EMC TEST REPORT

Equipment	Dual-purpose switching Active Stylus Pen
Trademark	N/A
Model No.	XCR2-H
Report No.	CTB200803010EX
Applicant	Dongguan xiaochuang Electronic Technology Co., Ltd. Room 802, no. 12, lane 11, nance wenming road, humen town, dongguan city, Guangdong province
Manufacturer	Dongguan xiaochuang Electronic Technology Co., Ltd. Room 802, no. 12, lane 11, nance wenming road, humen town, dongguan city, Guangdong province
Prepared by	Shenzhen CTB Testing Technology Co., Ltd. Floor 1&2, Building A, No. 26 of Xinhe Road, Xinqiao Street, Baoan District, Shenzhen China Tel: 086-4008-258-12 Fax: 086-0755-23208027
Date of Receipt	Jul. 29, 2020
Date of Test(s)	Jul. 30, 2020 ~ Jul. 31, 2020
Date of Issue	Aug. 04, 2020
Test Standard(s)	EN 55032:2015, EN 55035:2017 EN 61000-3-2:2014, EN 61000-3-3:2013

In the configuration tested, the EUT complied with the standards specified above.

Producer : _____ , Date : Aug. 04, 2020
Lisa Deng/ Engineer

Signatory : _____ , Date : Aug. 04, 2020
Sherwin Zhan/ Director

Note: The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report shall not be reproduced except in full, without prior written approval of CTB. This document may be altered or revised by CTB, personnel only, and shall be noted in the revision of the document.

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
0	Aug. 04, 2020	Initial Issue	All Page	Sherwin Qian

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1. TEST SUMMARY

Emission			
Requirement - Test	Test Method	Limit	Result
Conducted Emission	EN 55032:2015	Class B	PASS
Radiated emissions at frequencies up to 1 GHz		Class B	PASS
Radiated emissions at frequencies above 1 GHz		Class B	N/A
Harmonic current emissions	EN 61000-3-2:2014	Class A	N/A
Voltage changes, voltage fluctuations and flicker	EN 61000-3-3:2013	Clause 5	N/A
Immunity (EN 55035:2017)			
Requirement - Test	Test Method	Performance criteria	Result
Electrostatic discharges (ESD)	EN 61000-4-2:2009	B	PASS
Electromagnetic field	EN 61000-4-3:2006+A1:2008+A2:2010	A	PASS
Electrical fast transients/burst (EFT/B)	EN 61000-4-4:2004+A1:2010	B	PASS
Surges	EN 61000-4-5:2006	B	PASS
Conducted RF	EN 61000-4-6:2009	A	PASS
Power frequency magnetic field	EN 61000-4-8:2010	A	PASS
Voltage dips and Short interruptions	EN 61000-4-11:2009+A1:2010	B & C	PASS

Remark: N/A is abbreviation for Not Applicable.

The test was carried out in all the test modes, only the worst data are list in report.

2. GENERAL INFORMATION

2.1. Description of EUT

Equipment	Dual-purpose switching Active Stylus Pen
Trademark	N/A
Model Name	XCR2-H
Serial No.	Not labeled
Model Difference	N/A
Rated Power Supply	DC 3.7V from battery (140mAh) or DC 5V from adapter
Rated Power	0.5W
Normal Testing Voltage	DC 3.7V from battery, DC 5V from adapter (AC 230V/50Hz)
Configuration	☒ Table-top ☐ Floor-standing
Accessory Device	Adapter
Cable Supplied	N/A

Note:

1. The EUT uses following adapter

Adapter	1	-
Manufacturer	JIYIN	
Model	JY-05100C	
AC Input Power	100-240V~ 50/60Hz, 0.5A	
DC Output Power	5V⎓1A	
Plug Type	EU	
Power Cord	N/A	

2. Other Accessory Device List and Details

Description	Manufacturer	Model	Note
-			

External I/O Cable

Cable Description	Shielded Type	Ferrite Core	Length(m)	Note
-	☐ Shielded ☐ Non-shielded	☐ Yes ☐ No		

3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.2. Operating condition of EUT

Test mode	Description
1	Working
2	
3	
4	

2.3. Test conditions

Temperature: 15-35℃
Relative Humidity: 30-60 %
Atmospheric pressure: 800hPa-1060hPa

2.4. Block diagram of EUT configuration

3. FACILITIES

3.1. Test Facility

CTB-LAB

Floor 1&2, Building A, No. 26 of Xinhe Road, Xinqiao Street, Baoan District, Shenzhen China

3.2. Test Instruments

Conducted Emission Measurement (Test software: EZ-EMC Ver. EMC-con3A1.1)

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	AMN	ROHDE&SCHWARZ	ESH3-Z5	831551852	20201030
2	Pulse limiter	ROHDE&SCHWARZ	ESH3Z2	357881052	20201030
3	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428/003	20201102
4	Coaxial cable	ZDECL	Z302S	18091904	20201030
5	AAN	Schwarzbeck	NTFM8158	183	20200506

Radiated Emission Measurement (Test software: EZ-EMC Ver. FA-03A2 RE)

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	1911	20201102
2	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	869	20201102
3	Amplifier	Agilent	8449B	3008A01838	20201101
4	Amplifier	HP	8447E	2945A02747	20201101
5	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESPI7	100362	20201101
6	Coaxial cable	ETS	RFC-SNS-100-NMS-80 NI	/	20201101
7	Coaxial cable	ETS	RFC-SNS-100-NMS-20 NI	/	20201101
8	Coaxial cable	ETS	RFC-SNS-100-SMS-20 NI	/	20201101
9	Coaxial cable	ETS	RFC-NNS-100-NMS-300 NI	/	20201101

Harmonic Current & Voltage Fluctuation and Flicker (Test software: EZ-EMC Ver. FA-03A2 RE)

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Power Analyzer	Laplace Instruments	AC2000A	311363	20201223
2	AC Power source	HTEC Instruments	HPF5010	633088	20201223

Electrostatic Discharge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	ESD Simulator	TESTQ	NSG437	329	20201030

Conducted RF Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Signal Generator	Agilent	N5182A	MY47420195	2020.10.30

2	Power Amplifier	AR	75A 250A	320289	2020.10.30
3	Attenuator	EM-Test	ATT6/75	320835	2020.10.30
4	CDN	EM-Test	CDN M2/M3	0208-01	2020.10.30
5	EM-Clamp	EM-Test	EM101	35762	2020.10.30

RF electromagnetic field Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Signal Generator	Agilent	N5182A	MY47420195	2020.10.30
2	Log-Bicon Antenna	Schwarzbeck	VULB9161	9128ES-128	2020.10.30
3	Power Amplifier	AR	150W1000M1	342526	2020.10.30
4	Microwave Horn Antenna	AR	AT4002A	322279	2020.10.30
5	Power Amplifier	AR	25S1G4A	321116	2020.10.30

Surge& Electrical Fast Transient/Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Surge& Burst Generator	Lioncel	LSG-545CB	180602	20201030
2	Capacitive coupling clamp	Lioncel	EFTC	18071801	20201030

Power frequency magnetic field

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Magnetic field generator	Lioncel	PMF-801C-C	180701	20201101

Voltage dips and interruptions Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Voltage dip simulator	Lioncel	VDS-1102	180902	20201030

4. Measurement uncertainty

The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4.

Test	Parameters	Expanded Uncertainty (U_{Lab})	Expanded Uncertainty (U_{Cispr})
Conducted Emission	Level Accuracy: 150kHz to 30MHz	±1.22 dB	±3.6 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±3.67 dB	±5.2 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.79 dB	N/A

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5. Emission

5.1. Conducted Emission

5.1.1. Limit

Requirements for conducted emissions from the AC mains power ports of Class A equipment

Frequency range MHz	Coupling device	Detector type / bandwidth	Class A limits dB(μV)
0,15 to 0,5	AMN	Quasi Peak / 9 kHz	79
0,5 to 30			73
0,15 to 0,5		Average / 9 kHz	66
0,5 to 30			60

Requirements for conducted emissions from the AC mains power ports of Class B equipment

Frequency range MHz	Coupling device	Detector type / bandwidth	Class B limits dB(μV)
0,15 to 0,5	AMN	Quasi Peak / 9 kHz	66 to 56
0,5 to 5			56
5 to 30			60
0,15 to 0,5		Average / 9 kHz	56 to 46
0,5 to 5			46
5 to 30			50

Requirements for asymmetric mode conducted emissions from Class A equipment

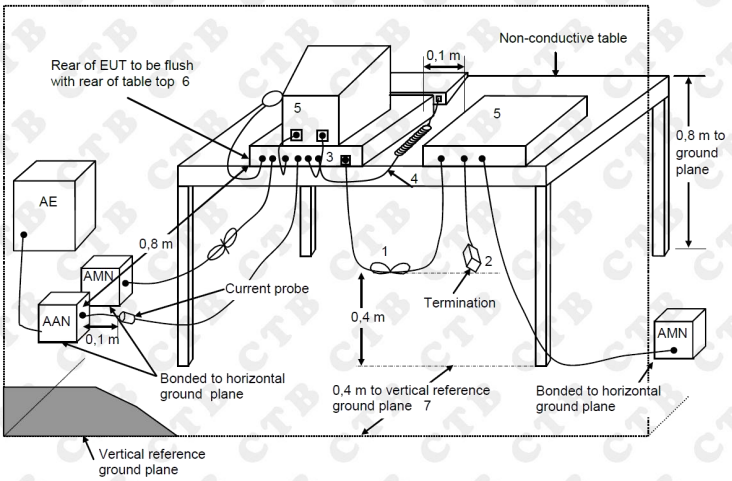
Frequency range MHz	Coupling device	Detector type / bandwidth	Class A limits dB(μV)
0,15 to 0,5	AAN	Quasi Peak / 9 kHz	97 to 87
0,5 to 30			87
0,15 to 0,5		Average / 9 kHz	84 to 74
0,5 to 30			74

Requirements for asymmetric mode conducted emissions from Class B equipment

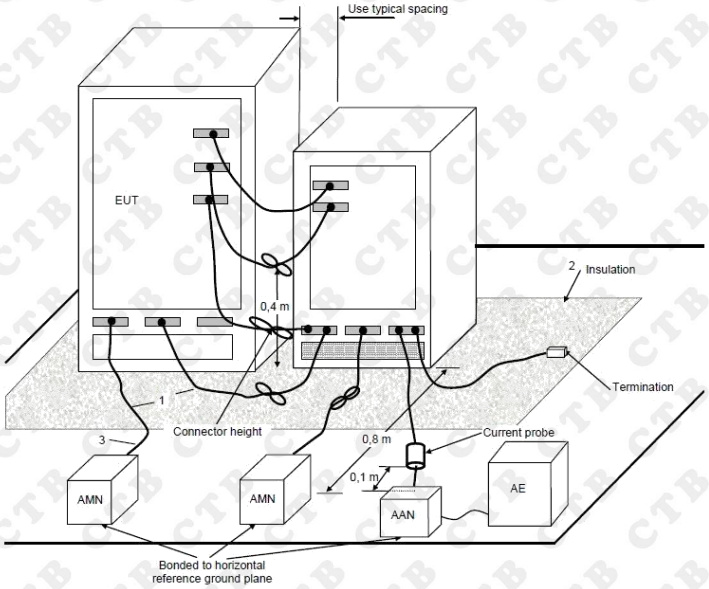
Frequency range MHz	Coupling device	Detector type / bandwidth	Class B limits dB(μV)
0,15 to 0,5	AAN	Quasi Peak / 9 kHz	84 to 74
0,5 to 30			74
0,15 to 0,5		Average / 9 kHz	74 to 64
0,5 to 30			64

5.1.2. Test setup

For table-top equipment



For floor standing equipment



5.1.3. Test procedure

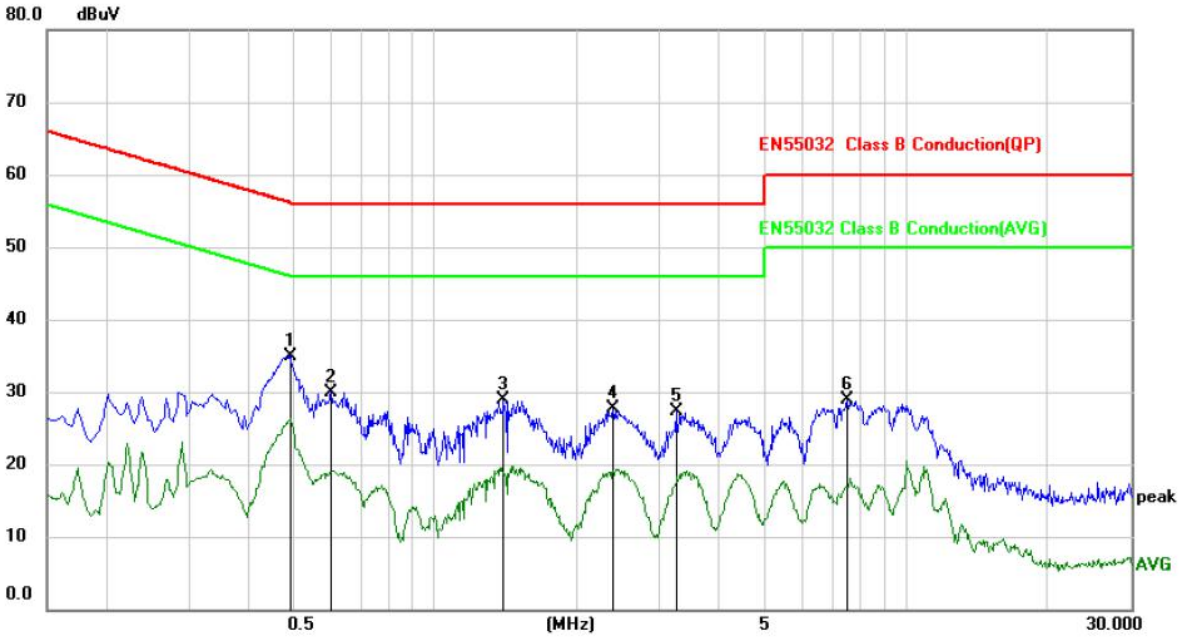
Measurement was performed in shielded room, and instruments used were followed CISPR 16-2-1 clause7.
Detailed test procedure was following clause 7 of CISPR 16-2-1.
Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9 kHz.

5.1.4. Test results

PASS

Please refer to the following page.

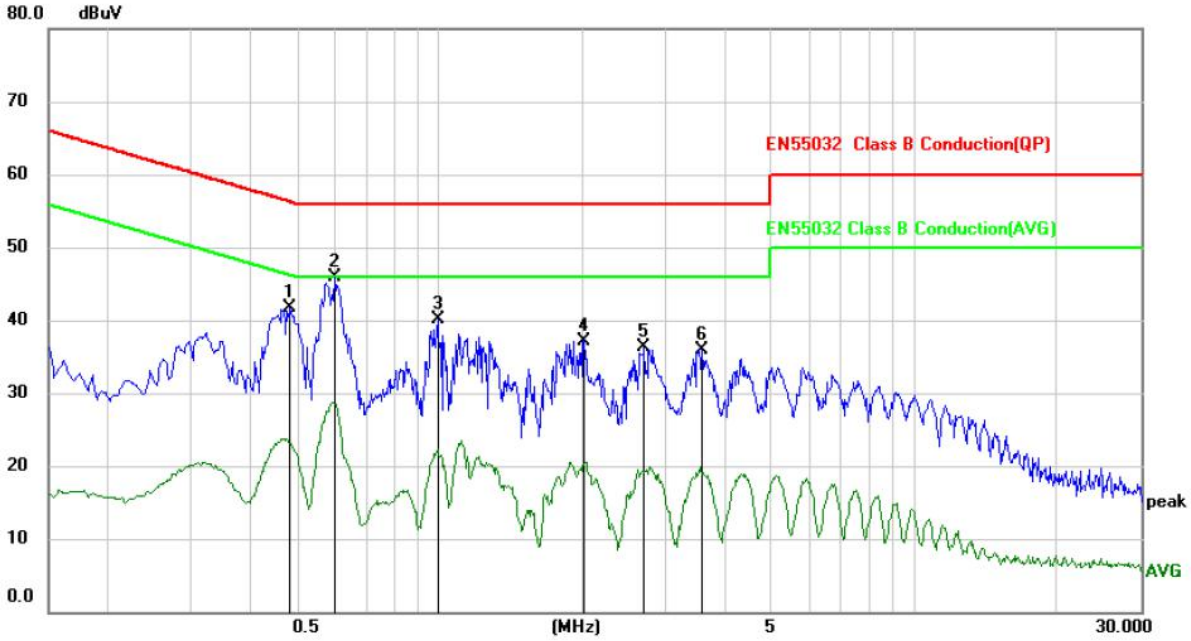
Phase: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.4940	24.77	10.23	35.00	56.10	-21.10	peak
2		0.6020	19.65	10.23	29.88	56.00	-26.12	peak
3		1.3980	18.73	10.15	28.88	56.00	-27.12	peak
4		2.3940	17.57	10.18	27.75	56.00	-28.25	peak
5		3.2580	16.96	10.29	27.25	56.00	-28.75	peak
6		7.5220	18.31	10.57	28.88	60.00	-31.12	peak

Note: Result=Reading + Factor
Over Limit=Result - Limit

Phase: N



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.4940	30.53	10.23	40.76	56.10	-15.34	peak
2		0.7100	23.62	10.24	33.86	56.00	-22.14	peak
3		1.5820	22.77	10.13	32.90	56.00	-23.10	peak
4		2.6580	21.88	10.21	32.09	56.00	-23.91	peak
5		3.7500	20.53	10.35	30.88	56.00	-25.12	peak
6		7.2780	19.72	10.56	30.28	60.00	-29.72	peak

Note: Result=Reading + Factor
Over Limit=Result - Limit

5.2. Radiated emissions

5.2.1. Limit

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

Frequency range MHz	Measurement			Class B limits dB(μV/m)
	Facility	Distance m	Detector type / bandwidth	
30 to 230	SAC	3	Quasi Peak / 120 kHz	50
230 to 1 000				57

Requirements for radiated emissions at frequencies above 1 GHz for class A equipment

Frequency range MHz	Measurement			Class B limits dB(μV/m)
	Facility	Distance m	Detector type / bandwidth	
1 000 to 3 000	FSOATS	3	Average / 1MHz	56
3 000 to 6 000				60
1 000 to 3 000		3	Average / 1MHz	76
3 000 to 6 000				80

Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment

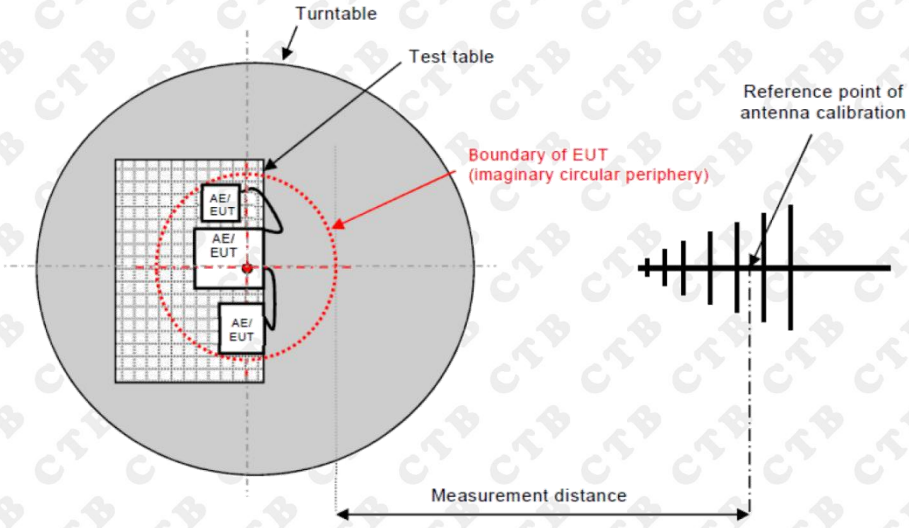
Frequency range MHz	Measurement			Class B limits dB(μV/m)
	Facility	Distance m	Detector type / bandwidth	
30 to 230	SAC	3	Quasi Peak / 120 kHz	40
230 to 1 000				47

Requirements for radiated emissions at frequencies above 1 GHz for class B equipment

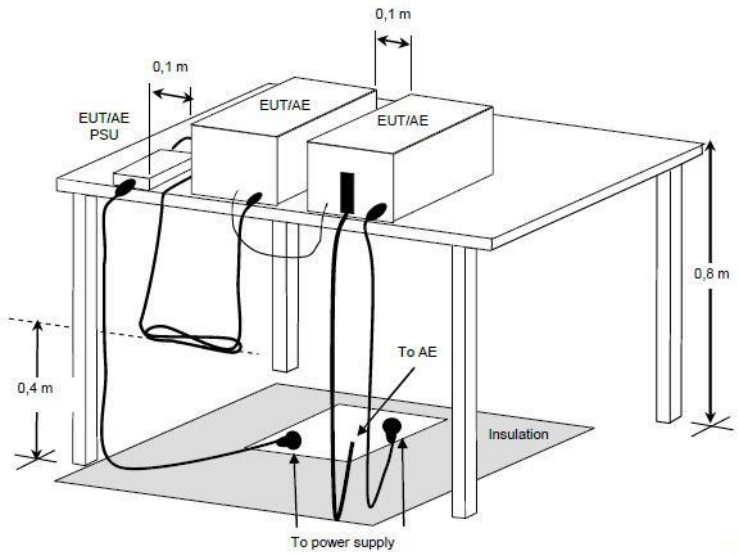
Frequency range MHz	Measurement			Class B limits dB(μV/m)
	Facility	Distance m	Detector type / bandwidth	
1 000 to 3 000	FSOATS	3	Average / 1MHz	50
3 000 to 6 000				54
1 000 to 3 000		3	Average / 1MHz	70
3 000 to 6 000				74

5.2.2. Block diagram of test setup

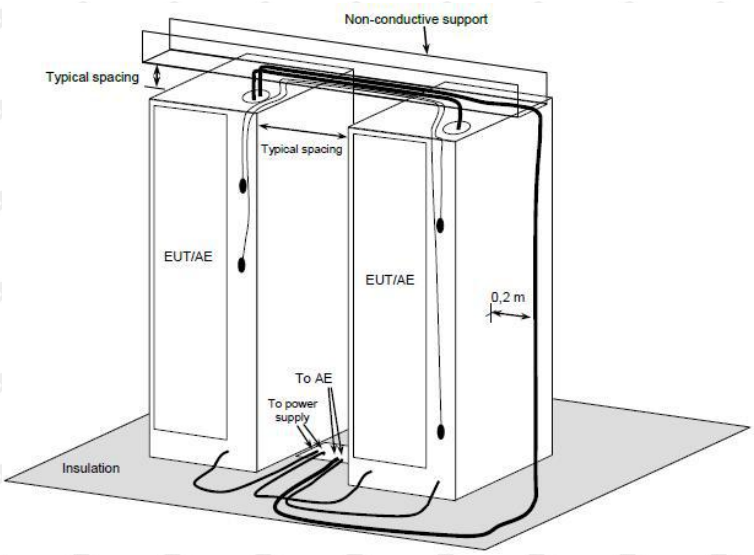
Measurement distance



For table-top equipment



For floor standing equipment



5.2.3. Test procedure

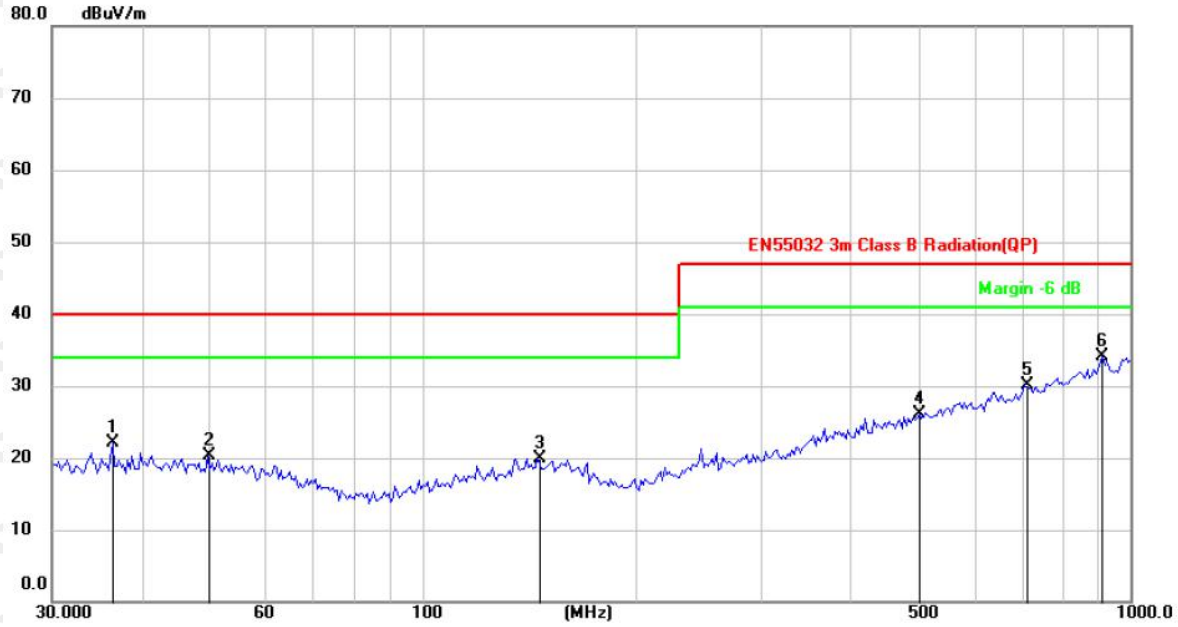
The measurement was performed in a semi-anechoic chamber.
The distance from EUT to receiving antenna is 3 meters.
Measurement was performed according to clause 7.3 of CISPR 16-2-3.

5.2.4. Test results

PASS

Please refer to the following page.

Polarization: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		36.5092	28.53	-6.42	22.11	40.00	-17.89	peak
2		49.7068	26.49	-6.09	20.40	40.00	-19.60	peak
3		145.3506	26.39	-6.39	20.00	40.00	-20.00	peak
4		502.9395	25.94	0.17	26.11	47.00	-20.89	peak
5		709.1823	26.25	3.93	30.18	47.00	-16.82	peak
6	*	912.8620	26.93	7.13	34.06	47.00	-12.94	peak

Note: Result=Reading+Factor
Over Limit=Result-Limit

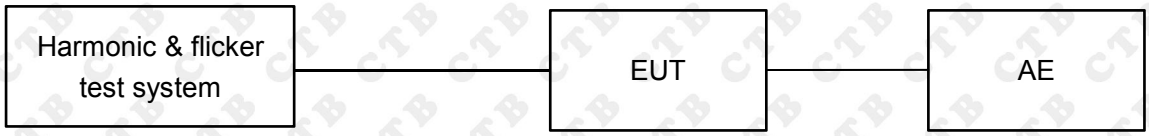
Polarization: V

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		33.0950	31.50	-7.04	24.46	40.00	-15.54	peak
2		35.7490	31.50	-6.56	24.94	40.00	-15.06	peak
3		44.4308	31.17	-5.78	25.39	40.00	-14.61	peak
4		62.6507	29.77	-7.28	22.49	40.00	-17.51	peak
5		724.2611	25.69	4.30	29.99	47.00	-17.01	peak
6	*	912.8620	26.21	7.13	33.34	47.00	-13.66	peak

Note: Result=Reading+Factor
Over Limit=Result-Limit

5.3. Harmonic current emissions

5.3.1. Test Setup



5.3.2. Test Procedure

Basic Standard(s)	:	EN 61000-3-2:2014
Measurement Equipment requirement	:	IEC 61000-4-7
Measured Harmonics	:	1 - 40
Equipment Class	:	☒ A ☐ B ☐ C ☐ D
Limits	:	☒ Clause 7.1 Table 1
		☐ Clause 7.2
		☐ Clause 7.3 Table 2
		☐ Clause 7.4 Table 3

☒ This product is not defined as lighting equipment, and has rated power less than 75W, therefore, no limit applies according to EN 61000-3-2

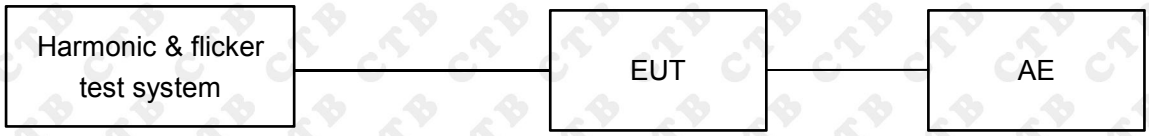
☐ The EUT is kitchen machines as listed in the scope of IEC 60335-2-14, therefore, is deemed to conform to the harmonic current limits of this standard without further testing.

5.3.3. Test Result

N/A

5.4. Voltage changes, voltage fluctuations and flicker

5.4.1. Test Setup



5.4.2. Test Procedure

Basic Standard(s)	:	EN 61000-3-3:2013
Measurement Equipment requirement	:	IEC 61000-4-15
Limits	:	Clause 5

5.4.2.1 Definition

Flicker: impression of unsteadiness of visual sensation induced by a lighting stimulus whose luminance or spectral distribution fluctuates with time.

P_{st}: Short-term flicker indicator the flicker severity evaluated over a short period (in minutes); P_{st}=1 is the conventional threshold of irritability

P_{lt}: long-term flicker indicator; the flicker severity evaluated over a long period (a few hours) using successive P_{st} values.

dc: the relative steady-state voltage change

d_{max}: the maximum relative voltage change

d(t): the value during a voltage change

5.4.2.2 Test Precedure

The following limits apply

-- "P_{lt}" shall not exceed 0.65.

-- "P_{st}" shall not exceed 1.0.

-- "dc" shall not exceed 3.3%.

-- "d(t)" shall not exceed 3.3% for more than 500ms.

-- "d_{max}" shall not exceed:

☐ 4% without additional conditions,

☐ 6% switched manually or automatically more than twice per day,

☐ 7% attended whilst in use or switched automatically for no more than twice per day or attended while in use.

☐ For manual switch, dmax is measured in accordance with Annex B of standard, average dmax is calculated from 24 times measurement.

☒ The EUT is unlikely to produce significant voltage fluctuations or flicker by technical analysis and evaluation. So it is deemed to fulfil the requirements without testing.

5.4.3. Test Result

N/A

The EUT is unlikely to produce significant voltage fluctuations or flicker.

6. Immunity

Performance criteria

Performance criterion **A**

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss 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 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 criterion **B**

The equipment shall continue to operate as intended after the test. No degradation of performance or loss function is allowed below a performance level specified by the manufacturer, when the equipment is used as intended. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from equipment if used as intended.

Performance criterion **C**

Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by operation of the controls.

6.1. Electrostatic discharges (ESD)

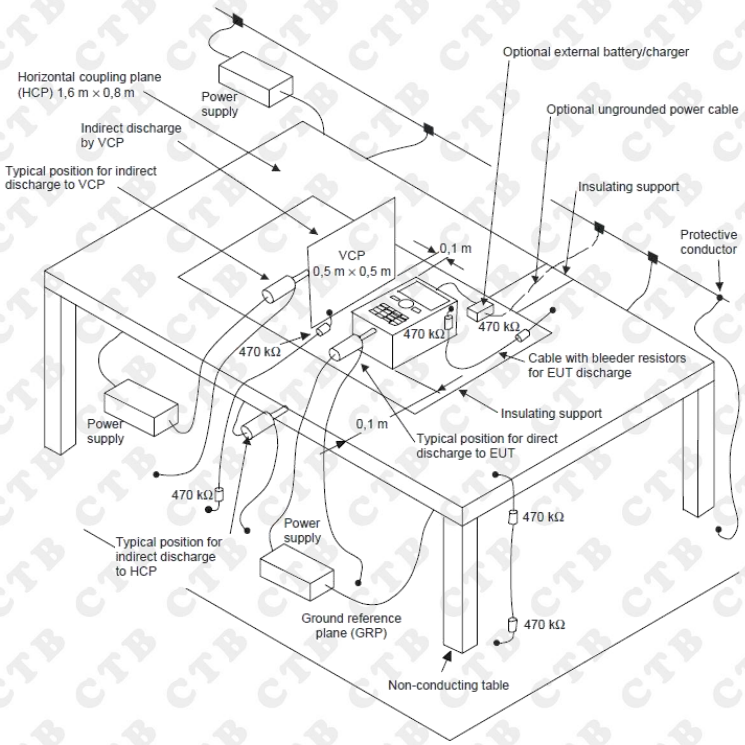
6.1.1. Test Levels and Performance Criterion

Characteristics	Test levels
Air discharge	±8 kV
Contact discharge	±4 kV

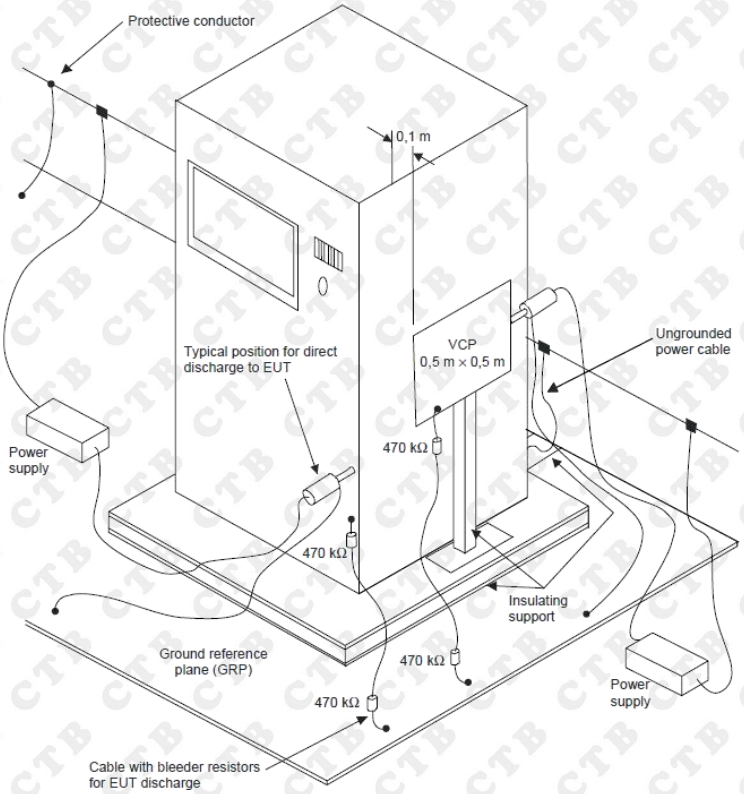
Performance criterion: **B**

6.1.2. Test setup

For table-top equipment



For floor standing equipment



6.1.3. Test Procedure

Measurement was performed in shielded room.
Measurement procedure was applied according to EN 61000-4-2 clause 8.
The test method and equipment were specified by EN 61000-4-2.

6.1.4. Test Result

PASS
Please refer to the following page.

No.	Location of discharge	Polarity	Discharge	Number of discharges	Test level kV	Result
1	HCP top side	P&N	C	25	4	PASS
3	HCP bottom side	P&N	C	25	4	PASS
5	VCP right side	P&N	C	25	4	PASS
7	VCP left side	P&N	C	25	4	PASS
9	Points on conductive surface	P&N	C	25	4	PASS
10	Points on non-conductive surface	P&N	A	10	8	PASS
HCP = Horizontal coupling plate VCP = Vertical coupling plate N = Negative P = Positive A = Air discharge C = Contact discharge						

6.2. Electromagnetic field

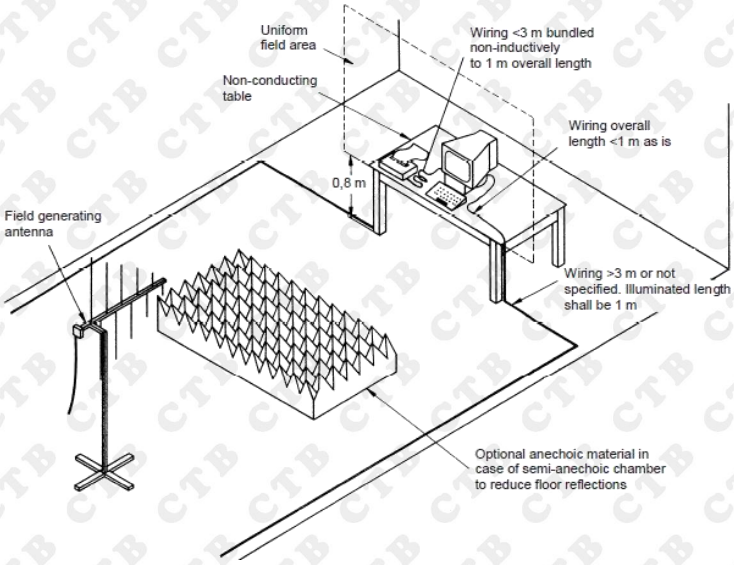
6.2.1. Test Levels and Performance Criterion

Characteristics	Test levels	Test levels
Frequency range	80 MHz to 1 000 MHz,	1 800MHz, 2 600MHz, 3 500MHz, 5 000MHz
Test level	3 V/m (unmodulated)	1 V/m (unmodulated)
Modulation	1 kHz, 80 % AM, sine wave	1 kHz, 80 % AM, sine wave

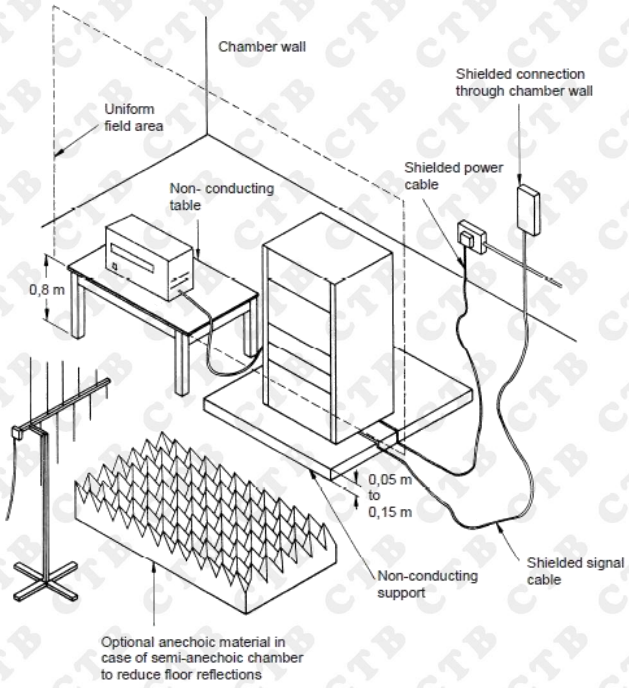
Performance criterion: **A**

6.2.2. Test setup

For table-top equipment



For floor standing equipment



6.2.3. Test Procedure

Measurement was performed in full-anechoic chamber.
Measurement procedure was applied according to EN 61000-4-3 clause 8.
The test method and equipment was specified by EN 61000-4-3.

6.2.4. Test Result

PASS

Enclosure	Horizontal	Vertical
Front	PASS	PASS
Right Side	PASS	PASS
Left Side	PASS	PASS
Rear	PASS	PASS

6.3. Electrical fast transients/burst (EFT/B)

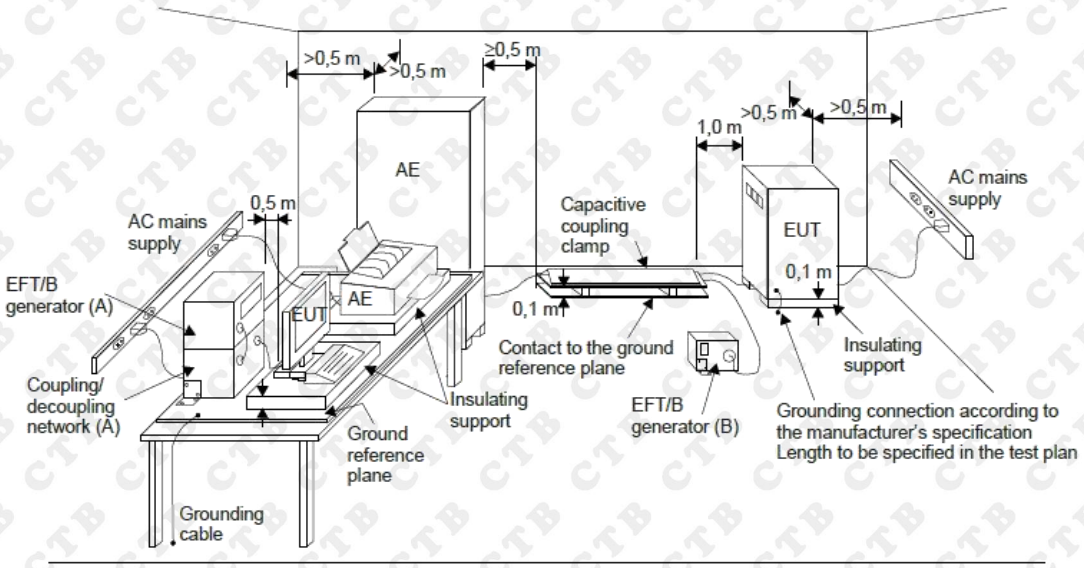
6.3.1. Test Levels and Performance Criterion

Severity Level 2 for signal and control ports
Severity Level 2 for input and output DC power ports
Severity Level 2 for input and output AC power ports

Open circuit output test voltage and repetition frequency of the impulses				
Level	Power ports, earth port (PE)		Signal, and control ports	
	Voltage peak kV	Repetition frequency kHz	Voltage peak kV	Repetition frequency kHz
1	0,5	5 or 100	0,25	5 or 100
2	1	5 or 100	0,5	5 or 100
3	2	5 or 100	1	5 or 100
4	4	5 or 100	2	5 or 100
X[a]	Special	Special	Special	Special
The use of 5 kHz repetition frequency is traditional, however, 100 kHz is closer to reality. Product committees should determine which frequencies are relevant for specific products or product types. With some products, there may be no clear distinction between power ports and signal ports, in which case it is up to product committees to make this determination for test purposes.				
[a] "X" can be any level, above, below or in between the others. The level shall be specified in the dedicated equipment specification.				

Performance criterion: **B**

6.3.2. Test setup



6.3.3. Test Procedure

Measurement was performed in shielded room.
Measurement procedure was applied according to EN 61000-4-4 clause 8.
The test method and equipment was specified by EN 61000-4-4.

6.3.4. Test Result

PASS

Location	Level (kV)	Polarity (P/N)	Result
AC power (including protective earth)	1	P/N	Pass
DC power (including protective earth)	1	P/N	N/A
I/O signal/control (including functional earth)	0,5	P/N	N/A
I/O signal/control connected directly to mains supply	1	P/N	N/A

6.4. Surges

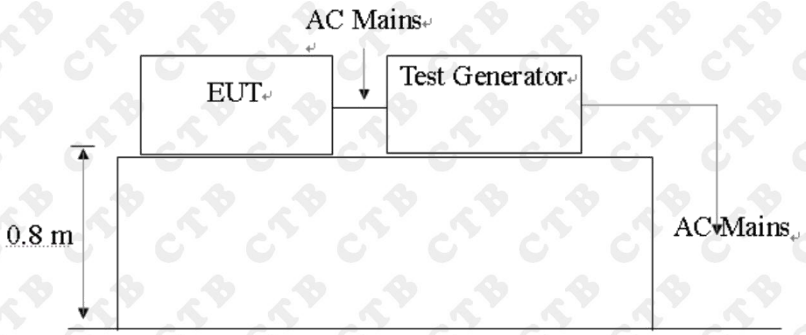
6.4.1. Test Levels and Performance Criterion

Severity Level 2 for line to line 1.0KV, Severity Level 2 for line to ground at 2.0KV

Level	Open-circuit test voltage ±10% (kV)
1	0,5
2	1
3	2
4	4
X [a]	Special
[a] "X" can be any level, above, below or in between the others. The level shall be specified in the dedicated equipment specification.	

Performance criterion: **B**

6.4.2. Test setup



6.4.3. Test Procedure

Measurement was performed in shielded room.
Measurement procedure was applied according to EN 61000-4-5 clause 8.
The test method and equipment was specified by EN 61000-4-5.

6.4.4. Test Result

PASS

Location	Level(kV)	Polarity(P/N)	Result
AC power (including protective earth) (line to line)	0,5	P/N	Pass
AC power (including protective earth) (line to ground)	1.0	P/N	N/A
DC power (including protective earth) (line to line)	0,5	P/N	N/A
DC power (including protective earth) (line to ground)	1.0	P/N	N/A
I/O signal/control (including functional earth) (line to ground)	1.0	P/N	N/A
I/O signal/control connected directly to mains supply (line to line)	0,5	P/N	N/A
I/O signal/control connected directly to mains supply (line to ground)	1.0	P/N	N/A

6.5. Conducted RF

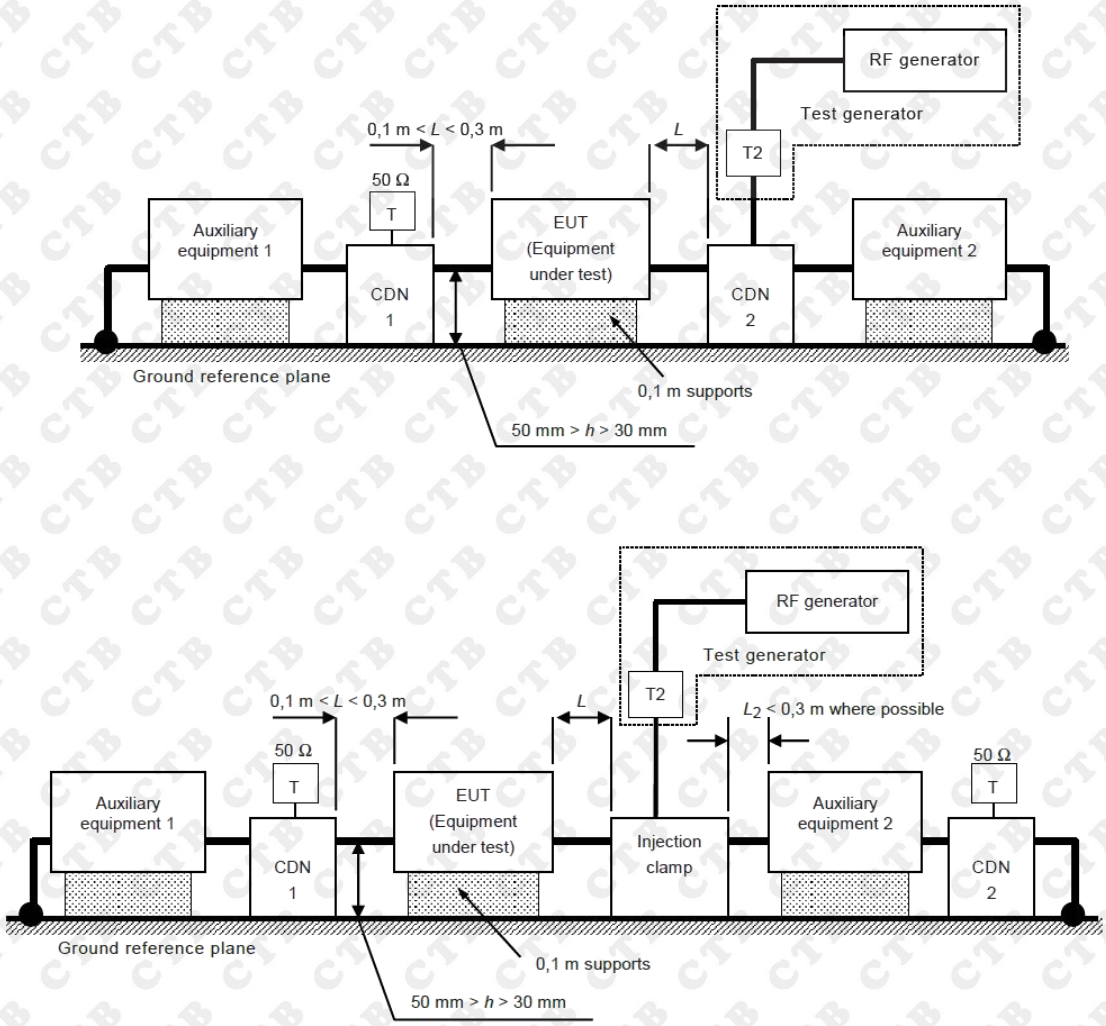
6.5.1. Test Levels and Performance Criterion

Severity Level 2

Frequency range 150 kHz ± 80 MHz		
Level	Voltage level (e.m.f.)	
	U0 dB(μV)	U0 V
1	120	1
2	130	3
3	140	10
X a	Special	
[a] X is an open level.		

Performance criterion: **A**

6.5.2. Test setup



6.5.3. Test Procedure

Measurement procedure was applied according to EN 61000-4-6 clause 8.
The test method and equipment was specified by EN 61000-4-6.

6.5.4. Test Result

PASS

Injected point	Frequency (MHz)	Level (e.m.f)	Modulation	Result
AC power (including protective earth)	0.15 to 80	3V	80%, 1 kHz, AM	PASS
DC power (including protective earth)	0.15 to 80	3V	80%, 1 kHz, AM	N/A
I/O signal/control (including functional earth)	0.15 to 80	3V	80%, 1 kHz, AM	N/A
I/O signal/control connected directly to mains supply	0.15 to 80	3V	80%, 1 kHz, AM	N/A

6.6. Power frequency magnetic field

6.6.1. Test Levels and Performance Criterion

Severity Level 2

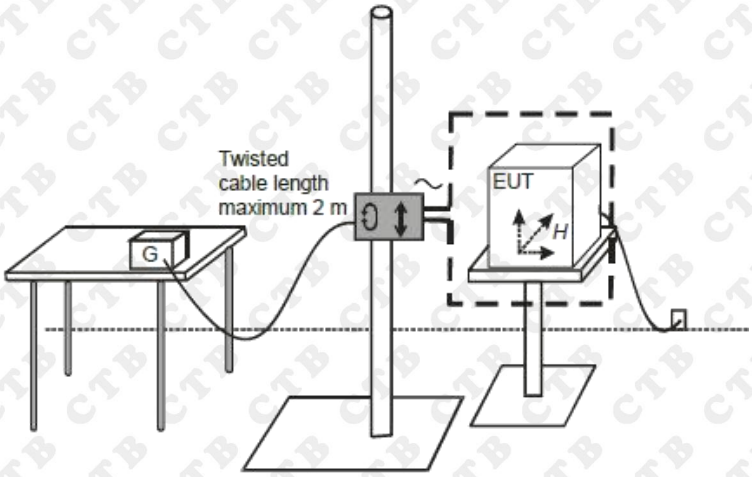
Level	Magnetic field strength (A/m)
1	1
2	3
3	10
4	30
5	100
X [a]	Special

[a] "X" can be any level, above, below or in between the others. The level shall be specified in the dedicated equipment specification.

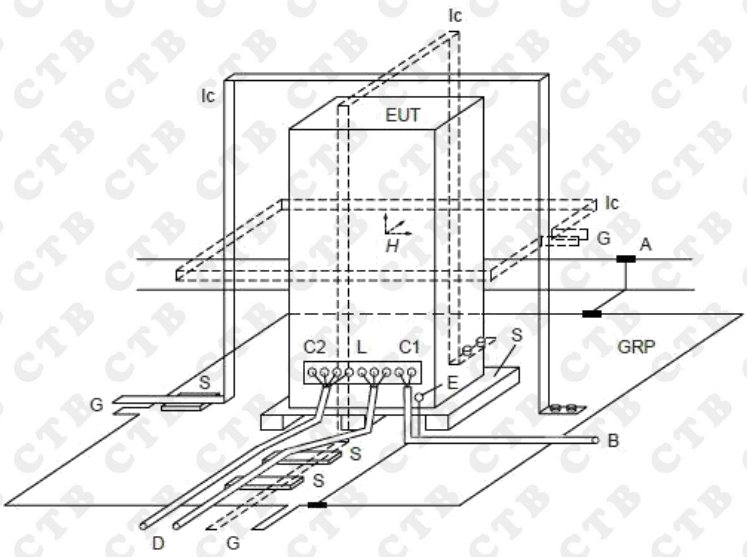
Performance criterion: **A**

6.6.2. Test setup

For table-top equipment



For floor standing equipment



6.6.3. Test Procedure

Measurement was performed in shielded room.
Measurement procedure was applied according to EN 61000-4-8 clause 8.
The test method and equipment was specified by EN 61000-4-8.

6.6.4. Test Result

PASS

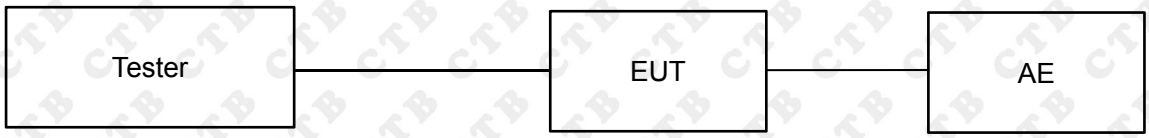
Test frequency	Test Level (A/m)	Test time [s]	Axis	Result
☒ 50Hz ☐ 60Hz	1	300	X	Pass
☒ 50Hz ☐ 60Hz	1	300	Y	Pass
☒ 50Hz ☐ 60Hz	1	300	Z	Pass

6.7. Voltage dips and Short interruptions

6.7.1. Test Levels and Performance Criterion

Residual voltage	Voltage Reduction	Period (Cycles)	Performance criterion
0%	100%	0,5	B
0%	100%	1	B
70	30	25/30 [a]	C
0	100	250/300 [b]	C
[a], [b] For example “25/30 cycles" means "25 cycles for 50 Hz test" or "30 cycles for 60 Hz test”.			

6.7.2. Test setup



6.7.3. Test Procedure

Measurement was performed in shielded room.
Measurement procedure was applied according to EN 61000-4-11 clause 8.
The test method and equipment was specified by EN 61000-4-11.

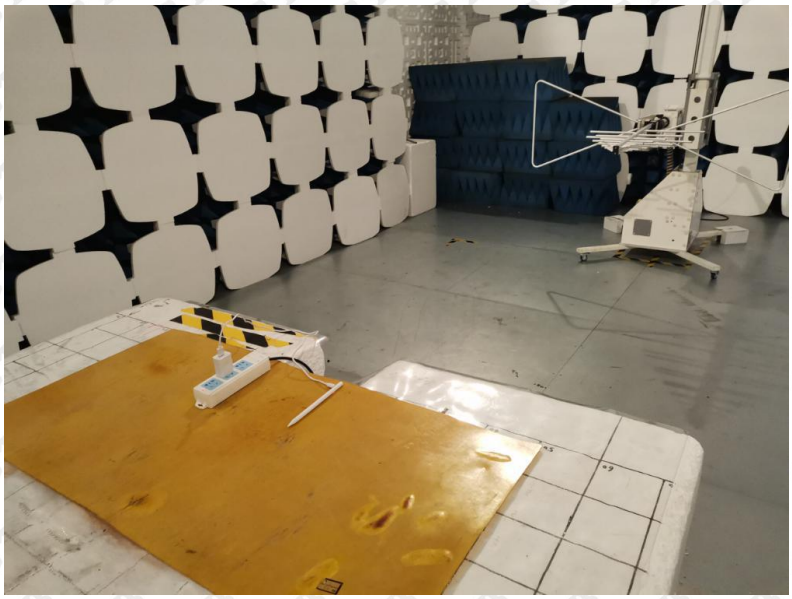
6.7.4. Test Result

PASS

U_T in V	Frequency in Hz	Test Level % of U_T	Phase angles [°]	Duration in cycles	Results
☒ 230 ☐ 120	☒ 50 ☐ 60	0	0, 45, 90, 135, 180, 225, 270, 315	☒ 0,5 (50 Hz) ☐ 0,5 (60 Hz)	PASS
☒ 230 ☐ 120	☒ 50 ☐ 60	0	0, 45, 90, 135, 180, 225, 270, 315	☒ 1 (50 Hz) ☐ 1 (60 Hz)	PASS
☒ 230 ☐ 120	☒ 50 ☐ 60	70	0, 45, 90, 135, 180, 225, 270, 315	☒ 25 (50 Hz) ☐ 30 (60 Hz)	PASS
☒ 230 ☐ 120	☒ 50 ☐ 60	0	0, 45, 90, 135, 180, 225, 270, 315	☒ 250 (50 Hz) ☐ 300 (60 Hz)	PASS

7. Photographs of test setup

Photograph of test setup for Conducted Emission


Photograph of test setup for Radiated Emission


8. Photographs of EUT

Photographs of EUT


End of report