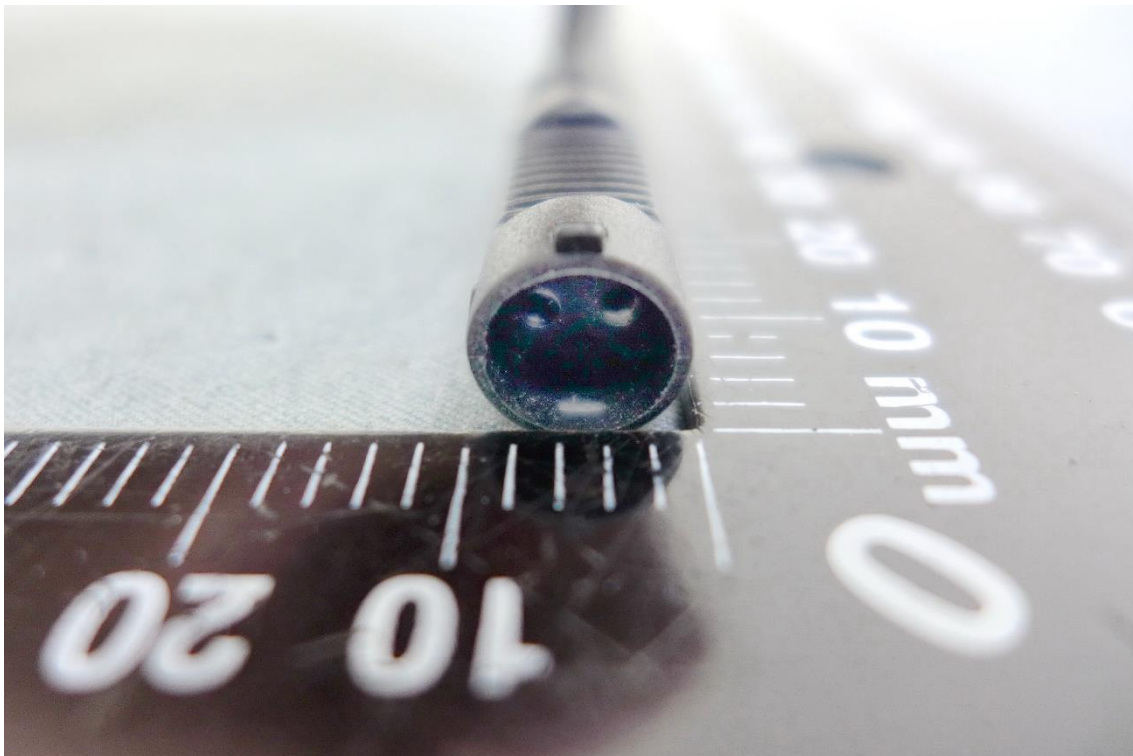
[Top: Aerial view]



[Bottom: Aerial view]



[Connector]

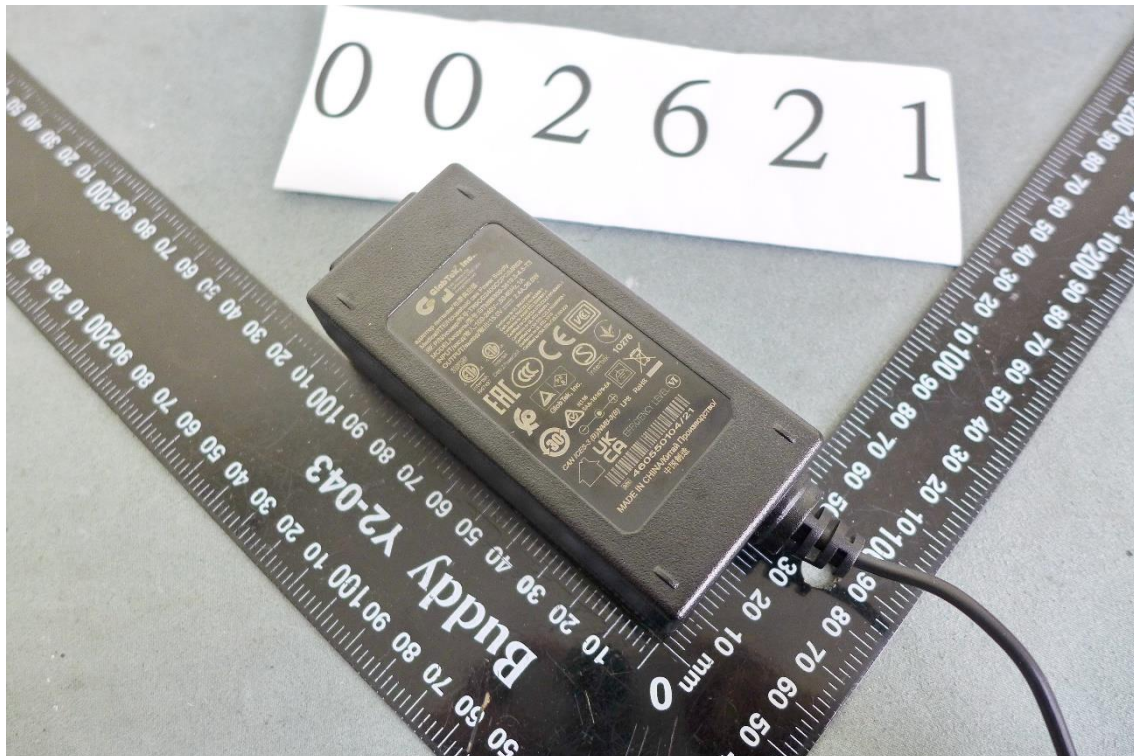


[Plug]

GTM96300-3619.5-4.5-T3



[Front & Side]



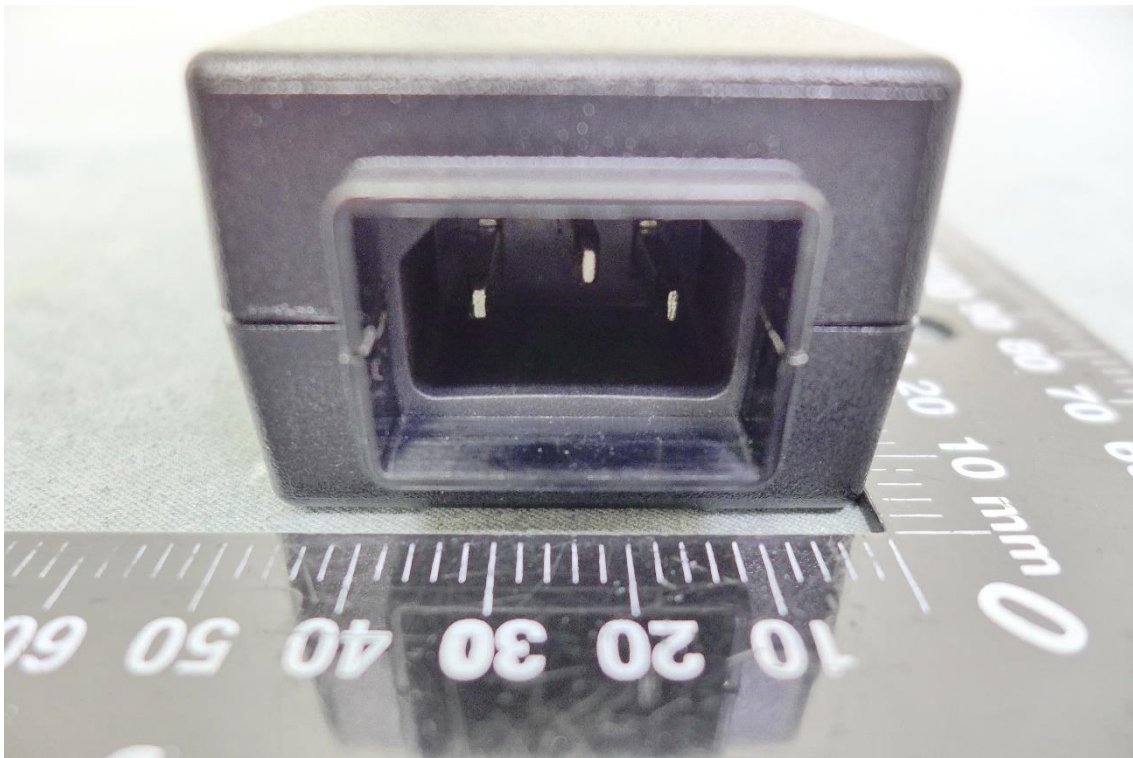
[Rear & Side]



[Top: Aerial view]



[Bottom: Aerial view]



[Connector]



[Plug]

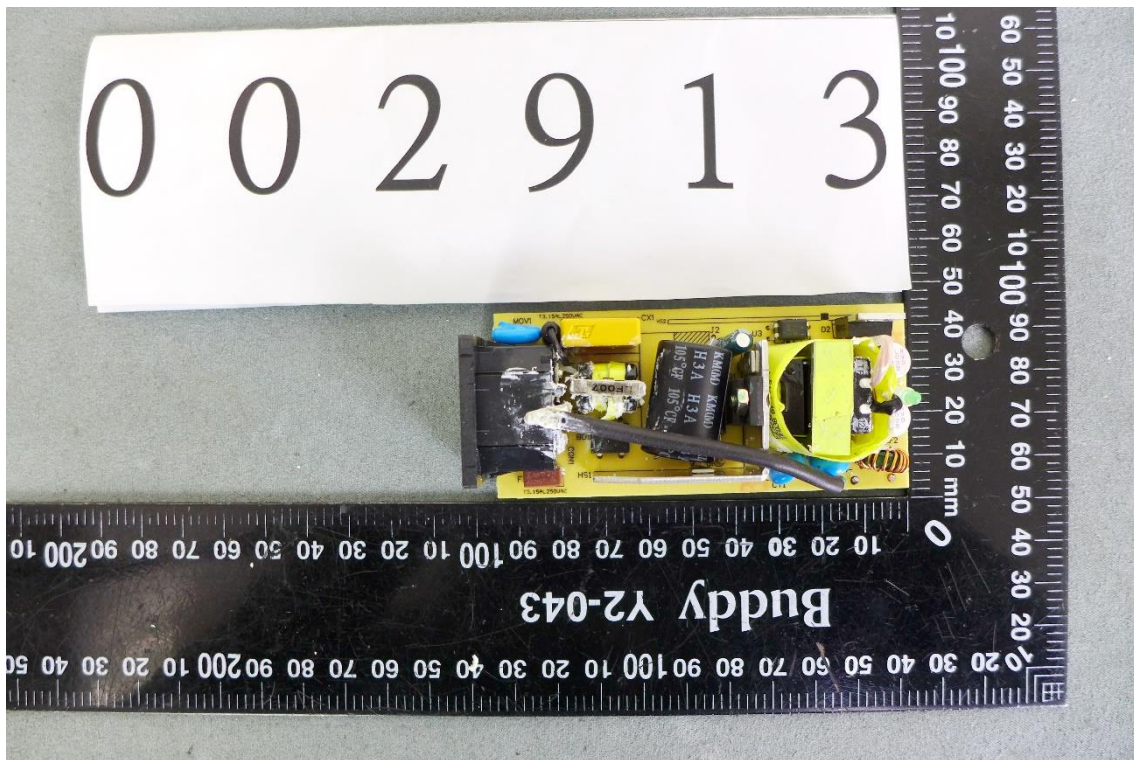
6.2 EUT Internal Photographs

CONTINUE ON NEXT PAGE

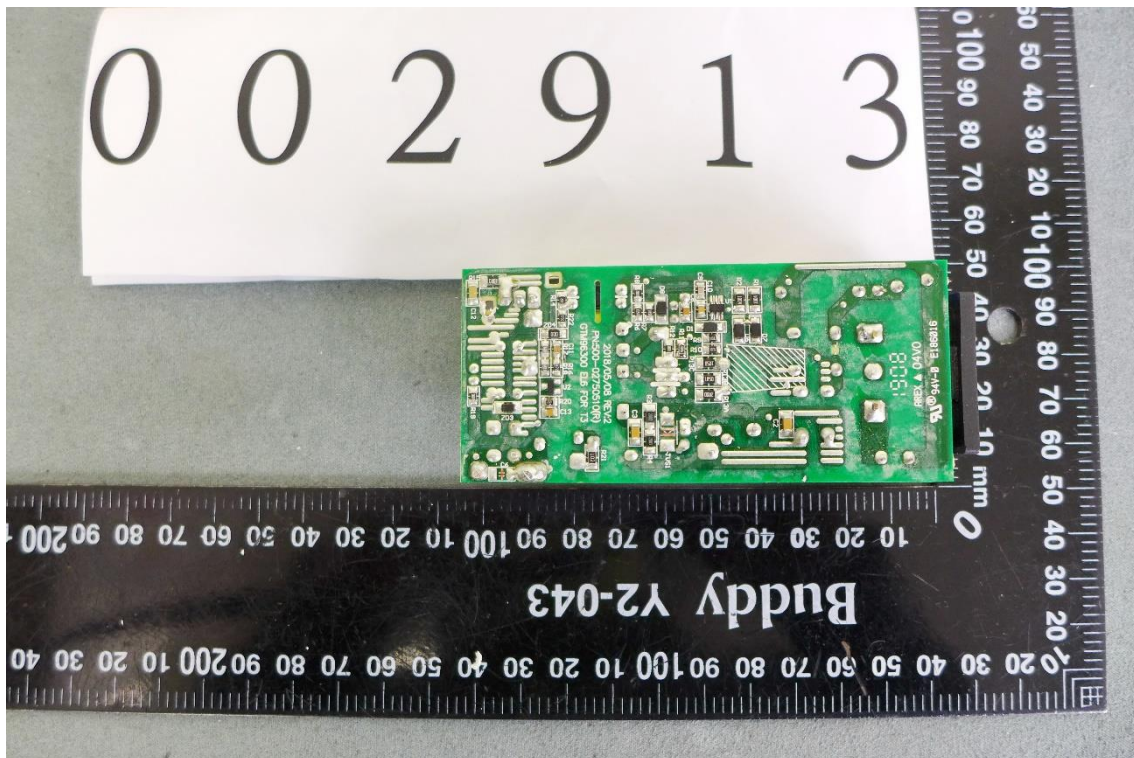
GTM96300-2307.5-2.5-T3



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PCB [Front]

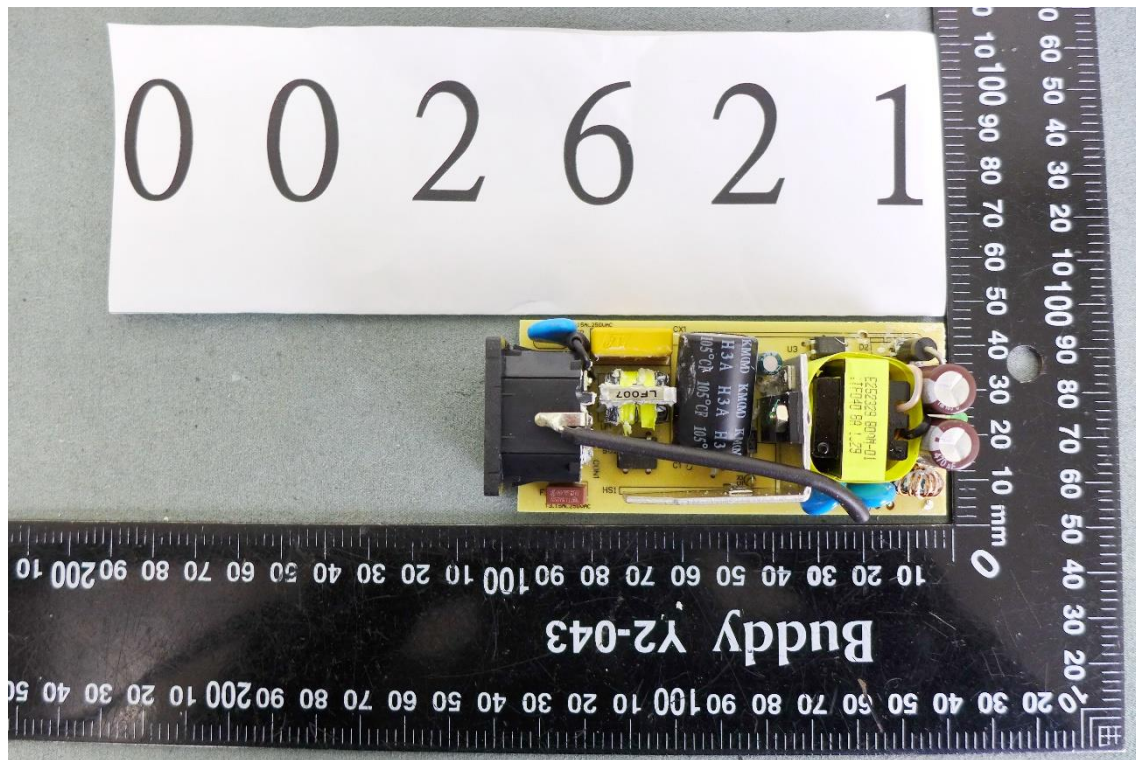


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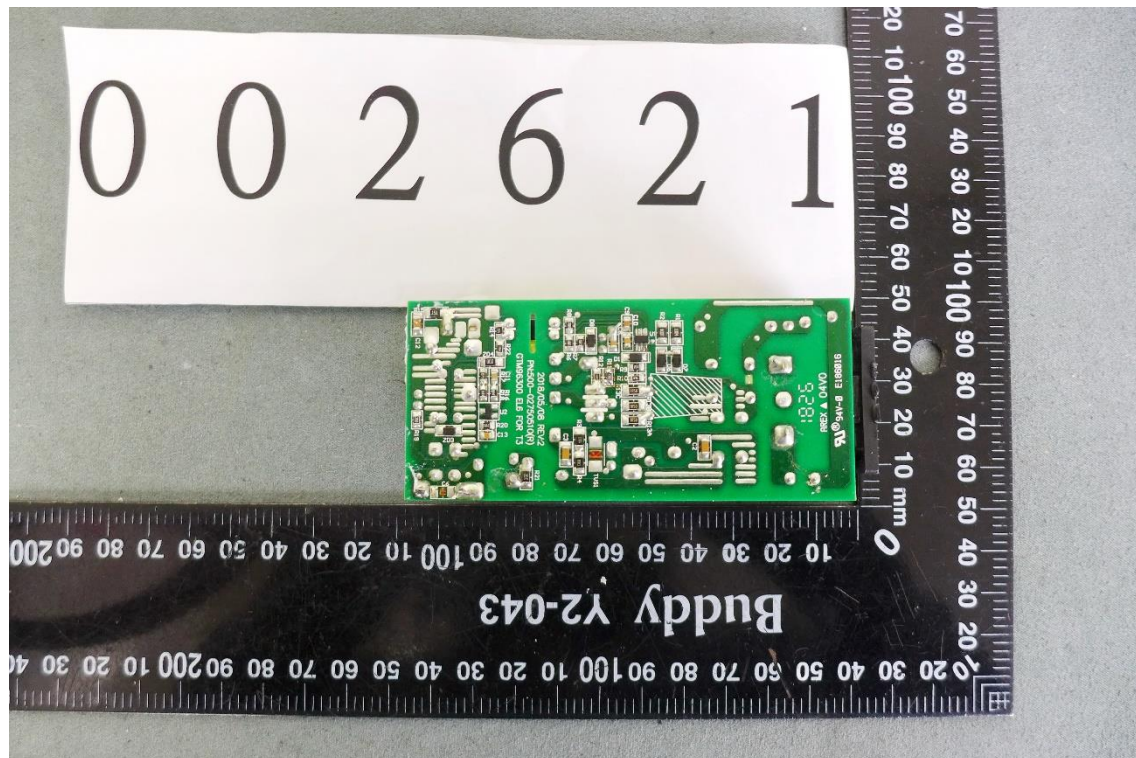
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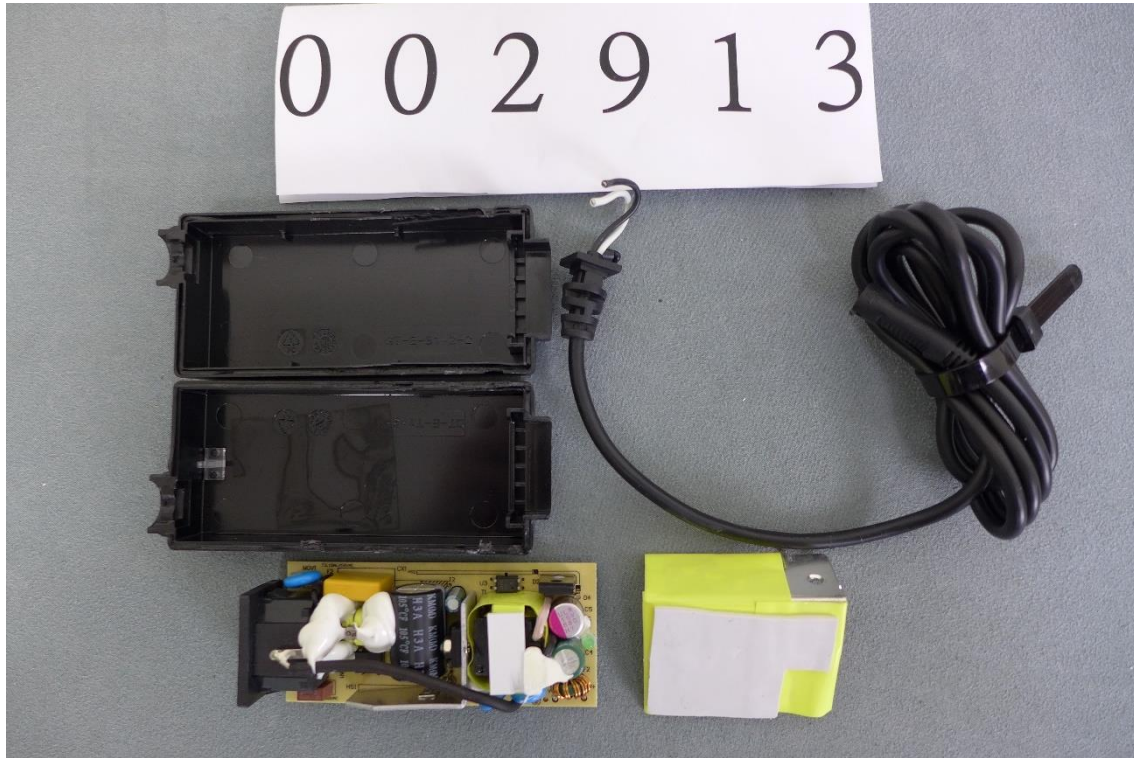


PCB [Front]

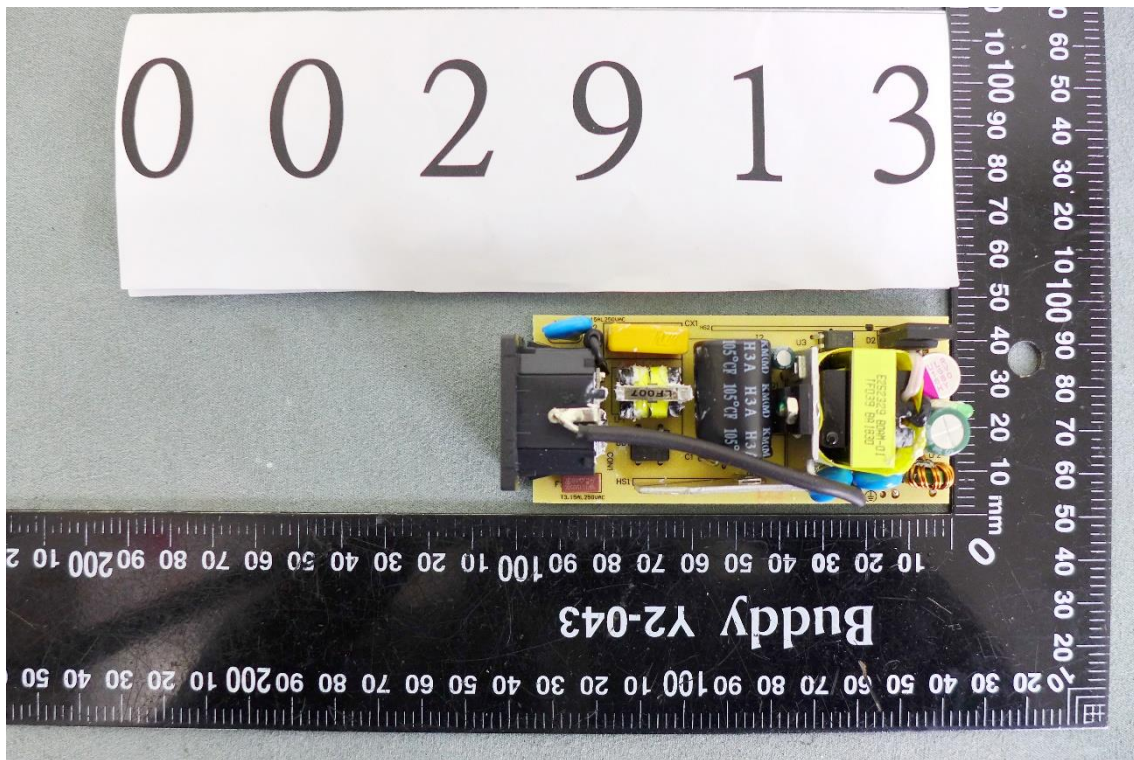


PCB [Rear]

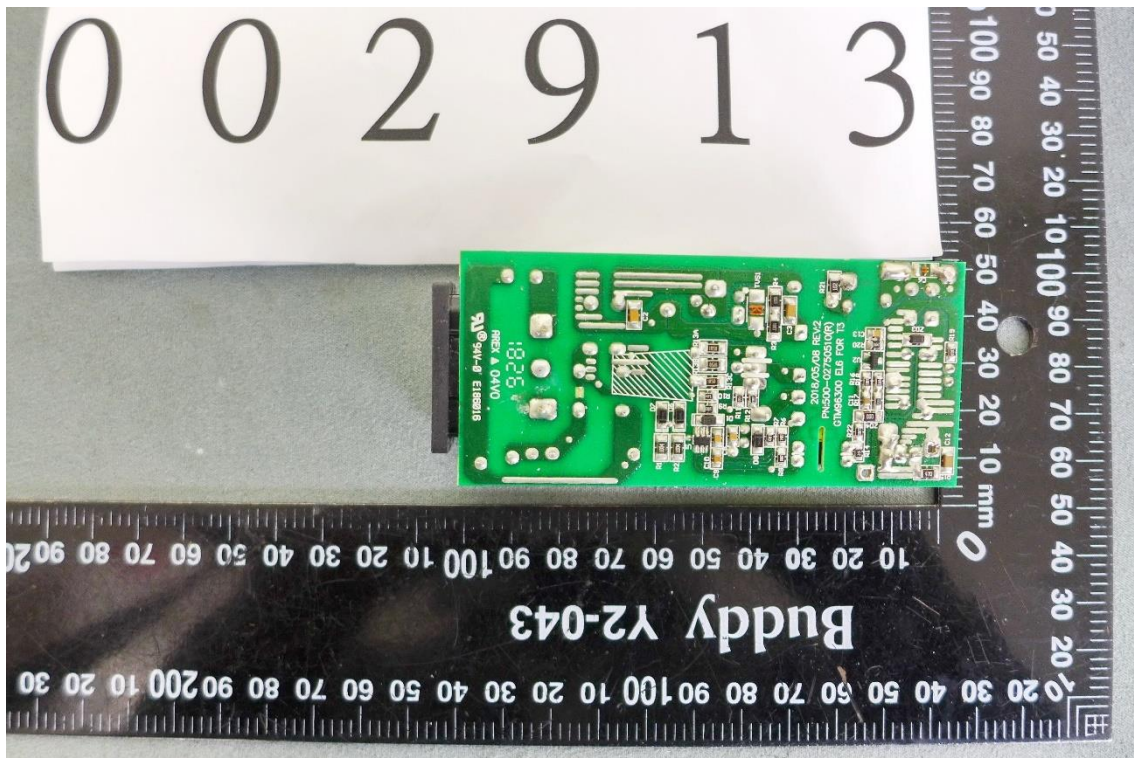
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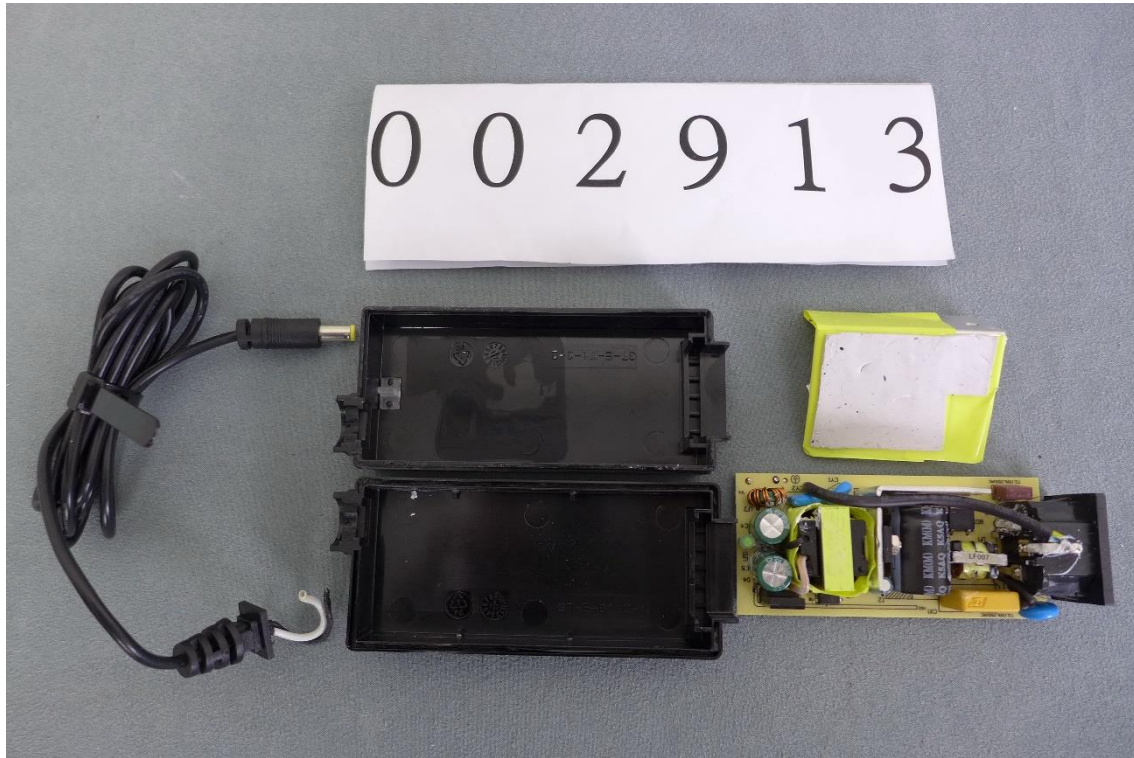
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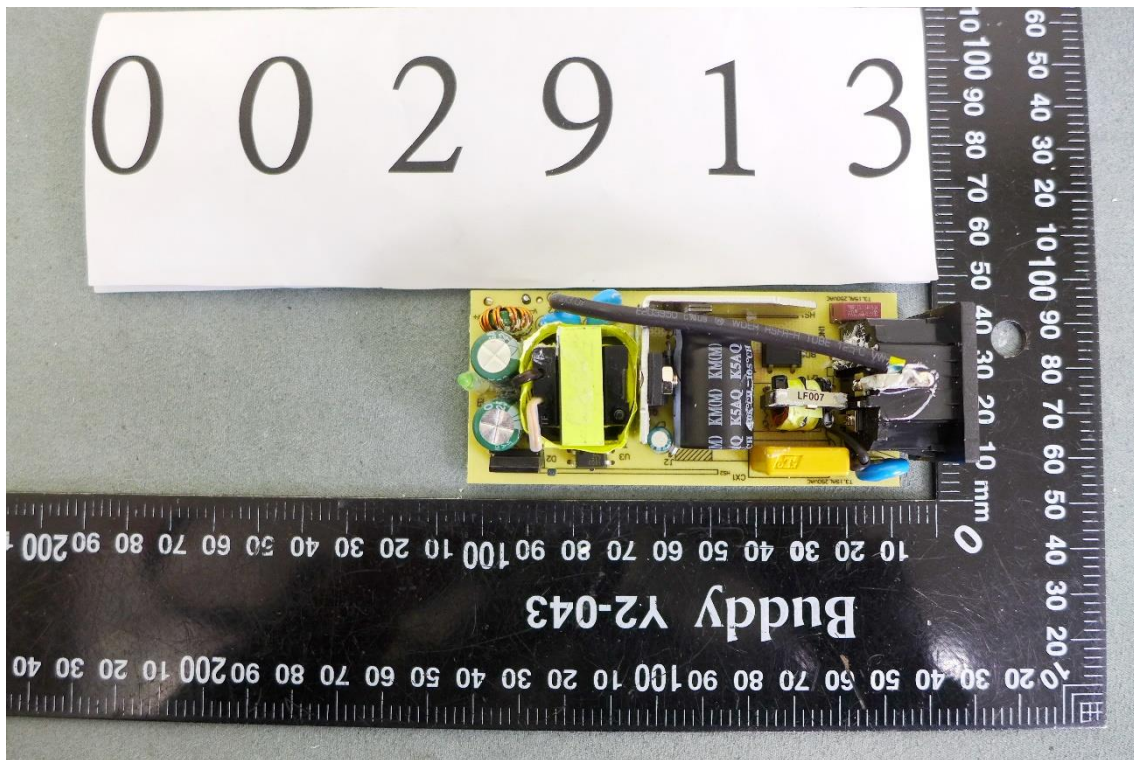
PCB [Front]



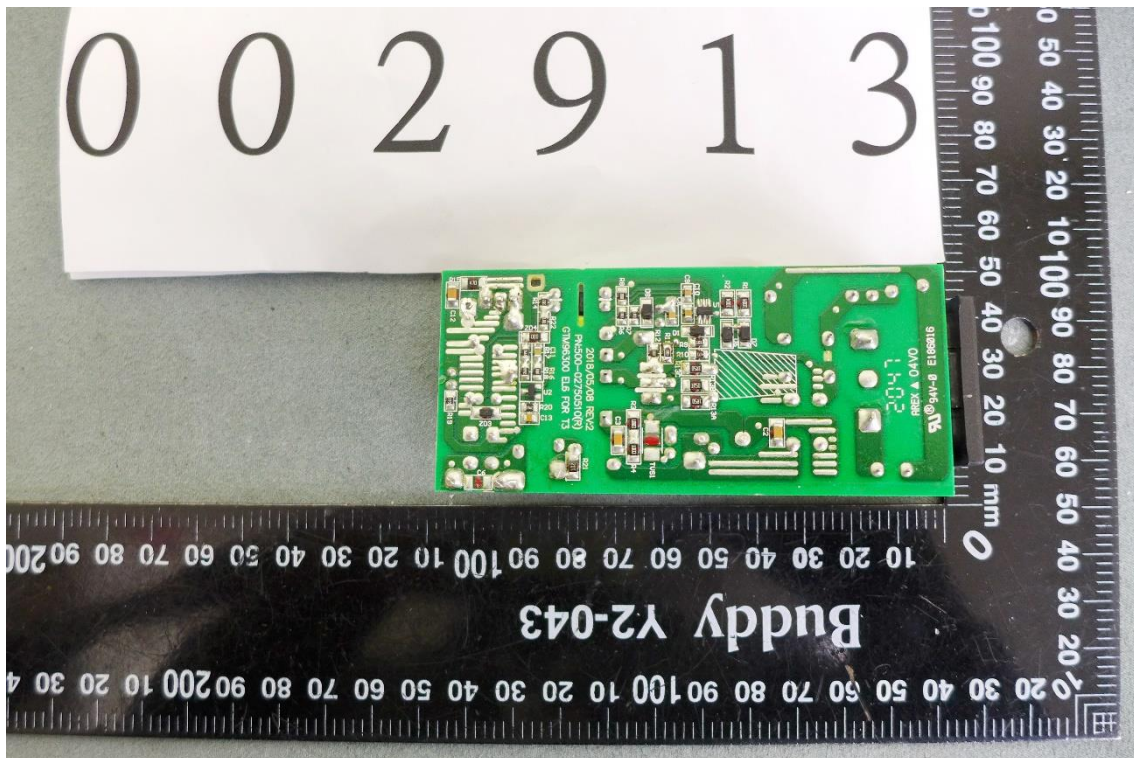
PCB [Rear]

GTM96300-3619.5-4.5-T3

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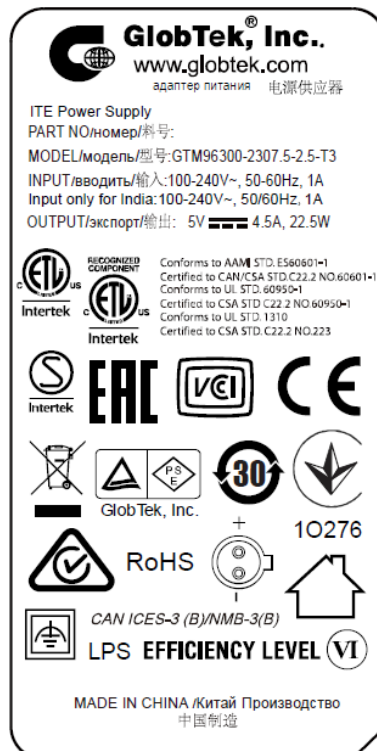


PCB [Front]



PCB [Rear]

6.4 Label and Location



[Label]



[Location]

7.0 APPENDIX C – Critical Component List

CONTINUE ON NEXT PAGE

Critical Component List

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
PCB	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E154355
Alt. use	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1 2V0 FR4	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E243157
Alt. use	CHEERFUL ELECTRONIC (HK) LTD	02 03 03A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E199724
Alt. use	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E251754
Alt. use	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E251781
Alt. use	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0 03V0 04V0	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E186016
Alt. use	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A DGV0-3A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E177671
Alt. use	KUOTIANG ENT LTD	C-2 C-2A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E227299
Alt. use	SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E250336
Alt. use	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E228070

Alt. use	YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E74757
Alt. use	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E231590
Alt. use	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E229877
Alt. use	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E213009
Alt. use	HUIZHOU SHUNJIA ELECTRONICS CO LTD	SJ-B	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E320884
Alt. use	Shanghai H-FAST Electronics Co Ltd	211001	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E337862
Alt. use	Jiangxi ZHONG XIN HUA Electronics Industry Co Ltd	ZXH-1, ZXH-2, ZXH-3	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E331298
Fuse (F1, F2) (F2 is optional)	Conquer Electronics Co., Ltd.	MST series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636
Alt. use	Ever Island Electric Co., Ltd. And Walter Electric	2010, ICP	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E220181
Alt. use	Bel Fuse Ltd.	RST-Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40011144 UL E20624
Alt. use	Cooper Bussmann LLC	SS-5	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180

Alt. use	Shenzhen Lanson Electronics Co. Ltd.	SMT	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465
Alt. use	Das & Sons International Ltd.	385T series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40008524 UL E205718
Alt. use	Dongguan Better Electronics Technology Co., Ltd.	932	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40033369 UL E300003
Alt. use	Hollyland Company Limited	5ET	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015669 UL E156471
Alt. use	Sunny East Enterprise Co. Ltd.	CFD-Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40030246 UL E133774
Alt. use	Conquer Electronics Co., Ltd.	MET series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
Alt. use	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017009 UL E213695
Bridging resistor (Optional) For model series GT*96180-***** use only	TY-Ohm Suzhou Electronic Works Co. Ltd	RT	10MΩ, 1W	IEC/EN 60950-1	VDE 40031266 UL E321764
Alt. use	Yageo Components (Suzhou) Co. Ltd	HHV	10MΩ, 1W	IEC/EN 60950-1	VDE 40031974 UL E333286
Y capacitor (CY1, CY2) (Optional)	TDK-EPC Corporation, Capacitors Group Circuit Devices Business Group	CD	Y1, AC250V, max 4700pF, 25/085/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 138526 UL E37861

Alt. use	Success Electronics Co., Ltd.	SE	Y1, AC250V, or AC500V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037211 VDE 40020002 UL E114280
Alt. use	Success Electronics Co., Ltd.	SB	Y1, AC250V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037221 VDE 40020001 UL E114280
Alt. use	Murata Mfg. Co., Ltd.	KX	Y1, AC250V, max 4700pF, 25/125/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
Alt. use	Walsin Technology Corp.	AH	Y1, AC250V, max 4700pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001804 UL E146544
Alt. use	JYA-NAY Co., Ltd.	JN	Y1, AC250V, max 4700pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001831 UL E201384
Alt. use	Haohua Electronic Co.	CT 7	Y1, AC250V, max 4700pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40003902 UL E233106
Alt. use	Jyh Chung Electronic Co., Ltd.	JD	Y1, AC250V, max 4700pF, 40/085/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 137027 UL E187963
Alt. use	Jerro Electronics Corp.	JX-series	Y1, AC250V, max 4700pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032158 UL E333001
X capacitor (CX1) (Optional)	Cheng Tung Industrial Co., Ltd.	CTX	Min. 300VAC, Max. 0.47μF, 110°C, X1 or X2	IEC 62368-1 UL 60384-14 UL 1414	Tested with appliance UL E193049
Alt. use	Tenta Electric Industrial Co. Ltd.	MEX	Min. 250VAC, Max. 0.47μF, 40/100/21/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 119119 UL E222911

Alt. use	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Min. 250VAC, Max. 0.47µF, 40/105/21/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032481 UL E216807
Alt. use	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Min. 250VAC, Max. 0.47µF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40015608 UL E183780
Alt. use	Yuan Yu Electronics Co. Ltd.	MPX	Min. 250VAC, Max. 0.47µF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032392 UL E200119
Alt. use	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Min. 250VAC, Max. 0.47µF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40014686 UL E237560
Alt. use	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Min. 250VAC, Max. 0.47µF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40022417 UL E311166
Alt. use	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Min. 250VAC, Max. 0.47µF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018798 UL E147776
Alt. use	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Min. 250VAC, Max. 0.47µF, 40/110/56/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018690 UL E252286
Photo coupler (U2/U3) (U2 for GTM91120, GTM91128LI* CEL **_**** and GTM91128***_**** series)	Everlight Electronics Co., Ltd.	EL817	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test,110oC	IEC/EN 60747-5-2	VDE 132249
Alt. use	COSMO Electronics Corporation	K1010 / KP1010	Dti=0.6mm Int. , dcr=4.0mm EXT.dcr=5.0mm, thermal cycling test,115oC	IEC/EN 60747-5-2	VDE 101347

Alt. use	Lite-On Technology Corporation	LTV-817	Dti=0.8mm Int. , EXT.dcr=7.8mm, thermal cycling test,110oC	IEC/EN 60747- 5-2	VDE 40015248
Alt. use	Fairchild Semiconductor Pte Ltd.	H11A817B / FOD817B	Insulation voltage: 850V; Transient overvoltage: 6000V; CTI175; Int. Cr/ Ext. Cr: ≥7,0/ 7,0 mm; 30/110/21	IEC/EN 60747- 5-2	VDE 40026857
Alt. use	Sharp Corporation Electronic Components and Devices Group	PC817	Insulation voltage: 890V; Transient overvoltage: 9000V Int. Cr/ Ext. Cr: 7.62/ 7.62 mm; 30/100/21	IEC/EN 60747- 5-2	VDE 40008087
Alt. use	Bright Led Electronics Corp.	BPC-817 A/B/C/D/L BPC- 817 M BPC-817 S	Dti=0.4mm EXT.dcr=7.0mm, thermal cycling test,110oC	IEC/EN 60747- 5-2	VDE 40007240
Alt. use	Toshiba Corporation Semiconductor & Storage Products Company	TLP781F	Dti > 0.4mm, Ext cr > 8.0mm, Isolation 3000Vac min., 110°C min., Thermal cycling test	IEC/EN 60747- 5-2	VDE 40021173
Varistor (MOV/MOV 1, MOV for GTM91120, GTM91128LI* CEL**_**** and GTM91128***- **** series) (Optional)	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005944
Alt. use	Centra Science Corp.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 4008220

Alt. use	Success Electronics Co., Ltd.	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030401
Alt. use	Walsin Technology Co., Ltd.	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40010090
Alt. use	Lien Shun Electronics Co., Ltd.	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005858
Alt. use	Ceramate Techn. Co., Ltd.	GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40031745
Alt. use	Brightking (Shenzhen) Co., Ltd.	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027827
Alt. use	Joyin Co., Ltd.	JVR10N471K JVR14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005937
Appliance inlet CON1 Class I units (C6 type)	Zhejiang LECI Electronics Co., Ltd.	DB-6	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032465
Alt. use	Rich Bay Co., Ltd.	R-30790	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030381
Alt. use	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-02	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034448
Alt. use	TECX-UNIONS Technology Corporation	TU-333	2.5A, 250Vac	IEC/EN 60320-1	ENEC 00633
Alt. use	Rong Feng Industrial Co., Ltd.	RF-190	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030379
Alt. use	Inalways Corporation	0724	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010080

Alt. use	Zhe Jiang Bei Er jia	ST-A04-002	2.5A, 250Vac	IEC/EN 60320-1	VDE 40016045
Alt. use	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-2	2.5A, 250Vac	IEC/EN 60320-1	VDE 40015580
Appliance inlet CON1 Class I units (C14 type)	Zhejiang LECI Electronics Co., Ltd.	DB-14	10A, 250Vac	IEC/EN 60320-1	VDE 40032137
Alt. use	Rich Bay Co., Ltd.	R-301SN	10A, 250Vac	IEC/EN 60320-1	VDE 40030228
Alt. use	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-03	10A, 250Vac	IEC/EN 60320-1	VDE 40034447
Alt. use	TECX-UNIONS Technology Corporation	TU-301-S, TU-301-SP	10A, 250Vac	IEC/EN 60320-1	ENEC 00647
Alt. use	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250Vac	IEC/EN 60320-1	VDE 40028101
Alt. use	Inalways Corporation	0711	10A, 250Vac	IEC/EN 60320-1	ENEC 2010084
Alt. use	Zhe Jiang Bei Er jia	ST-A01-003J	10A, 250Vac	IEC/EN 60320-1	VDE 40013388
Appliance inlet CON1 Class II units (C8 type)	Zhejiang LECI Electronics Co., Ltd.	DB-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032028
Alt. use	Rich Bay Co., Ltd.	R-201SN90	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030384
Alt. use	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-01	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034449
Alt. use	TECX-UNIONS Technology Corporation	SO-222	2.5A, 250Vac	IEC/EN 60320-1	VDE 40043268
Alt. use	Rong Feng Industrial Co., Ltd.	RF-180	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030168
Alt. use	Inalways Corporation	0721	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010087
Alt. use	Zhe Jiang Bei Er jia	ST-A03-005	2.5A, 250Vac	IEC/EN 60320-1	VDE 40014833
Alt. use	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40025531

Appliance inlet CN1 Class II units (C18 type)	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250Vac	IEC/EN 60320-1	VDE 40028101
Alt. use	HCR ELECTRONICS CO LTD	SK05	10A, 250Vac	IEC/EN 60320-1	ENEC NO4018
Earthing wire for Class I model	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E237831
Alt. use	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E333601
Alt. use	DONGGUAN CHUANTAI WIRE PRODUCTS CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E315628
Alt. use	YONG HAO ELECTRICAL INDUSTRY CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E240426
Alt. use	DONGGUAN GUNEETAL WIRE & CABLE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E204204
Alt. use	SHENG YU ENTERPRISE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E219726
Alt. use	KUNSHAN XINGHONGMENG ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E315421
Alt. use	SUZHOU YEMAO ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 62368-1	Tested with appliance UL E353532
Output cord	Interchangeable	Interchangeable	Min. 24AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1 UL 758	Tested with appliance UL approved

Heat- shrinkable tubing (Optional)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR, RSFR-H, RSFR-HPF	600V, 125 oC	IEC/EN 62368-1	Tested with appliance UL E203950
Alt. use	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E225897
Alt. use	DONGGUAN SALIPT CO LTD	SALIPT S- 901-300 SALIPT S-901-600	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E209436
Alt. use	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E214175
Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E180908
Line filter LF1 (for GT*96300 & GT*91120 & GTM91128 series)	GlobTek / HAOPUWEI / HEJIA / BOAM	LF007	17mH	IEC 62368-1	Tested with appliance
Line filter LF1 (for GT*96180 series)	GlobTek / HAOPUWEI / HEJIA / BOAM	NF00001D	32mH	IEC 62368-1	Tested with appliance
Transformer (T1)	GlobTek / BOAM / HAOPUWEI / ENG	See attachment for details	Class B, with critical component listed below	IEC 62368-1	Tested with appliance
- Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U (UL E201757)	MW28-C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U (UL E201757)	MW75-C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	JUNG SHING WIRE CO LTD	UEW-4 (UL E174837)	MW75C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	JUNG SHING WIRE CO LTD	UEY-2 (UL E174837)	MW28-C, 130oC	IEC 62368-1	Tested with appliance

Alt. use	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130 (UL E335065)	MW75-C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130 (UL E158909)	MW75-C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB (UL E206882)	MW75#, 130oC	IEC 62368-1	Tested with appliance
Alt. use	JIANGSU DARTONG M & E CO LTD	UEW (UL E237377)	MW 75-C, 130oC	IEC 62368-1	Tested with appliance
Alt. use	SHANDONG SAINT ELECTRIC CO LTD	UEW/130 (UL E194410)	MW75#, 130oC	IEC 62368-1	Tested with appliance
Alt. use	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW (UL E222214)	MW 79#, 130oC	IEC 62368-1	Tested with appliance
-Triple- insulated wire (Secondary)	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 136581 UL E211989
- Alt. use	COSMOLINK CO. Ltd.	TIW-M Serie(s)	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 138053 UL E213764
- Alt. use	Furukawa Electric Co., Ltd. Electronics & Automotive Systems Company Global Business Development Division	TEX-E	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 006735 UL E206440
- Alt. use	TOTOKU ELECTRIC CO LTD	TIW-2	Reinforced insulation, rated 130° C (Class B)	UL 2353 UL60950-1 UL 60601-1	VDE 40005152 UL E249037
- Alt. use	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	VDE 40023473 UL E315265

- Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	Tested with appliance UL E249037
- Alt. use	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	VDE 40037495 UL E357999
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150°C, thickness 0,45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
- Alt. use	CHANG CHUN PLASTICS CO LTD	4130	V-0, 140°C, thickness 0,74 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
- Alt. use	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, thickness 0,45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41429
- Alt. use	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0,45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E42956
- Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1 44	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E17385
- Alt. use	BONDTEC PACIFIC CO LTD	370S	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E175868
- Alt. use	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E165111
- Alt. use	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E246950
- Alt. use	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E246820

-PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200oC	IEC 62368-1	Tested with appliance UL E156256
-Alt. use	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	600V, 200oC	IEC 62368-1	Tested with appliance UL E203950
-Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB-TT-S	Min. 300V, 200oC	IEC 62368-1	Tested with appliance UL E180908
Enclosure (all parts)	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	PPE+PS, Min. V-1, Min. thickness:2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE100	PPE+PS, Min. V-1, Min. thickness:2.0mm, 95°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	C2950	PC/ABS, Min. V-0, Min. thickness:2.0mm, 85°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098	PC/ABS, Min. V-1, Min. thickness:2.0mm, 90°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, V-0, Min. thickness:2.0mm, 125°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC JAPAN L L C	SE1X, SE1	PPE+PS, Min. V-1, Min. thickness:2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	SE100	PPE+PS, Min. V-1, Min. thickness:2.0mm, 95°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780

Alt. use	SABIC JAPAN L L C	C2950	PC/ABS, Min. V-0, Min. thickness:2.0mm, 85°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	CX7211 EXCY0098	PC/ABS, Min. V-1, Min. thickness:2.0mm, 90°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	HF500R	PC, V-0, Min. thickness:2.0mm, 125°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC INNOVATIVE PLASTICS US L L C	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E121562
Alt. use	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	PC, Min. V-0, Min. thickness:2.0mm, 115°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E50075
Coupler for directly plug in model use	GlobTek, Inc.	Q-coupler	Max. 240V, Max. 2.0A	IEC 60320-1	Tested with appliance
Mylar sheet (Optional)	SUMITOMO BAKELITE CO LTD	AV-Lite DP 901	Diallyl Phthalate (DAP), V-0, thickness min.: 0.4mm. min.105°C,	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL 41429
- Alt. use	SABIC INNOVATIVE PLASTICS US L L C	FR700	PC, V-0, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E121562
- Alt. use	DUPONT HONGJI FILMS FOSHAN CO LTD	EM · MO31	PET, VTM-2, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E241830
- Alt. use	Kanglongxin	PC-811A, PC-813A	PC, VTM-2, thickness: min. 0.4mm; min.80°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E315185

- Alt. use	MIANYANG LONGHUA FILM CO LTD	PC-770, PC- 770A, PC-870A. PC- 1870A , PP- BK18	PC, VTM-0, thickness: min. 0.4mm; min.80°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E254551
- Alt. use	TORAY INDUSTRIES INC	Lumirror H10	PC, VTM-2, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E86511
- Alt. use	SKC CO LTD	SH71S	PC, VTM-2, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E74359
- Alt. use	FORMEX,DIV OF IL TOOL WORKS INC,FRMRLY FASTEX,DIV OF ILTOOL WORKS INC	FORMEX GK series	PC, V-0, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E121855
- Alt. use	SABIC INNOVATIVE PLASTICS US LLC	FR60 series FR63 series FR65 series FR7 series FR700 series	PC, V-0, thickness: min. 0.4mm; min.130°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E121562
- Alt. use	MIANYANG LONGHUA FILM CO LTD	PP-BK-20 PP- BK-17 PP-BK- 18	PC, VTM-0, thickness: min. 0.4mm; min.80°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E254551
- Alt. use	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX PP WT- 10 series	PC, VTM-0, thickness: min. 0.4mm; min.110°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E315185
- Alt. use	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC- 1860B	PC, VTM-0, thickness: min. 0.4mm; min.80°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E315185
- Alt. use	JiangSu YuXing	CY28	PET, VTM-2, thickness: min. 0.4mm; min.105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E212271

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

For all transformers under all manufacturers.

End of Test Report