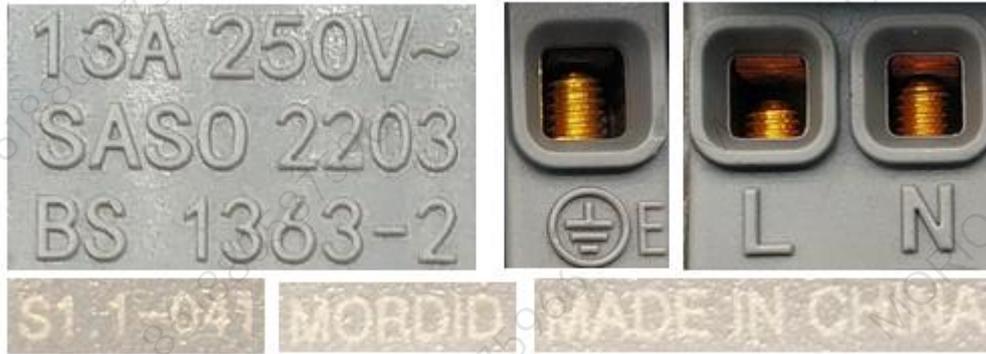


TEST REPORT EMC incorporated electronic components	
Report Reference No.	GT0012024-0091-E
Date of issue:	Aug,16,2024 Correction 1:Sep.05,2024
Total number pages:	35
Testing Laboratory	CVC Testing Technology Co., Ltd.
Address	No.3 , Jiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, 510663, P.R. China
Applicant's name	Mordio Electrical Co., Ltd.
Address	Building 2, No. 388, Binhai 13th Rd., Economic And Technological Development Zone, Wenzhou, Zhejiang, China
Test specification:	
Standard	IEC 61000-6-1:2016; IEC 61000-6-3:2020; BS EN 61000-6-1:2007; BS EN 61000-6-3:2007+A1:2011.
Test procedure	GTR For Low Voltage Electrical Equipment and Appliances
Non-standard test method	N/A
Supplementary information	--
Test Report Form No.	IEC61000_6_1&3C
Test Report Form(s) Originator ...:	CVC
Master TRF	Dated 2022-06
Test item description	Fixed Flush Socket-outlet
Trademark	
Manufacturer	Mordio Electrical Co., Ltd. Building 2, No. 388, Binhai 13th Rd., Economic And Technological Development Zone, Wenzhou, Zhejiang, China
Model / Type reference	K1.1A-041, K1.2-041, K1.22-041, K2-041, K3.0-041, L3.4-041, A1-041, A2-041, A3-041, S1.1-041, K1.23-041, K3.2-041, S1-041, S1.2-041, S1.3-041, S1.4-041, S5.1-041, S3.1-041, S3-041, A4-041, AI-041, S1.5-041, L2-041, S5-041, T1-041, T2-041, T3-041, T3.1-041, T4-041, T8-041
Rating(s)	Ratings : 13A 250V~ USB input voltage:175-250V~,50/60Hz,350mA USB output: 5V $\overline{\text{---}}$ 2.1A

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	Testing Laboratory	CVC Testing Technology Co., Ltd.
Testing location/ address		No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, 510663, P.R. China
Tested by (name, function, signature)...	Xu Zhenfei 检验检测专用章	Engineer <i>Xu Zhenfei</i>
Approved by (name, function, signature)...	Chen Huawen	Manager <i>Chen Huawen</i>
Testing		
Date of receipt of test item	2024-08-10	
Date (s) of performance of tests:	From 2024-08-10 to 2024-08-16	
Possible test case verdicts ...:		
Test case does not apply to the test object	N/A (Not Applicable)	
Test object does meet the requirement.....	P (Pass)	
Test object does not meet the requirement.....	F (Fail)	
General remarks:		
<p>The test results presented in this report relate only to the object tested.</p> <p>The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. A cross (x) in a rectangular shape means that this option is applied.</p>		
Definitions of symbols used in this test report:		
<input checked="" type="checkbox"/>	Indicates that the listed condition, standard or equipment is applicable for this report	
<input type="checkbox"/>	Indicates that the listed condition, standard or equipment is not applicable for this report	
Decimal separator used in this report	<input type="checkbox"/>	Comma (,)
	<input checked="" type="checkbox"/>	Point (.)
Name and address of factory (ies)	Name of the factory: Mordio Electrical Co., Ltd.	
	Address of the factory: Building 2, No. 388, Binhai 13th Rd., Economic and Technological Development Zone, Wenzhou, Zhejiang, P. R. China	

Copy of marking plate:**Representative model:** S1.1-041**General product information and other remarks:**

1. The class II structure USB power supply module be tested as a sub assembly according to EN 62368-1 when incorporated into the socket outlet to supply for information technology equipment. Socket outlet shall comply with the standard's requirements of BS 1363-2. All USB circuit components are mounted on PCB and housed in a plastic enclosure which secured by snap.
2. All models are identical in electrical, mechanical, physical construction except for model number, front panel frame and Material of faceplate.
3. The original Test Report No. GT00120204-0091-E was issued dated on Aug. 23, 2024. Correction 1 to Report No. GT00120204-0091-E was made dated on Sep. 05, 2024 due to some editorial mistakes and detailed on P2.

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1 General description of test item(s)

Description	Fixed Flush Socket-outlet			
Model Number	K1.1A-041			
Serial Number	/			
Brand name	/			
Ports.....	Port name and description	Cable		
		Specified length [m]	Attached during test	Shielded
	/	/	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
Supplemental information to the ports	---			
Rated power supply	Voltage and Frequency	1ph/N/PE	3 ph/N/PE	
	<input checked="" type="checkbox"/> AC: 250V~ 50Hz	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	<input type="checkbox"/> DC:			
Rated Power	10.5W (USB)			
Protection Class.....	Class I			
Clock frequencies	<108MHz			
Other parameters.....	/			
Software version	/			
Hardware version.....	/			
Dimensions in cm (W x H x D)	/			
Mounting position.....	<input checked="" type="checkbox"/>	Table top equipment		
	<input type="checkbox"/>	Wall/Ceiling mounted equipment		
	<input type="checkbox"/>	Floor standing equipment		
	<input type="checkbox"/>	Hand-held equipment		
	<input type="checkbox"/>	Other:		
Modules/parts	Module/parts of test item	Type	Manufacturer	
	/	/	/	
Accessories (not part of the test item)	Accessory	Type	Manufacturer	
	/	/	/	
Documents as provided by the applicant	Description	File name	Issue date	
	/	/	/	
Modifications to the test item during testing	/			

2 Verdict summary section

IEC 61000-6-3:2020			
Clause	Requirement – Test case	Basic standard	Verdict
T1.1	Emission – Enclosure port Test facility: OATS or SAC 30 – 1000 MHz	CISPR 16-1-1:2019 CISPR 16-1-4:2019 CISPR 16-2-3:2016	P
T1.2	Emission – Enclosure port Test facility: FAR 30 – 1000 MHz	CISPR 16-1-1:2019 CISPR 16-1-4:2019 CISPR 16-2-3:2016	N/A
T1.3	Emission – Enclosure port Test facility: TEM Waveguide 30 – 1000 MHz	IEC 61000-4-20:2010	N/A
T1.4	Emission – Enclosure port Test facility: OATS, SAC or FAR 1 – 6 GHz	CISPR 16-1-1:2019 CISPR 16-1-4:2019 CISPR 16-2-3:2016	N/A
T2.1	AC-Mains Harmonics	IEC 61000-3-2:2018	N/A
T2.1	AC-Mains Harmonics	IEC 61000-3-12:2011	N/A
T2.1	AC-Mains Voltage fluctuations and flicker	IEC 61000-3-3:2013+A1:2017	P
T2.1	AC-Mains Voltage fluctuations and flicker	IEC 61000-3-11:2017	N/A
T2.1	Emission – Low voltage AC mains port 0,15 – 30 MHz	CISPR 16-1-1:2019 CISPR 16-2-1:2014	P
T2.1	Emission – Low voltage AC mains port 0,15 – 30 MHz Discontinuous interference	CISPR 14-1:2005 + A1:2008	N/A
T3.1	Emission – DC power port 0,15 – 30 MHz	CISPR 16-1-1:2019 CISPR 16-1-2:2014 CISPR 16-2-1:2014	N/A
T4.1	Emission – Telecommunications / network port 0,15 – 30 MHz	CISPR 32:2015	N/A
IEC 61000-6-1:2016			
Clause	Requirement – Test case	Basic standard	Verdict
T 1.1	Power frequency magnetic field – Enclosure port	IEC 61000-4-8:2009	N/A
T 1.2	Radio-frequency electromagnetic field. Amplitude modulated. – Enclosure port 80 – 1000 MHz	IEC 61000-4-3:2006 + A1 + A2	P
T 1.3	Radio-frequency electromagnetic field. Amplitude modulated. – Enclosure port 1.4 – 6 GHz	IEC 61000-4-3:2006 + A1 + A2	P
T 1.4	Electrostatic discharge – Enclosure port	IEC 61000-4-2:2008	P
T 2.1	Radio-frequency common mode – Signal ports	IEC 61000-4-6:2013	N/A
T 2.2	Surges – Signal ports	IEC 61000-4-5:2014 + A1	N/A
T 2.3	Fast transients – Signal ports	IEC 61000-4-4:2012	N/A
T 3.1	Radio-frequency common mode – Input and output DC power ports	IEC 61000-4-6:2013	N/A

T 3.2	Surges – Input and output DC power ports	IEC 61000-4-5:2014 + A1	N/A
T 3.3	Fast transients – Input and output DC power ports	IEC 61000-4-4:2012	N/A
T 4.1	Radio-frequency common mode – Input and output AC power ports	IEC 61000-4-6:2013	P
T 4.2	Voltage dips – Input and output AC power ports	IEC 61000-4-11:2004 + A1	P
T 4.3	Voltage interruptions – Input and output AC power ports	IEC 61000-4-11:2004 + A1	P
T 4.4	Surges – Input and output AC power ports	IEC 61000-4-5:2014 + A1	P
T 4.5	Fast transients – Input and output AC power ports	IEC 61000-4-4:2012	P
Supplementary information: ---			

3 Test conditions

3.1 General

Environmental reference conditions.....:	<p>The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.</p> <p>The climatic conditions during the tests were within the following limits:</p>		
	Temperature	Humidity	Atmospheric pressure
	15 °C – 35 °C	30 % - 60 %	800 hPa – 1060 hPa
	<p>If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.</p>		
Measurement uncertainties	<p>For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in CISPR 16-4-2, IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.</p> <p>In all cases if the test laboratory uncertainty is larger than the value for U_{CISPR} given in CISPR 16-4-2 the uncertainty is included in the test report annex.</p> <p>In case the standards in the IEC 61000-4 series or the product standard requires the indication of the uncertainty in the report these uncertainty values are included in the annex.</p>		

4 Emission

4.1 Enclosure / Electric field

Applied limit class.....:	<input type="checkbox"/>	Class A according to applied standard
	<input checked="" type="checkbox"/>	Class B according to applied standard
	<input type="checkbox"/>	Other:
Test set up description	<input checked="" type="checkbox"/>	Equipment on a table 80 cm height
	<input type="checkbox"/>	Equipment on the floor (isolated from groundplane)
	<input type="checkbox"/>	Other:
Supplementary test set up description.....:	---	
Test method applied.....:	<input checked="" type="checkbox"/>	OATS or SAC with measurement distance [3m]:
	<input type="checkbox"/>	FAR with measurement distance [m]:
	<input type="checkbox"/>	TEM Waveguide
	<input type="checkbox"/>	CDN(E) according to CISPR 15
Ambient Temperature..... :	22 °C / 22 °C (Before Test /After Test)	
Relative Humidity	56 % / 56 % (Before Test /After Test)	
Power Supply	230 V / 50 Hz	
Supplementary information	---	

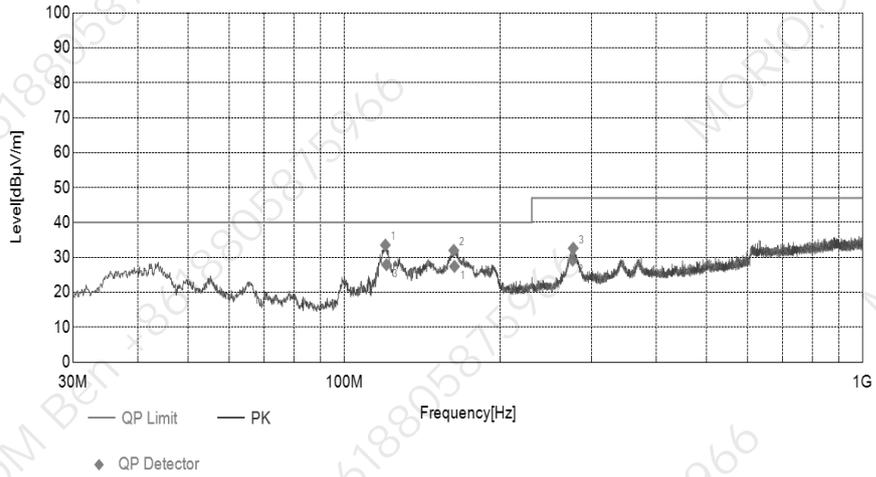
Test set-up photo



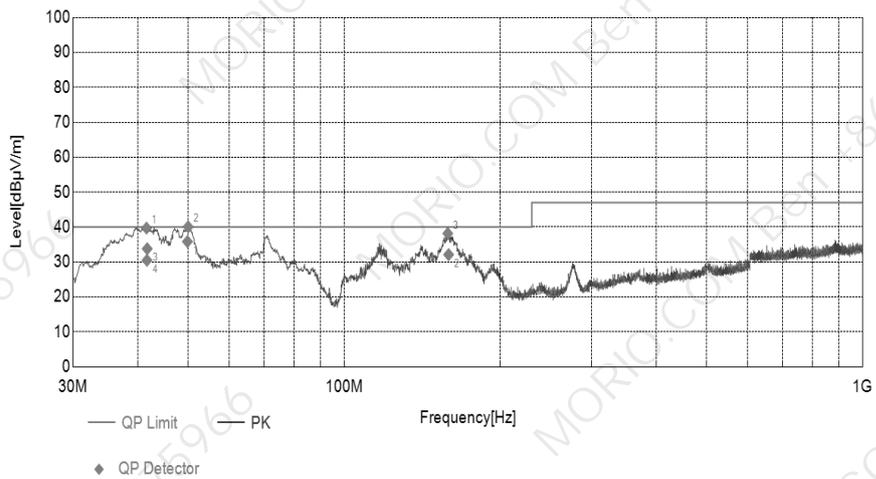
4.1.1	Table: Emission – Enclosure port 30 – 1000 MHz					
Operating mode	Connected to rated load, output: 5V $\overline{\text{---}}$ 2.1A.					
Frequency [MHz]	Polarisation	Height [cm]	Azimuth [°]	QP [dB μ V/m]		Margin [dB]
				Value	Limit	
163.1262	H	190	224	27.43	40.00	12.57
275.7357	H	130	145	29.22	47.00	17.78
120.6251	H	190	60	27.93	40.00	12.07
49.8256	V	130	334	35.84	40.00	4.16
158.9423	V	290	115	32.11	40.00	7.89
41.6726	V	220	98	33.79	40.00	6.21
41.6235	V	221	98	30.49	40.00	9.51
Supplementary information: 1)Where PK reading is less than relevant limit decrease 25dB, the QP reading will not be recorded. 2)The measurement uncertainty for Radiated Electromagnetic Disturbance from 30MHz to 1000MHz is 4.10dB.						
VERDICT: PASS						

4.1.2 Graphical presentation of the result

Scan Graph (Horizontal)



Scan Graph (Vertical)



Supplementary information: --

4.2 Emission – Low voltage AC mains port / Disturbance voltage

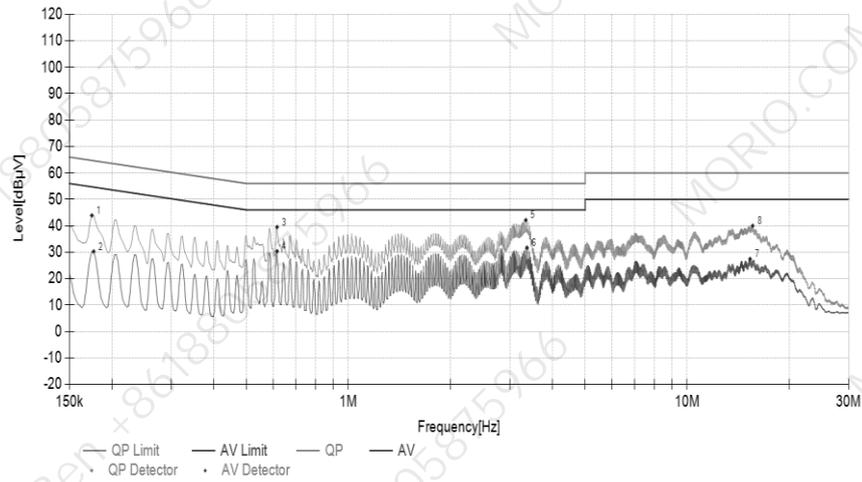
Applied limit class or environment	<input type="checkbox"/>	Class A according to applied standard
	<input checked="" type="checkbox"/>	Class B according to applied standard
	<input type="checkbox"/>	Other:
Test set-up description	<input checked="" type="checkbox"/>	Set-up Type A (40 cm distance to vertical ground plane, 80 cm over ground plane)
	<input type="checkbox"/>	Set-up Type B (40 cm distance to horizontal ground plane)
	<input type="checkbox"/>	Floor standing equipment set-up (10 cm over ground plane)
	<input type="checkbox"/>	Other:
	<input type="checkbox"/>	Artificial hand applied
Supplementary Test set-up description	---	
Test method applied	<input checked="" type="checkbox"/>	Artificial mains network
	<input type="checkbox"/>	Artificial mains network used as voltage probe
	<input type="checkbox"/>	Voltage probe
	<input type="checkbox"/>	CDN according to IEC 61000-4-6
	<input type="checkbox"/>	Current probe and capacitive voltage probe (CVP)
	<input type="checkbox"/>	ISN
	<input type="checkbox"/>	In situ CDN (150 Ohm and current probe)
	<input type="checkbox"/>	Other:
Ambient Temperature	22 °C / 22 °C (Before Test /After Test)	
Relative Humidity	56 % / 56 % (Before Test /After Test)	
Power Supply	230 V / 50 Hz	
Supplementary information	---	



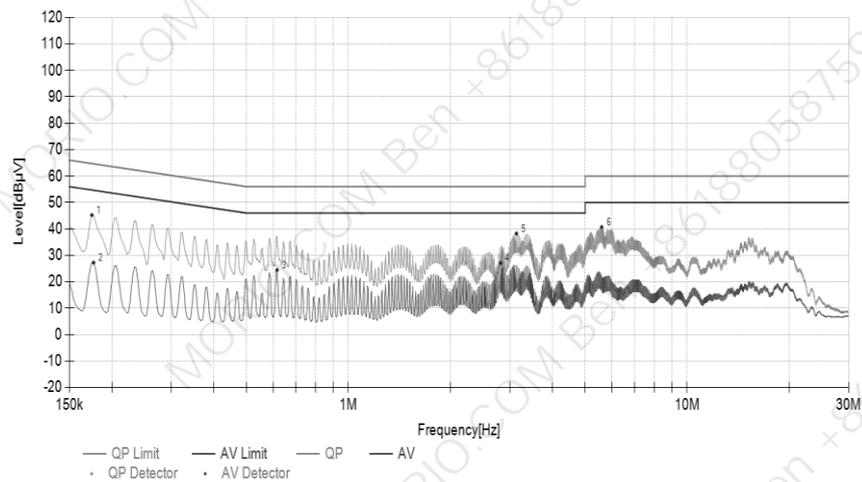
4.2.1		Table: Low voltage AC mains port / Disturbance voltage				
Operating mode		Connected to rated load,output: 5V $\overline{\underline{\underline{\square}}}$ 2.1A				
Terminal	Frequency [MHz]	QP [dB μ V]		Frequency [MHz]	AV [dB μ V]	
		Value	Limit		Value	Limit
L	15.6030	39.99	60.00	0.1770	30.29	54.63
L	0.6158	39.51	56.00	3.3675	31.72	46.00
L	0.1748	43.92	64.73	15.3398	27.46	50.00
L	3.3383	42.16	56.00	0.6158	30.37	46.00
N	5.5950	40.69	60.00	0.1770	27.26	54.63
N	0.1748	45.24	64.73	2.8118	27.16	46.00
N	3.1335	38.26	56.00	0.6158	24.48	46.00
Supplementary information: 1)Where PK reading is less than relevant limit decrease 25dB, the QP reading and AV reading will not be recorded. 2)Where QP reading is less than relevant AV limit, the AV reading will not be measured. 3)The measurement uncertainty for mains terminal disturbance voltage from 150kHz to 30MHz: 2.66dB						
VERDICT: PASS						

4.2.2 Graphical presentation of the result

Power line L



Power line N



Supplementary information: --

4.3 Emission – Low voltage AC mains port / Harmonics IEC 61000-3-2

Version of measurement instrument standard used IEC 61000-4-7 (Clause 7)	<input type="checkbox"/>	IEC 61000-4-7:1991
	<input checked="" type="checkbox"/>	IEC 61000-4-7:2002 + A1:2008
Operating modes of EUT	/	
Limit classification in accordance with the standard.....	<input checked="" type="checkbox"/>	Class A
	<input type="checkbox"/>	Class B
	<input type="checkbox"/>	Class C with power > 25 W
	<input type="checkbox"/>	Class C with power < 25 W Option a)
	<input type="checkbox"/>	Class C with power < 25 W Option b)
	<input type="checkbox"/>	Class D
Observation period.....	Description	Period selected T_{obs}
	<input type="checkbox"/> Quasi stationary	2.5 min
	<input type="checkbox"/> Short cyclic	$T_{obs} \geq 10$ cycles =
	<input type="checkbox"/> Random	$T_{obs} =$
	<input type="checkbox"/> Long cyclic	Full program cycle or 2.5 min. with highest THC $T_{obs} =$
Ambient Temperature.....	/ °C / / °C (Before Test /After Test)	
Relative Humidity	/ % / / % (Before Test /After Test)	
Power Supply	/ V / / Hz	
Supplementary information	---	

Results

4.3.1	Tabled representation of the harmonic currents as given by the measurement equipment						
Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
/							
Supplementary information:-- The rated power of EUT is less 75W, so this test item was not applied according to the standard.							
VERDICT: N/A							

4.4 Emission – Low voltage AC mains port / Voltage fluctuation and flicker

Operating modes of EUT	Connected to rated load, output: 5V $\overline{\underline{\quad}}$ 2.1A	
Test method.....	<input checked="" type="checkbox"/>	4.2.2 Flickermeter according IEC 61000-4-15
	<input type="checkbox"/>	4.2.3 Simulation
	<input type="checkbox"/>	4.2.4 Analytical method
	<input type="checkbox"/>	4.2.5 Use of $P_{st} = 1$ curve
Observation time selected	<input checked="" type="checkbox"/>	10 Minutes
	<input type="checkbox"/>	120 Minutes
	<input type="checkbox"/>	24 times switching according to annex B
Limit for dmax applied.....	<input checked="" type="checkbox"/>	4 %
	<input type="checkbox"/>	6 %
	<input type="checkbox"/>	7 %
Ambient Temperature.....	22 °C / 22 °C (Before Test /After Test)	
Relative Humidity	56 % / 56 % (Before Test /After Test)	
Power Supply	230 V / 50 Hz	
Supplementary information	--	

Test set-up photo.....



Results:

Connected to rated load,output:

Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.33		
T-max (mS):	0.0	Test limit (mS):	500.0 Pass
Highest dc (%):	0.00	Test limit (%):	3.30 Pass
Highest dmax (%):	-0.12	Test limit (%):	4.00 Pass
Highest Pst (10 min. period):	0.127	Test limit:	1.000 Pass
Highest Plt (2 hr. period):	0.055	Test limit:	0.650 Pass

5 Immunity

General information

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

Manufacturer defined performance criteria	Criterion	Description
	A	--
	B	--
	C	--
	Other:	--
Monitoring during the tests.....:	Visual inspection	

5.1 Radio-frequency electromagnetic field, amplitude modulated

Test set-up.....:	<input checked="" type="checkbox"/>	Equipment on the table (0,8 m height)
	<input type="checkbox"/>	Equipment standing on floor (0,05 – 0,15 m height)
Supplementary test set up description.....:	<p>The EUT was placed on a non-metallic turntable in the anechoic chamber.</p> <p>The test was normally performed with the generating antenna facing each of four sides of the EUT.</p> <p>The distance between the center of the turntable and the generating antenna was 3m.</p>	
Exposed side of EUT	<input checked="" type="checkbox"/>	0° (Front)
	<input checked="" type="checkbox"/>	90 °
	<input checked="" type="checkbox"/>	180 ° (Rear)
	<input checked="" type="checkbox"/>	270 °
Reason for not exposing a side ..:	--	
Distance Antenna to EUT.....:	3 m	
Step size [%]	1 %	
Performance criterion.....:	A	
Mains voltage / frequency during test.....:	230 V / 50 Hz	
Supplementary information.....:	--	



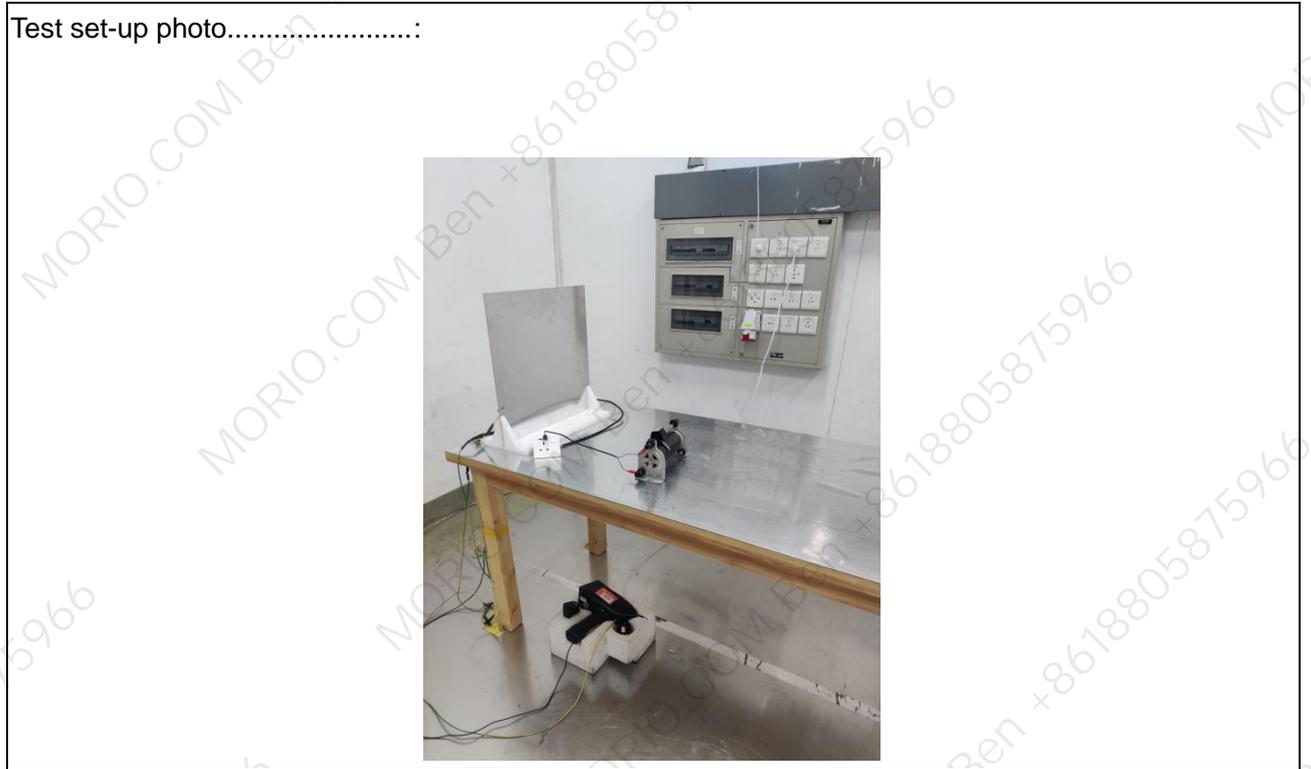
Test results for radiated electromagnetic field (Connected to rated load, output:)							
Direction of antenna	Rotation Degree of EUT	Voltage (r.m.s)	Freq. Range	Dwell Time	Modulation	Performance Criterion	Result
Horizontal	0°	3V/m	80~1000 MHz	3s	1kHz Sine Wave 80%AM	A	Pass
	90°						Pass
	180°						Pass
	270°						Pass
Vertical	0°	3V/m	80~1000 MHz	3s	1kHz Sine Wave 80%AM	A	Pass
	90°						Pass
	180°						Pass
	270°						Pass
Horizontal	0°	3V/m	1.4~6GHz	3s	1kHz Sine Wave 80%AM	A	Pass
	90°						Pass
	180°						Pass
	270°						Pass
Vertical	0°	3V/m	1.4~6GHz	3s	1kHz Sine Wave 80%AM	A	Pass
	90°						Pass
	180°						Pass
	270°						Pass
Supplementary information: ---							

Remark:

The EUT operated as intended during and after the test.

5.2 Electrostatic discharge (ESD)

Test set up	<input checked="" type="checkbox"/>	Table top equipment
	<input type="checkbox"/>	Floor standing equipment
	<input type="checkbox"/>	Wall or ceiling mounted equipment (Treated as table top)
Supplementary test set up description	The GRP is 2m x 2m and projects beyond the EUT at least 0.5m on each side. The distance between the EUT and all other conductive structures was more than 0.5m. The EUT was placed on a wooden table, 0.8m high, standing on the GRP.	
Size of horizontal coupling plate :	1.6 x 0.8 m	
Number of discharges	25 per discharge location	
Performance criterion	B	
Supplementary information	--	



Test results for electrostatic discharges (Connected to rated load, output:)						
No.	Location of discharge	Type	Polarity	Test level [kV]	Performance Criterion	Result
1	USB port	Con	P	4	B	Pass
2	USB port	Con	N	4	B	Pass
3	HCP	Con	P	4	B	Pass
4	HCP	Con	N	4	B	Pass
5	VCP	Con	P	4	B	Pass
6	VCP	Con	N	4	B	Pass
7	Around the EUT	Air	P	8	B	Pass
8	Around the EUT	Air	N	8	B	Pass
HCP = Horizontal coupling plate; VCP = Vertical coupling plate N= Negative; P= Positive Con= Conducted discharge; Air= Air discharge						
Supplementary information:						

Remark:

The EUT operated as intended during and after the test.

5.3 Radio-frequency common mode

Test set-up.....:	<input checked="" type="checkbox"/>	Equipment located (0,1 ± 0,05) m above ground plane
	<input type="checkbox"/>	Elevated ground plane according to Annex F
	<input type="checkbox"/>	Artificial hand applied. Location see photo.
	<input type="checkbox"/>	Medical equipment (Deviations of IEC 60601-1-2 considered)
Supplementary test set up description.....:	<p>The GRP is 2m 1m and projects beyond the EUT at least 0.1m on each side.</p> <p>The EUT was placed on a wooden table, 0.1m high, above the GRP.</p> <p>The distance between the EUT and all other conductive structures was more than 0.5m.</p> <p>The CDNs or the EM-clamp was placed at a distance between 0.1m and 0.3m from the projected geometry of the EUT on the GRP.</p>	
Modulation.....:	<input checked="" type="checkbox"/>	80 % AM with 1 kHz
	<input type="checkbox"/>	100 % PM with 222 Hz
	<input type="checkbox"/>	Other:
Step size.....:	1 %	
Performance criterion.....:	A	
Mains voltage / frequency during test.....:	250 V / 50 Hz	
Supplementary information.....:	--	



Test results for conducted disturbances, induced by radio-frequency fields (Connected to rated load, output:)						
Coupling Ports	Voltage (r.m.s)	Frequency Range	Dwell Time	Modulation	Performance Criterion	Result
AC Power Port	3V	0.15~80MHz	3s	1kHz Sine Wave 80%AM	A	Pass
DC Power Port	/		/			/
LAN Cable	/		/			/
Telecom Cable	/		/			/
Supplementary information:						

Remark:

The EUT operated as intended during and after the test.

5.4 Surges

Test set up description	The power cords between the EUT and the CDN were no more than 2m in length. 2Ω effective output impedance of the generator was used for L-N test. 12Ω effective output impedance of the generator was used for L-PE, N-PE test. 5 positive and 5 negative surges were applied successively synchronized to the voltage phase at 0°, 90°, 180°, 270° to L-N, L-PE, N-PE respectively. The repetition rate was 1 per minute.
Repetition rate.....	1 / min
Number of pulses for each coupling	5
Performance criterion.....	B
Supplementary information	--

Test set-up photo.....



Test results for surges (Connected to rated load, output:)							
Coupling Port	Coupling voltage	Performance Criterion	Coupling Phase/Result	Coupling Port	Coupling voltage	Performance Criterion	
			0°	90°	180°	270°	
AC Power Port L-N	+1kV	B	Pass	Pass	Pass	Pass	
	-1kV		Pass	Pass	Pass	Pass	
AC Power Port L-PE	+2kV		Pass	Pass	Pass	Pass	
	-2kV		Pass	Pass	Pass	Pass	
AC Power Port N-PE	+2kV		Pass	Pass	Pass	Pass	
	-2kV		Pass	Pass	Pass	Pass	
Supplementary information:							

Remark:

The EUT operated as intended during and after the test.

5.5 Fast transients

Test set-up.....:	<input checked="" type="checkbox"/>	Equipment on the table (0,1 ± 0,01) m above ground plane
	<input type="checkbox"/>	Equipment standing on floor at (0,1 ± 0,05) m above ground plane
	<input type="checkbox"/>	Artificial hand applied. Location see photo.
Supplementary test set up description.....:	<p>The GRP is 2m x 2m and projects beyond the EUT at least 0.1m on each side.</p> <p>The EUT was placed on a wooden support, 0.1m thick, above the GRP.</p> <p>The distance between the EUT and all other conductive structures was more than 0.5m.</p> <p>The duration of each test was 2 minutes.</p>	
Repetition frequency.....:	5 kHz	
Test time.....:	2 min	
Performance criterion.....:	B	
Supplementary information.....:	--	

Test set-up photo.....:



Test results fast transients (Connected to rated load, output:)					
Coupling Ports		Coupling Voltage	Repetition Rate	Performance Criterion	Result
AC Power Port	L	+1kV	5kHz	B	Pass
		-1kV			Pass
	N	+1kV			Pass
		-1kV			Pass
	PE	+1kV			Pass
		-1kV			Pass
Supplementary information: ---					

Remark:

The EUT operated as intended during and after the test.

5.6 Voltage dips, voltage interruptions

Test set up description	The interval between each dip/interruption was 10 s.
Repetition rate	10 s
Number of dips or interruptions ..	3
Performance criterion.....	B C
Supplementary information	--

Test set-up photo.....



Test results voltage dips and voltage interruptions (Connected to rated load, output:)						
Item	Test Level	Phase	Duration (periods in the rated frequency)	Test Numbers	Performance Criterion	Result
Voltage Dip	100%U _T →0 %U _T	0°	0.5	3	B	Pass
		180°	0.5	3		Pass
	100%U _T →0 %U _T	0°	1	3	B	Pass
		180°	1	3		Pass
	100%U _T → 70%U _T	0°	25	3	C	Pass
		180°	25	3		Pass
Voltage Interruption	100%U _T →0 %U _T	0°	250	3	C	Pass
		180°	250	3		Pass
Supplementary information: ---						

Remark:

The EUT operated as intended during and after the test.

Photo of the EUT

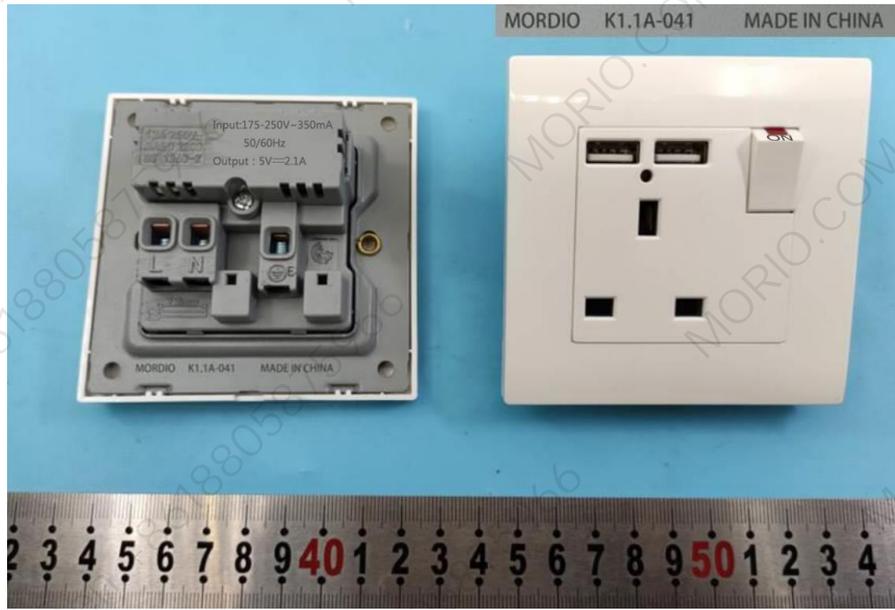


Photo 1 External view

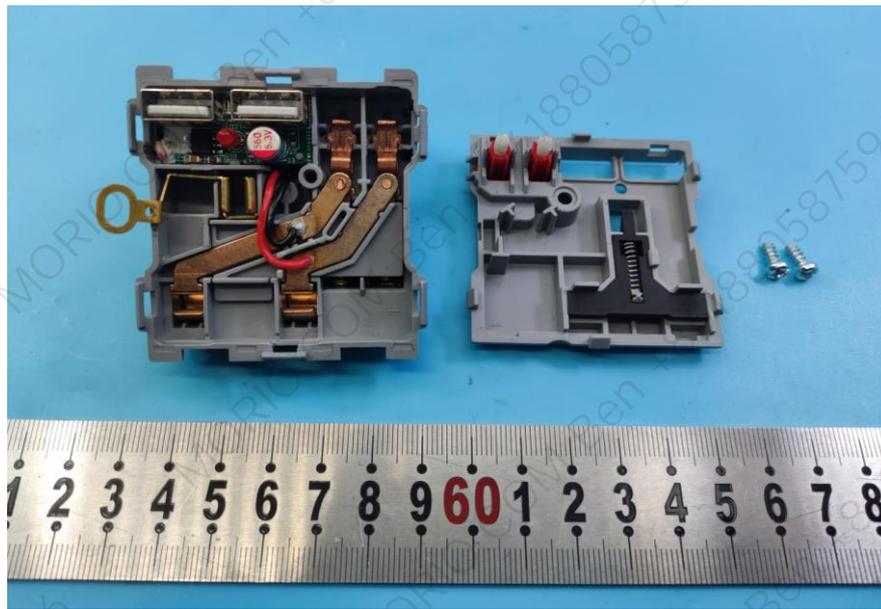


Photo 2 Internal view

Supplementary information:--

6 List of test equipment

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due	using	
Conducted emission						/	/
EMI Test Receiver	ESR3	102394	EM-000520	R&S	2025-01-14	√	
LISN	NSLK 8128	8128-316	VG DY-0149	SCHWARZBECK	2023-09-04	√	
Plus Limiter (#2)	VTSD 9561	9561-F017	VG DY-0152	SCHWARZBECK	2024-09-04	√	
Shielding Room(#2)	GP1A	002	WKNF-0006	LEINING	2024-08-08	√	
TS+ (#2)	JS32-CE 3.0.0.1	/	/	/	/	√	
Radiation emission						/	/
EMI Test Receiver (5M)	ESR7	102235	EM-000574	R&S	2025-01-14	√	
Broadband Antenna(5m)	VULB 9168	01537	EM-000736-1	SCHWARZBECK	2025-04-25	√	
Semi-Anechoic Chamber(5m)	SAC-5	SAC-5-2.0	EM-000557	COMTEST	2024-11-01	√	
TS+ (5m)	JS32-RE 5.0.0	/	/	/	/	√	
Harmonics, voltage flicker, voltage drop test system						/	/
45kVA Three-phase harmonic ,voltage flicker, drop test system	CCN1000-3/NS G2200-3/NSG1007	1404A01259	EM-000418-2	TESEQ	2025-01-14	√	
Win2100V4 (3-2-2020)	Version 4.30.0	/	/	/	/	√	
Single-phase harmonic and voltage flicker test system						/	/
5KVA single phase harmonic voltage flicker test system	PACS-1 5001iX	72674 58823	EM-000447 EM-000448	California Instruments	2025-06-30	√	
CTS 4	Version 4.31.0	/	/	/	/	√	
Electrostatic discharge							
ESD Generator	NSG437	1318	EM-000545	TESEQ	2024-11-12	√	
Pistol	V04.02	/	/	/	/	√	
Radio frequency electromagnetic field radiation immunity						/	/
Signal generator (Below 1G)	E4432B	MY43350242	EM-000441	Agilent	2024-11-09	√	
Signal generator (Above 1G)	SMB100A	104468	DZ-000332	R&S	2024-09-27	√	
Power amplifier (Below 1G)	CBA 9413A	9906	EM-000563	HAFFNER	2025-04-29	√	
Power amplifier (Above 1G)	NTWPA-106010 OE	18093197	EM-000544	RFLIGHT	2024-11-09	√	
Stack LPDA (Below 1G)	STLP 9128E	9128E-052	EM-000561	SCHWARZBECK	2025-06-02	√	
Stack LPDA (Above 1G)	STLP 9149	390	EM-000375	SCHWARZBECK	2025-06-02	√	
Power meter	4232A	41001	EM-000033	BOONTON	2024-11-09	√	
IM5/RS	Version 7.2.110	/	/	/	/	√	
Surge and EFT test system						/	/
Surge and EFT generator	NSG3060	1376	EM-000337	TESEQ	2025-01-03	√	
Surge and EFT CDN	CDN3063	1994	EM-000337	TESEQ	2025-01-03	√	
WIN 3000	0002.11	/	/	/	/	√	
Immunity to conducted disturbances induced by RF fields						/	/
C/S test generator	N5171B	MY59101555	EM-000614-1	KEYSIGHT	2025-01-03	√	
CDN(singlephase)	M016	26143	EM-000300	TESEQ	2025-05-06	√	
ATT(6dB)	59-6-33	SQ914	EM-000551	Weinschel	2024-12-04	√	
IM5/CS	Version 7.8.1	/	/	/	/		

7 Annex

7.1 Critical components table

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/