EMC TEST REPORT

For

CHROMATEQ SARL

DIN-E

Test Model: DIN-E 1024

Additional Model No.: Please Refer to Page 9

Prepared for	:	CHROMATEQ SARL
Address	:	191 Allee de Lauzard – Bat B, Rdc 1, 34980 St Gely du Fesc
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
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Web	:	www.lcs-cert.com
Mail	:	webmaster@lcs-cert.com
Date of receipt of test sample	:	December 8, 2023
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	December 8, 2023 to December 14, 2023
Date of Report	:	December 14, 2023

CE

TEST REPORT

Report No.	:	**LCSA12073085E**
Date of Issue	:	December 14, 2023
Testing Laboratory Name	:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	:	**CHROMATEQ SARL**
Address	:	191 Allee de Lauzard – Bat B, Rdc 1, 34980 St Gely du Fesc
Test Specification		
Standard	:	EN 55032:2015/A1:2020 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021 EN 55035:2017/A11:2020
Test Report Form No.	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	:	**DIN-E**
Trade Mark	:	N/A
Test Model	:	DIN-E 1024
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Jelly Li	Baron Wen	
Jelly Li / File Administrator	Baron Wen / Technique principal	Gavin Liang / Manager

TEST REPORT

Test Report No.: LCSA12073085E	December 14, 2023 Date of issue

Test Model	:	**DIN-E 1024**
EUT	:	DIN-E
Applicant	:	**CHROMATEQ SARL**
Address	:	191 Allee de Lauzard – Bat B, Rdc 1, 34980 St Gely du Fesc
Telephone	:	/
Fax	:	/
Manufacturer	:	**CHROMATEQ SARL**
Address	:	191 Allee de Lauzard – Bat B, Rdc 1, 34980 St Gely du Fesc
Telephone	:	/
Fax	:	/
Factory	:	**CHROMATEQ SARL**
Address	:	191 Allee de Lauzard – Bat B, Rdc 1, 34980 St Gely du Fesc
Telephone	:	/
Fax	:	/

Test Result	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	December 14, 2023	Initial Issue	/

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Test Report Description Page

1. TEST STANDARDS

The tests were performed according to following standards:

EN 55032:2015/A1:2020: Electromagnetic compatibility of multimedia equipment - Emission requirements

EN IEC 61000-3-2:2019/A1:2021: Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16A per phase)

EN 61000-3-3:2013/A2:2021: 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 ≤ 16A per phase and not subject to conditional connection

EN 55035:2017/A11:2020: Electromagnetic compatibility of multimedia equipment - Immunity requirements.

2. SUMMARY OF STANDARDS AND RESULTS

2.1 Description of Standards and Results

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

Description of Test Item	Standard	Limits	Result
Conducted emissions from AC mains power ports (150kHz-30MHz)	EN 55032:2015/A1:2020	Class B	Pass
Radiated emissions (30MHz-1GHz)	EN 55032:2015/A1:2020	Class B	Pass
Harmonic current emission	EN IEC 61000-3-2:2019/A1:2021	Class A	N/A
Voltage fluctuations and flicker	EN 61000-3-3:2013/A2:2021	EN 61000-3-3, Clause 4	Pass
Electrostatic discharges	EN 55035:2017/A11:2020	Contact Discharge: +/-4kV Air Discharge: +/- 8kV	Pass
RF electromagnetic field disturbances	EN 55035:2017/A11:2020	3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical fast transients / burst for AC mains power ports	EN 55035:2017/A11:2020	1kV; 5/50ns Tr/Th; 5kHz Repetition Frequency	Pass
Surges for AC mains power ports	EN 55035:2017/A11:2020	1.2/50μs Tr/Td; 1kV Line to Line	Pass
Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)	EN 55035:2017/A11:2020	0,15 to 10MHz 3Vrms (emf), 10 to 30MHz 3V to 1Vrms(emf), 30 to 80MHz 1Vrms(emf), 80%,1kHz Amp. Mod.	Pass
Voltage dips and interruptions	EN 55035:2017/A11:2020	<5% residual voltage for 0.5 periods: B, 70% residual voltage for 25 periods: C, <5% residual voltage for 250 periods: C	Pass

2.2 Description of Test Modes

No	Title	Description
TM1	Working（DC 5V From USB Host Unit)	Record

2.3 Description of Performance Criteria

General Performance Criteria

Performance Criteria 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.
Performance Criteria 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.
Performance Criteria 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.

3. GENERAL INFORMATION

3.1 Description of Device (EUT)

EUT	: DIN-E
Test Model	: DIN-E 1024
Additional Model No.	: DIN-E 2048, DIN-E 512
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Power Supply	: INPUT:DC5-24V, 0.2A
Highest Internal Frequency	: f ≤ 108MHz
Classification of Equipment	: Class B

3.2 Support equipment List

The EUT was tested as an independent device.

3.3 Description of Test Facility

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

3.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emission (150kHz to 30MHz)	± 2.35 dB
Radiated Emission (30MHz to 1000MHz)	± 3.48 dB
Voltage Fluctuations & Flicker	± 0.510%
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

4. MEASURING DEVICES AND TEST EQUIPMENT

Conducted emissions from AC mains power ports (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
EMI Test Software	Farad	EZ	/	/	/
Artificial Mains	R&S	ENV216	101288	2023-06-09	2024-06-08
Pulse Limiter	R&S	ESH3-Z2	102750-NB	2023-08-15	2024-08-14
EMI Test Receiver	R&S	ESR3	102312	2023-02-25	2024-02-24

Radiated emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
EMI Test Software	Farad	EZ	/	/	/
EMI Test Software	AUDIX	E3	/	/	/
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
EMI Test Receiver	R&S	ESR3	102311	2023-08-15	2024-08-14
Broadband Preamplifier	/	BP-01M18G	P190501	2023-06-09	2024-06-08
EMI Test Receiver	R&S	ESCI7	101173	2023-10-25	2024-10-24
By-log Antenna	SchwarzZBECK	VULB9163	01428	2023-09-05	2024-09-04

Voltage fluctuations and flicker					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
HARMONICS&FLICKER MEASUREMENT SYSTEM	EVERFINE	HFM-3000	P630850CD1411116	2023-02-25	2024-02-24
HARMONICS&FLICKER TESTING POWER SOURCE	EVERFINE	HFS-4000	P624486CD14111124	2023-02-25	2024-02-24

Electrostatic discharges					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
ESD Simulator	SCHLODER	SESD 230	604035	2023-07-17	2024-07-16

RF electromagnetic field disturbances					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
MXG Vector Signal Generator	Agilent	E4438C	MY42081396(6G)	2023-06-09	2024-06-08
RF POWER AMPLIFIER	SKET	HAP_0306G-50W	/	2023-06-09	2024-06-08
RF POWER AMPLIFIER	OPHIR	5225R	1052	2023-06-09	2024-06-08
RF POWER AMPLIFIER	OPHIR	5273F	1019	2023-06-09	2024-06-08
Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	/	/
Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-484	/	/
RS Electric field probe	narda	EP601	611WX80208	2023-06-09	2024-06-08

Electrical fast transients / burst for AC mains power ports					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
Electric fast pulse group generator	3ctest	EFT-4001G	EC0461044	2023-10-18	2024-10-17
Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2023-08-15	2024-08-14

Surges for AC mains power ports					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2023-08-15	2024-08-14

Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
Simulator	FRANKONIA	CIT-10/75	A126A1195	2023-08-15	2024-08-14
CDN	FRANKONIA	CDN-M2+M3	A2210177	2023-06-09	2024-06-08
6dB Attenuator	FRANKONIA	DAM25W	1172040	2023-06-09	2024-06-08

Voltage dips and interruptions					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2023-06-09	2024-06-08

5. EVALUATION RESULTS (EVALUATION)

5.1 Harmonic current emission

Test Requirement:	Class A
Test Limit:	Not specified
Test Method:	EN IEC 61000-3-2:2019+A1:2021

5.1.1 Conclusion:

Refer to EN IEC 61000-3-2 clause 7.1:
"For the following categories of equipment, limits are not specified in this document:
– lighting equipment with a rated power less than but not equal to 5 W;
– equipment with a rated power of 75 W or less, other than lighting equipment;"
Since the rated power of the EUT is less than above described, it is deemed to comply with the requirement.

6. EMISSION TEST RESULTS (EMI)

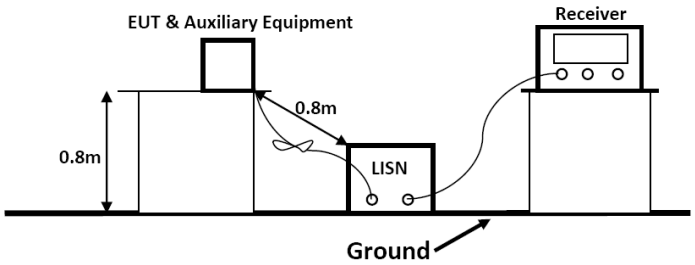
6.1 Conducted emissions from AC mains power ports (150kHz-30MHz)

Test Requirement:	Class B
Test Limit:	**Frequency Range** / **Limit (Quasi-Peak)** / **Limit (Average)** 0.15MHz to 0.5MHz / 66dB(μV) to 56dB(μV) / 56dB(μV) to 46dB(μV) 0.5MHz to 5MHz / 56dB(μV) / 46dB(μV) 5MHz to 30MHz / 60dB(μV) / 50dB(μV) Detector: / Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz
Test Method:	Clause 7 of CISPR 16-2-1:2014/AMD1:2017
Procedure:	An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

6.1.1 E.U.T. Operation:

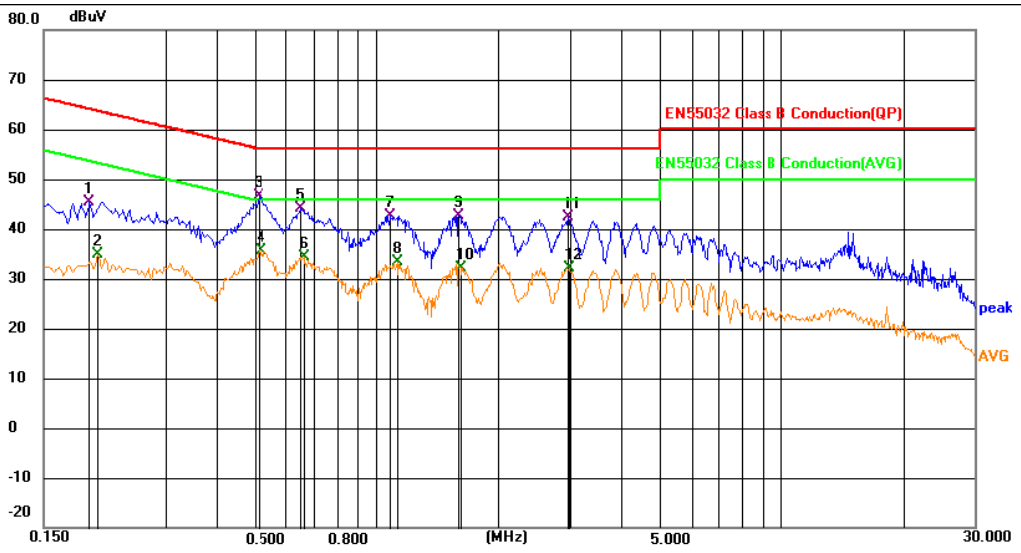
Operating Environment:			
Temperature:	23.5 °C	Humidity:	53.6 %
Pre test mode:	TM1		
Final test mode:	TM1		

6.1.2 Test Setup Diagram:



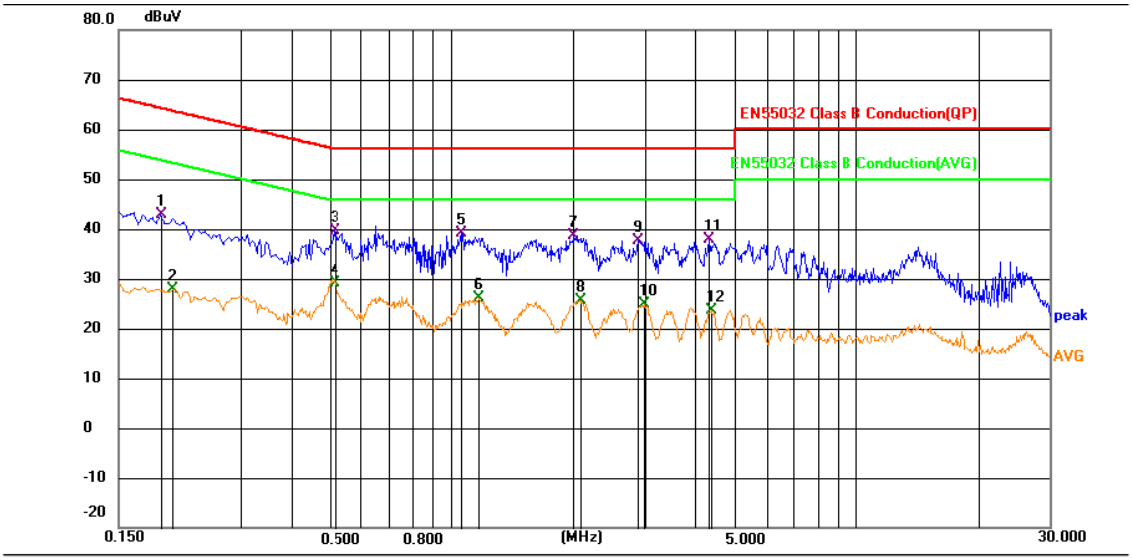
6.1.3 Test Data:

TM1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1951	25.32	20.17	45.49	63.82	-18.33	QP	
2		0.2041	14.68	20.16	34.84	53.44	-18.60	AVG	
3	*	0.5101	26.31	20.20	46.51	56.00	-9.49	QP	
4		0.5191	15.47	20.19	35.66	46.00	-10.34	AVG	
5		0.6496	24.00	20.09	44.09	56.00	-11.91	QP	
6		0.6631	14.26	20.09	34.35	46.00	-11.65	AVG	
7		1.0771	22.56	20.14	42.70	56.00	-13.30	QP	
8		1.1266	13.15	20.14	33.29	46.00	-12.71	AVG	
9		1.5945	22.58	20.17	42.75	56.00	-13.25	QP	
10		1.6126	12.00	20.17	32.17	46.00	-13.83	AVG	
11		2.9671	21.94	20.33	42.27	56.00	-13.73	QP	
12		2.9806	11.76	20.34	32.10	46.00	-13.90	AVG	

TM1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1906	22.83	20.04	42.87	64.01	-21.14	QP	
2		0.2041	7.77	20.06	27.83	53.44	-25.61	AVG	
3	*	0.5101	19.91	19.75	39.66	56.00	-16.34	QP	
4		0.5146	9.32	19.77	29.09	46.00	-16.91	AVG	
5		1.0590	19.14	20.09	39.23	56.00	-16.77	QP	
6		1.1670	6.03	20.11	26.14	46.00	-19.86	AVG	
7		2.0040	18.39	20.25	38.64	56.00	-17.36	QP	
8		2.0805	5.43	20.25	25.68	46.00	-20.32	AVG	
9		2.8906	17.41	20.19	37.60	56.00	-18.40	QP	
10		2.9806	4.66	20.18	24.84	46.00	-21.16	AVG	
11		4.3216	17.77	20.00	37.77	56.00	-18.23	QP	
12		4.3756	3.71	19.99	23.70	46.00	-22.30	AVG	

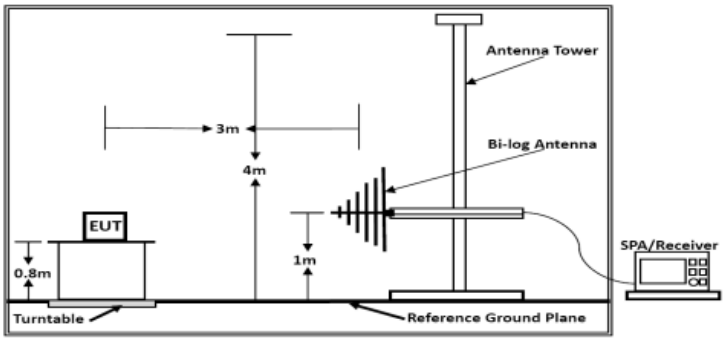
6.2 Radiated emissions (30MHz-1GHz)

Test Requirement:	Class B
Test Limit:	**Frequency (MHz)** / **Limit [dB(uV/m) at 10m]** / **Limit [dB(uV/m) at 3m]** 30 to 230 / 30 / 40 230 to 1000 / 37 / 47 Detector: / Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz
Test Method:	Clause 7.3 of CISPR 16-2-3:2016
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

6.2.1 E.U.T. Operation:

Operating Environment:			
Temperature:	26.4 °C	Humidity:	54.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

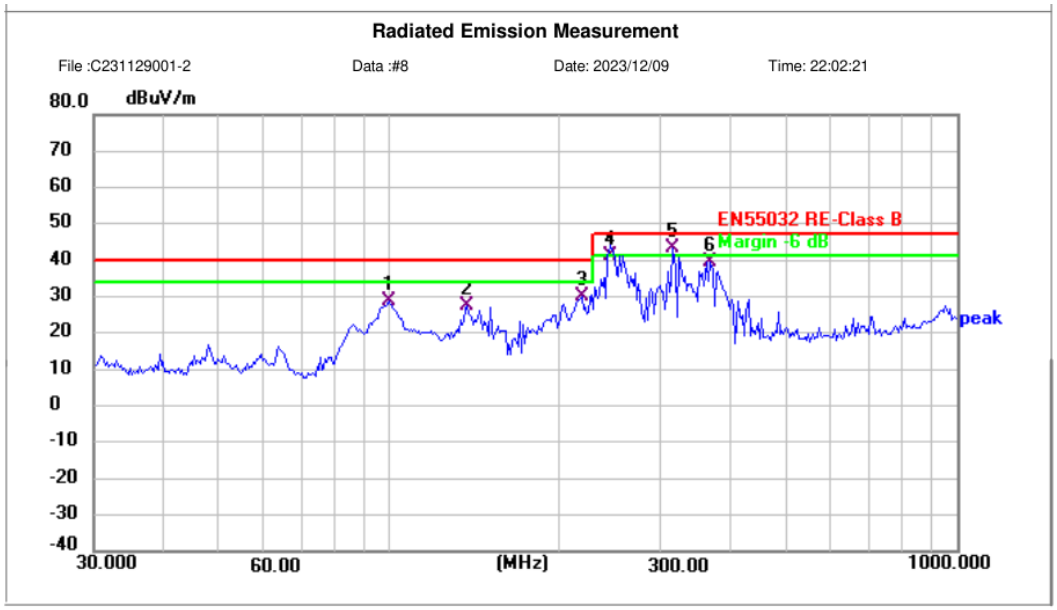
6.2.2 Test Setup Diagram:



Below 1GHz

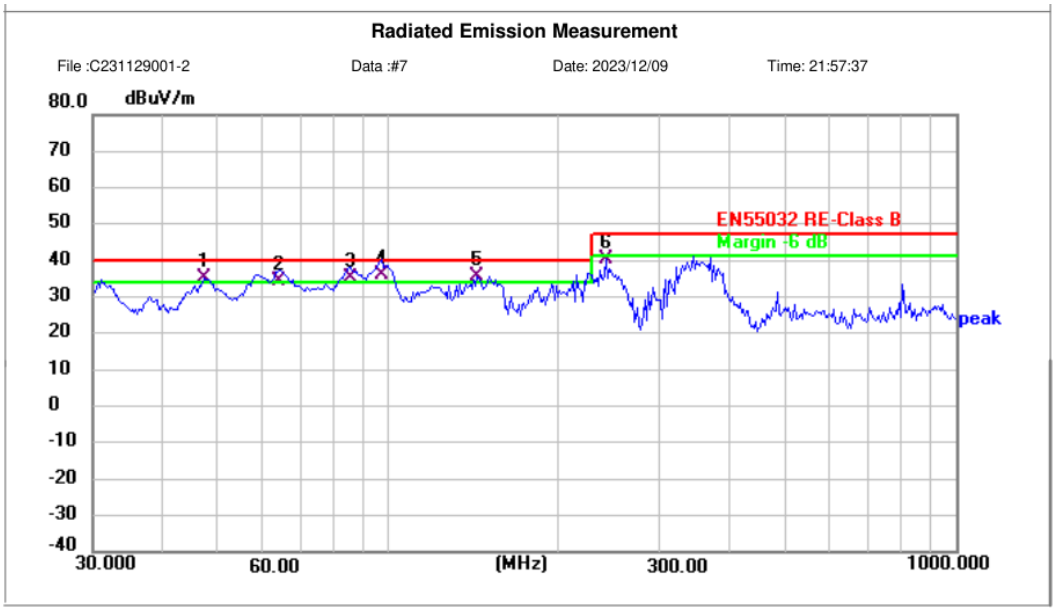
6.2.3 Test Data:

TM1 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	99.7676	47.10	-18.24	28.86	40.00	-11.14	QP			P	
2	136.8747	49.46	-21.84	27.62	40.00	-12.38	QP			P	
3	217.6437	47.60	-17.46	30.14	40.00	-9.86	QP			P	
4 !	245.2606	57.83	-16.78	41.05	47.00	-5.95	QP			P	
5 *	315.8601	58.60	-15.38	43.22	47.00	-3.78	QP			P	
6	366.0866	54.20	-14.55	39.65	47.00	-7.35	QP			P	

TM1 / Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 !	47.0370	50.98	-15.90	35.08	40.00	-4.92	QP			P	
2 !	64.0800	52.91	-18.60	34.31	40.00	-5.69	QP			P	
3 !	85.4768	56.12	-20.84	35.28	40.00	-4.72	QP			P	
4 *	97.0023	54.63	-18.73	35.90	40.00	-4.10	QP			P	
5 !	142.7691	57.39	-21.80	35.59	40.00	-4.41	QP			P	
6	241.8377	57.31	-16.87	40.44	47.00	-6.56	QP			P	

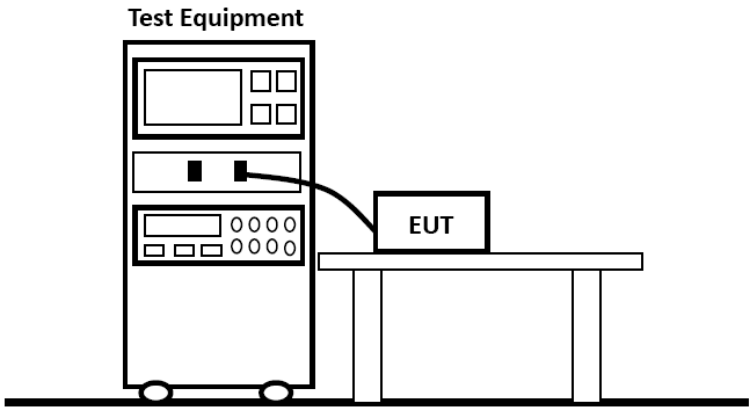
6.3 Voltage fluctuations and flicker

Test Requirement:	EN 61000-3-3, Clause 4
Test Limit:	EN 61000-3-3, Clause 5
Test Method:	EN 61000-3-3:2013+A2:2021

6.3.1 E.U.T. Operation:

Operating Environment:			
Temperature:	25 °C	Humidity:	55 %
Pre test mode:	TM1		
Final test mode:	TM1		

6.3.2 Test Setup Diagram:

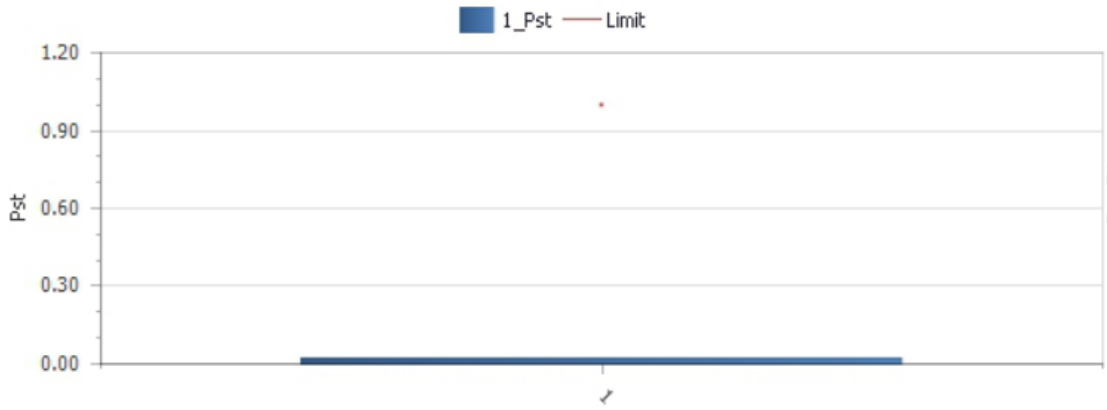


6.3.3 Test Data:

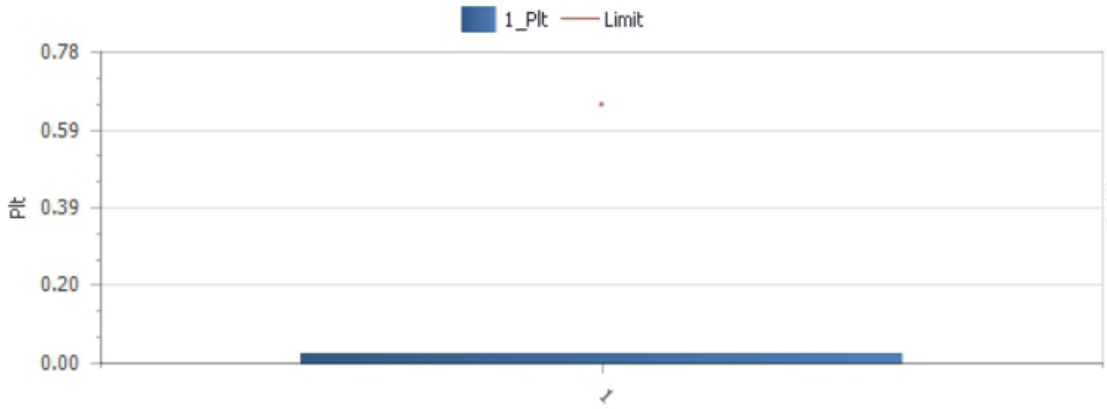
TM1

Customer : xxx Result : Pass

Pst and Limit



Plt and Limit



Relevant Parameter and Judgement During Test Period

Vrms at the end of test(V)	220.04			
Error Max(%)		Test Limit(%)		
T-max(ms)	0.00	Test Limit(ms)	500	Pass
dc(%)	0.00	Test Limit(%)	3.30	Pass
dmax(%)	0.00	Test Limit(%)	4.00	Pass
Pst	0.023	Test Limit	1.000	Pass
Plt	0.023	Test Limit	0.650	Pass

7. IMMUNITY TEST RESULTS (EMS)

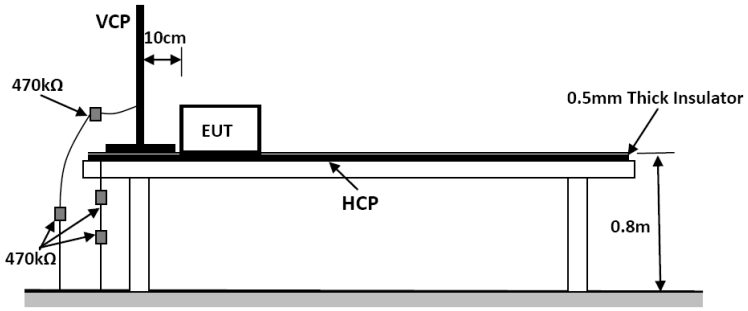
7.1 Electrostatic discharges

Test Requirement:	Contact Discharge: +/- 4kV Air Discharge: +/- 8kV
Test Method:	EN 61000-4-2: 2009
Procedure:	Discharge Impedance: 330Ω/150pF Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	B

7.1.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.1.2 Test Setup Diagram:



7.1.3 Test Data:

Discharge type	Volt (kV)	Polarity	Test Point	Result/ Observations
Air discharge	2,4,8	+	10	B
Air discharge	2,4,8	-	10	B
Contact discharge	4	+	10	B
Contact discharge	4	-	10	B
Horizontal Coupling	4	+	10	B
Horizontal Coupling	4	-	10	B
Vertical Coupling	4	+	10	B
Vertical Coupling	4	-	10	B

A: No degradation in the performance of the EUT was observed.

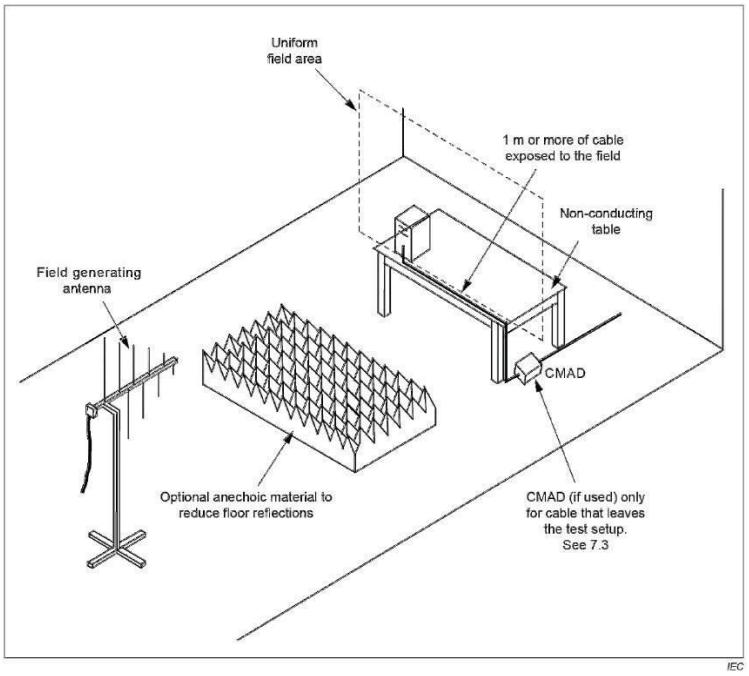
7.2 RF electromagnetic field disturbances

Test Requirement:	3V/m, 80%, 1kHz Amp. Mod.
Test Method:	EN IEC 61000-4-3: 2020
Procedure:	Frequency Range: 80MHz to 1GHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz,80% Amp. Mod,1% increment
Performance Criteria:	A

7.2.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.2.2 Test Setup Diagram:



7.2.3 Test Data:

Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-1GHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
1800MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
2600MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
3500MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
5000MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A

A: No degradation in the performance of the EUT was observed.

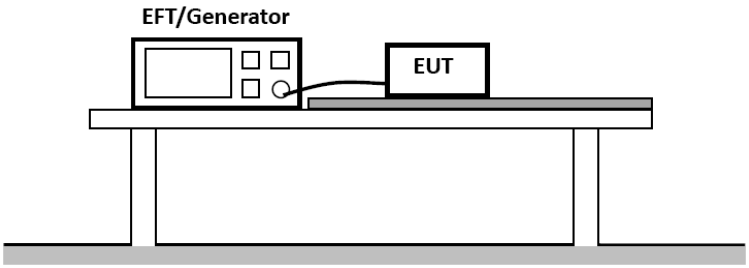
7.3 Electrical fast transients / burst for AC mains power ports

Test Requirement:	1kV; 5/50ns Tr/Th; 5kHz Repetition Frequency
Test Method:	EN 61000-4-4: 2012
Procedure:	Repetition Frequency: 5kHz Burst Period: 300ms Test Duration: 2 minute per level & polarity
Performance Criteria:	B

7.3.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.3.2 Test Setup Diagram:



7.3.3 Test Data:

Port	Volt (kV)	Polarity	CDN/ Clamp	Result/ Observations
AC power port	1	+	CDN	B
AC power port	1	-	CDN	B

A: No degradation in the performance of the EUT was observed.

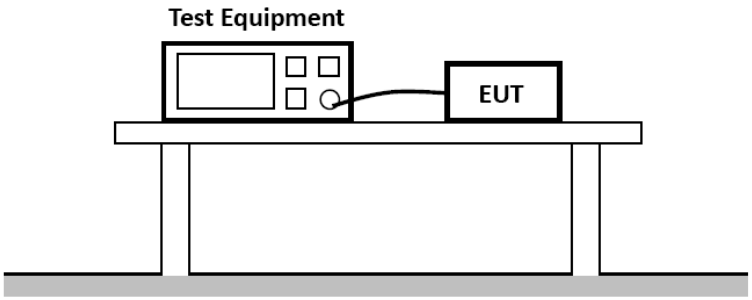
7.4 Surges for AC mains power ports

Test Requirement:	1.2/50μs Tr/Td; 1kV Line to Line
Test Method:	EN 61000-4-5: 2014 +A1: 2017
Procedure:	Interval: 60s between each surge No. of surges: 5 positive, 5 negative at 90°, 270°
Performance Criteria:	B

7.4.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.4.2 Test Setup Diagram:



7.4.3 Test Data:

Port	Volt (kV)	Polarity	Phase(degree)	Result/ Observations
L-N	1	+	90°	B
L-N	1	-	270°	B

A: No degradation in the performance of the EUT was observed.

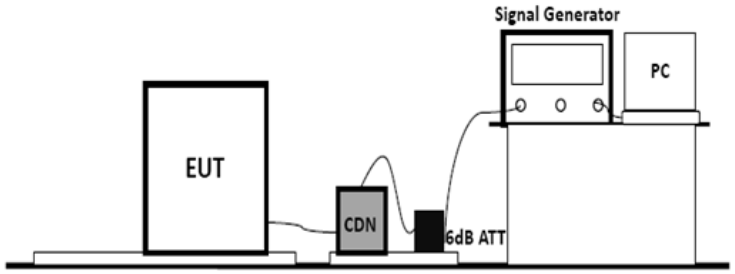
7.5 Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)

Test Requirement:	0,15 to 10MHz 3Vrms (emf), 10 to 30MHz 3V to 1Vrms(emf), 30 to 80MHz 1Vrms(emf), 80%,1kHz Amp. Mod.
Test Method:	EN 61000-4-6: 2014
Procedure:	Frequency Range: 0.15MHz to 80MHz Modulation: 80%, 1kHz Amplitude Modulation Step Size: 1%
Performance Criteria:	A

7.5.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.5.2 Test Setup Diagram:



7.5.3 Test Data:

Port	Strength (Vrms)	CDN/Clamp	Dwell time	Result/ Observations
AC power port	3(0.15MHz-10MHz)	CDN	3s	A
AC power port	3 to 1(10MHz-30MHz, Lines)	CDN	3s	A
AC power port	1(30MHz-80MHz)	CDN	3s	A

A: No degradation in the performance of the EUT was observed.

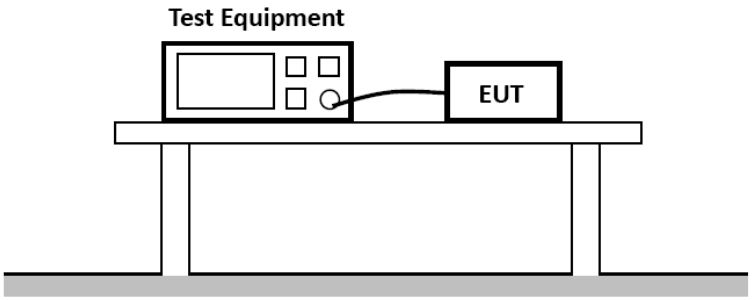
7.6 Voltage dips and interruptions

Test Requirement:	<5% residual voltage for 0.5 periods 70% residual voltage for 25 periods <5% residual voltage for 250 periods
Test Method:	EN IEC 61000-4-11:2020
Procedure:	<5% residual voltage for 0.5 period 70% residual voltage for 25 period <5% residual voltage for 250 period No. of Dips / Interruptions: 3 per Level Time between dropout: 10s
Performance Criteria:	B, C

7.6.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.1 °C	Humidity:	52.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

7.6.2 Test Setup Diagram:



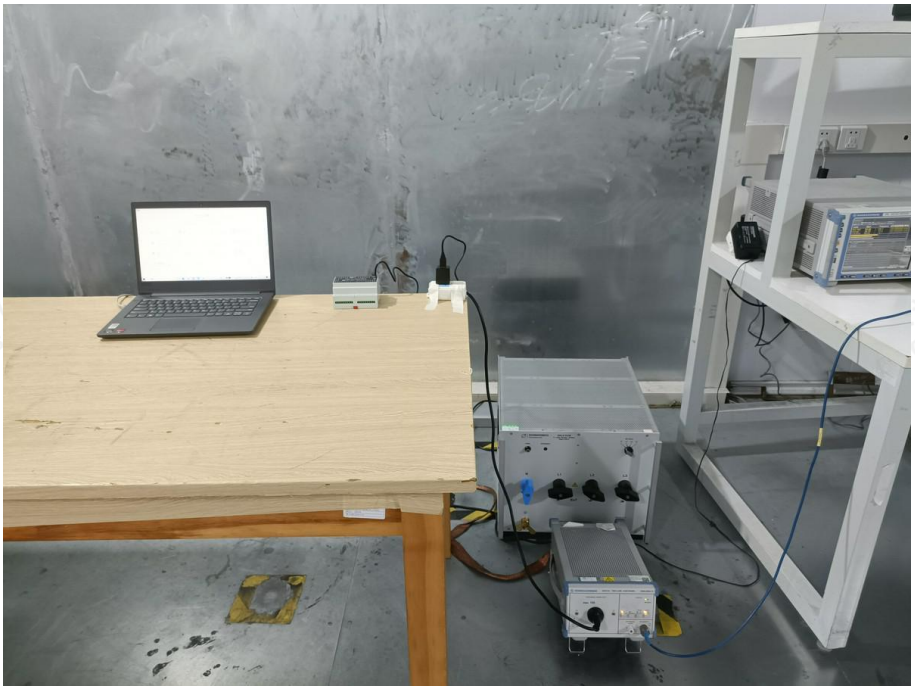
7.6.3 Test Data:

Level %UT	Phase (degree)	Duration	No. of Dips/ Interruptions	Result/ Observations
0	0°	0.5 Cycles	3	B
0	0°	250 Cycles	3	B
70	0°	25 Cycles	3	C
0	0°	0.5 Cycles	3	C
0	0°	300 Cycles	3	C
70	0°	30 Cycles	3	C

A: No degradation in the performance of the EUT was observed.

8. TEST SETUP PHOTOS

Conducted emissions from AC mains power ports (150kHz-30MHz)



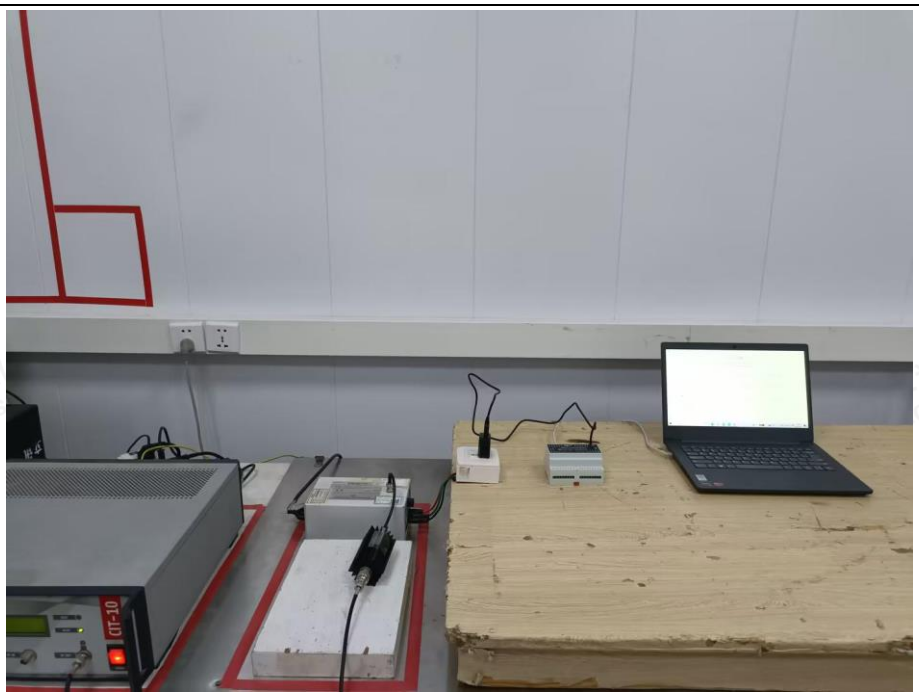
Radiated emissions (30MHz-1GHz)

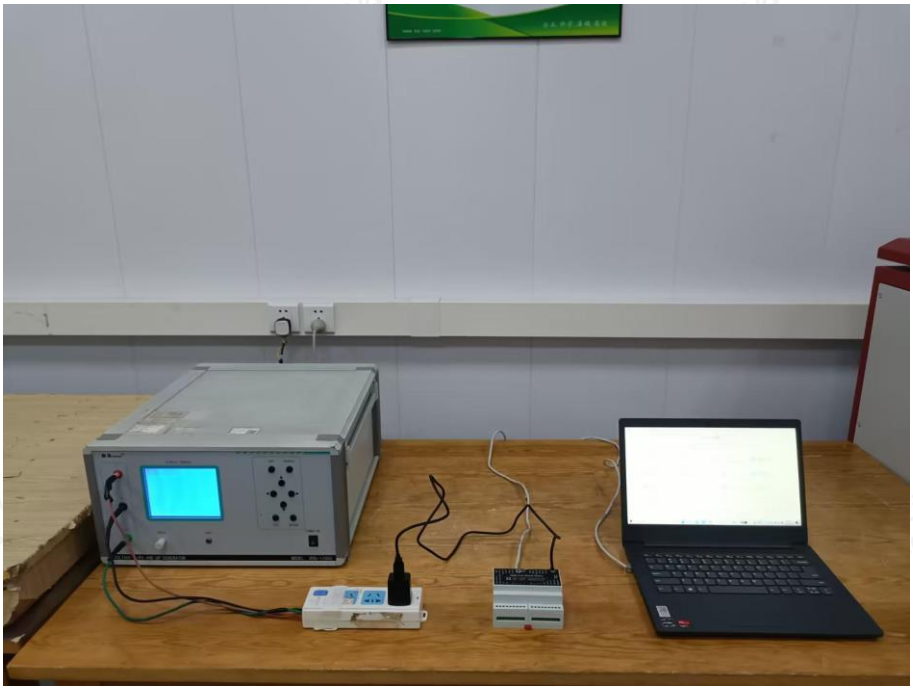
Voltage fluctuations and flicker


Electrostatic discharges


RF electromagnetic field disturbances

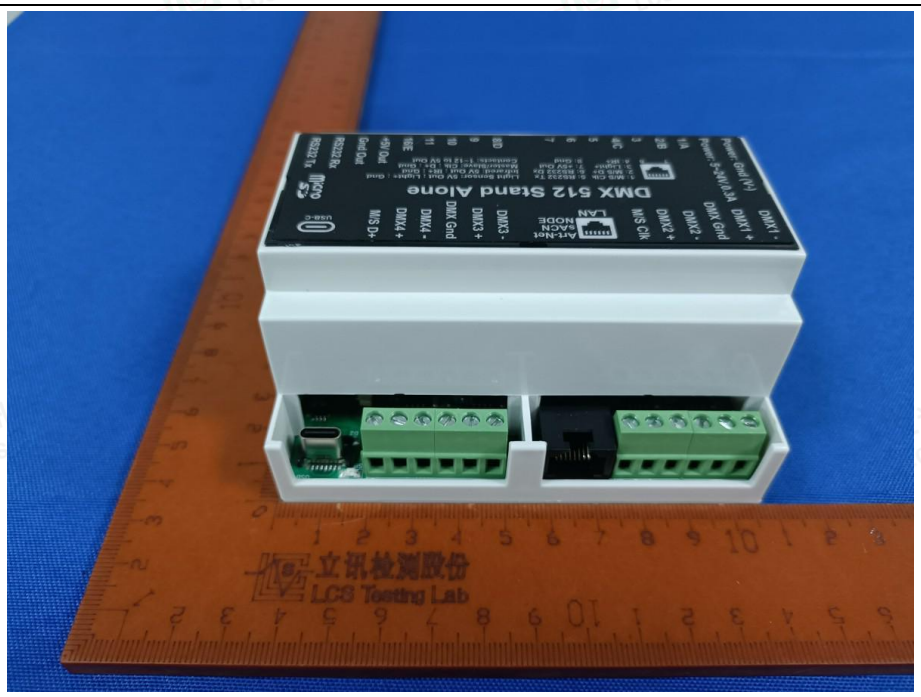
Electrical fast transients / burst for AC mains power ports
Surges for AC mains power ports

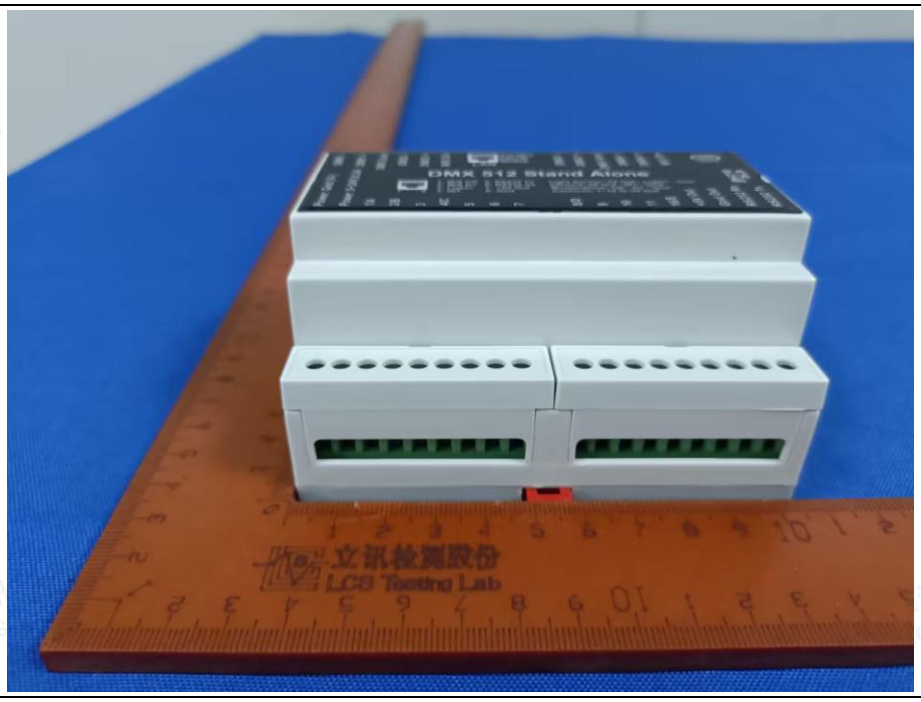
Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)


Voltage dips and interruptions


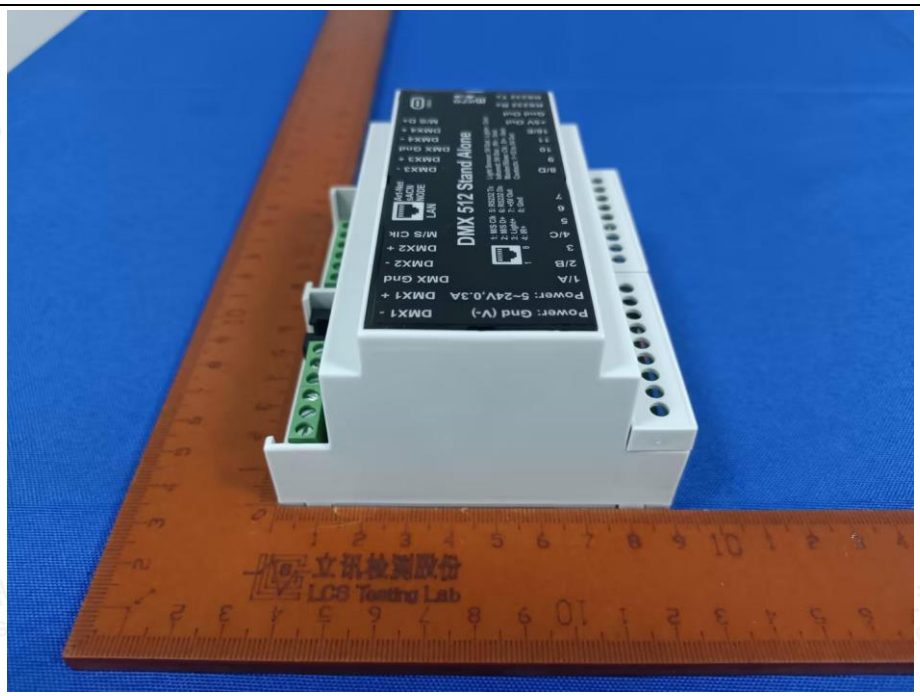
9. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)

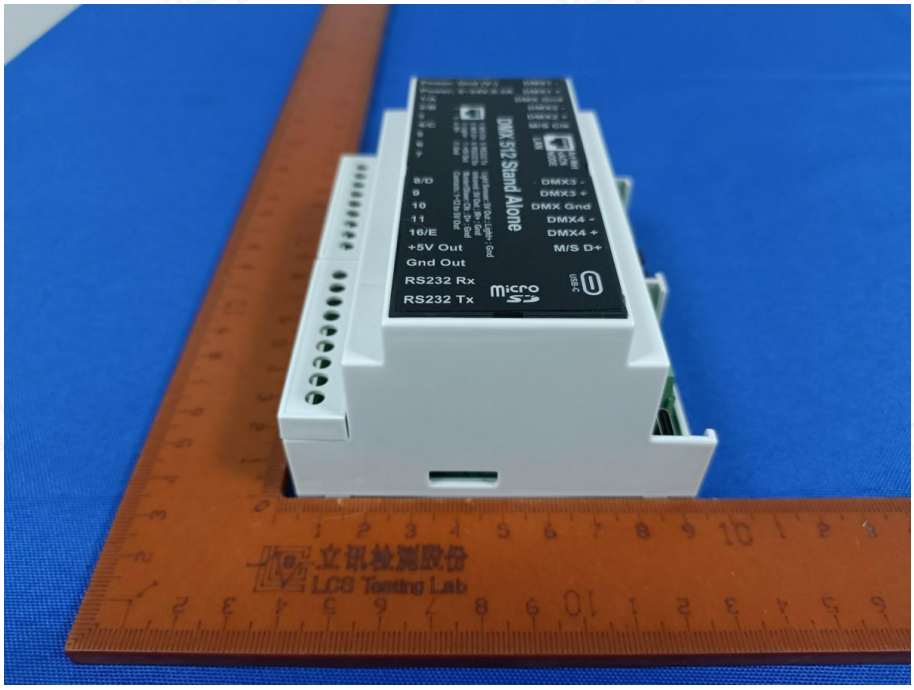
External


DMX 512 Stand Alone


DMX 512 Stand Alone


DMX 512 Stand Alone


DMX 512 Stand Alone



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