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检测
TESTING
CNAS L4062

TEST REPORT

Reference No.	:	WTF22X11232113W003
Manufacturer	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Factory	:	111033
Product Name	:	Cork mousepad wireless charger, RPET foldable wireless charger, Fast wireless charger mousepad
Model No.	:	MO6476, MO6484, MO6416
Standards	:	**ETSI EN 301 489-1 V2.2.3 (2019-11)** **ETSI EN 301 489-3 V2.1.1 (2019-03)**
Date of Receipt sample	:	2022-11-18
Date of Test	:	2022-11-18 to 2023-03-17
Date of Issue	:	2023-03-17
Test Report Form No.	:	WTX_ETSI EN 301 489_1_2019W
Test Result	:	**Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,
Block 70 Bao'an District, Shenzhen, Guangdong, China

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:

Jack Huang

Jack Huang

Approved by:

Silin Chen

Silin Chen

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Rev.00	2023-03-17	Original
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Cork mousepad wireless charger, RPET foldable wireless charger, Fast wireless charger mousepad
Trade Name:	/
Model No.:	MO6476
Adding Model(s):	MO6484, MO6416
Rated Voltage:	Input: DC 9V Output: DC 9V
Software Version:	Rev:1.2
Hardware Version:	Rev:2.0
Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model MO6476, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
EN 303417	
Frequency Range:	100-205kHz
Radiated H-Field:	37.82dBuA/m(@3m)
Type of Antenna:	Coil Antenna
Note: The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Test Standards

The tests were performed according to following standards:

ETSI EN 301 489-1 V2.2.3 (2019-11): Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for Electromagnetic Compatibility.
ETSI EN 301 489-3 V2.1.1 (2019-03): Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with the standard ETSI EN 301489-1, Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

1.4 Test Facility

Address of the test laboratory
Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990
Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A
The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Wireless Charging	Connect to the adapter; AC230V/50Hz for adapter; Wireless charging: output 5W
TM2	Wireless Charging	Connect to the adapter; AC230V/50Hz for adapter; Wireless charging: output 10W
TM3	Wireless Charging	Connect to the adapter; AC230V/50Hz for adapter; Wireless charging: output 15W
TM4	Wireless Charging	TT,CT for EMS testing

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	0.30	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Wireless charging tester	YBZ	YBZ wireless charging tester	/
Adapter	Xiaomi	MDY-08-ES	/

1.6 Performance Criteria for EMS

➢ **EN 301 489-3, The performance criteria are:**

In the table below:

• performance criterion A applies for immunity tests with phenomena of a continuous nature;

• performance criterion B applies for immunity tests with phenomena of a transient nature.

NOTE: Whether a phenomenon is considered transient, continuous or otherwise is indicated in the test procedures for the phenomenon in ETSI EN 301 489-1 [1], clause 9.

Table 2: Performance Requirements

Criterion	During test	After test
A	Operate as intended No loss of function No unintentional responses	Operate as intended No loss of function No degradation of performance No loss of stored data or user programmable functions
B	May show loss of function No unintentional responses	Operate as intended Lost function(s) shall be self-recoverable No degradation of performance No loss of stored data or user programmable functions

Where "operate as intended" or "no loss of function" is specified, the EUT shall demonstrate correct functioning as described in ETSI EN 301 489-3 [1], clause 5.

Where the EUT has more than one mode of operation (see clause 4.5.2), an unplanned transition from one mode to another is considered as an unintentional response. The EUT shall be tested in sufficient modes to confirm there are no such unintentional responses.

1.7 Measurement Uncertainty

Measurement uncertainty	
Parameter	**Uncertainty**
Uncertainty for Radiated Emission in 3m chamber	@30-200MHz ±4.52dB @0.2-1GHz ±5.56dB @1-6GHz ±3.84dB @6-18GHz ±3.92dB
Uncertainty for Conducted Emission	@9-150kHz ±3.74dB @0.15-30MHz ±3.34dB
Uncertainty for Harmonic test	3.26%
Uncertainty for Flicker test	4.76%
Uncertainty for RS test	21%, k=2
Uncertainty for CS test	29%, k=2
Uncertainty for ESD test	The immunity measurement system uncertainty is within standard requirement and is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.
Uncertainty for EFT test	
Uncertainty for Surges test	
Uncertainty for Voltage Dips, Voltage Variations and Short Interruptions Test	
Uncertainty for PFMF test	

1.8 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
☒Chamber A: Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
Amplifier	HP	8447F	2805A03475	2022-12-30	2023-12-29
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
☒Chamber A: Above 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
Pre-amplifier	Schwarz beck	BBV 9721	9721-031	2022-03-25	2023-03-24
☐Chamber B:Below 1GHz					
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-25	2023-03-24
☐Chamber C:Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-12-30	2023-12-29
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
☒Conducted Room 1#					
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-22	2023-03-21
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2022-03-22	2023-03-21
8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2022-03-22	2023-03-21
☐Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	10129	2022-03-22	2023-03-21
LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21
EMF					
VDH Test Head	AFJ	VDH 30	SC022Z	2022-03-25	2023-03-24
3 Loop Antenna					
Loop Antenna	ZHINAN	ZN30401	19037	2021-04-26	2023-04-25

Clamp					
Clamp	Luthi	MDS21	3809	2022-03-28	2023-03-27
PFMF					
PMF Generator	LIONCEL	PMF-801C-C	0171101	2022-03-22	2023-03-21
PMF Antenna	LIONCEL	PMF-801C-A	0180302	2022-03-22	2023-03-21
Instantaneous PMF Generator Module	LIONCEL	PMF-801C-T	0171001	2022-03-22	2023-03-21
H/F					
Digital Power Analyzer	California Instrument	CTS	72831	2022-03-22	2023-03-21
Power Source	California Instrument	5001IX-CTS-400	25965	2022-03-22	2023-03-21
ESD					
ESD Generator	LIONCEL	ESD-203B	0170901	2022-03-28	2023-03-27
EFT/SURGE/DIPS					
Transient 2000	EMC PARTNER	TRA2000	863	2022-03-22	2023-03-21
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2022-03-22	2023-03-21
CS					
CONDUCTED IMMUNITY TEST SYSTEM	FRANKONIA	CIT-10/75	126B1247/2013	2022-12-30	2023-12-29
Attenuator	EMTEST	MA-5100/6BF2	1009	2022-03-22	2023-03-21
CDN	Luthi	L-801M2/M3	2665	2022-03-22	2023-03-21
CDN	LIONCEL	CDN-T8	0210401	2022-03-25	2023-03-24
EM Clamp	TESEQ	KEMZ801A	45028	2022-03-25	2023-03-24
RS					
Signal Generator	HP	8688B	3438A00604	2022-03-22	2023-03-21
Power Meter	KEITHLEY	3500	1162591	2022-03-22	2023-03-21
Power Meter	KEITHLEY	3500	1121428	2022-03-22	2023-03-21
RF Power Amplifier	MicoTop	MPA-80-1000-250	MPA1906239	2022-03-22	2023-03-21
RF Power Amplifier	MicoTop	MPA-80-6000-100	MPA1906238	2022-03-22	2023-03-21
Antenna	SCHWARZBECK	STLP 9129	9129 114	N/A	N/A
Power Meter	Agilent	E4419B	GB42420578	2022-03-22	2023-03-21

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

Standards	Reference	Description of Test Item	Result
ETSI EN 301 489-1	8.2	Radiated Emissions	Pass
	8.3	Conducted Emissions for DC Power Port	N/A
	8.4	Conducted Emissions for AC Power Port	Pass
	8.5	Harmonic Current Emissions	Pass
	8.6	Voltage Fluctuations and Flicker	Pass
	8.7	Telecommunication Ports	N/A
	9.2	Radio Frequency Electromagnetic Field	Pass
	9.3	Electrostatic Discharge	Pass
	9.4	Fast Transients, Common Mode	Pass
	9.5	Radio Frequency, Common Mode	Pass
	9.6	Transient and Surges in the Vehicular Environment	N/A
	9.7	Voltage Dips and Interruptions	Pass
	9.8	Surges	Pass

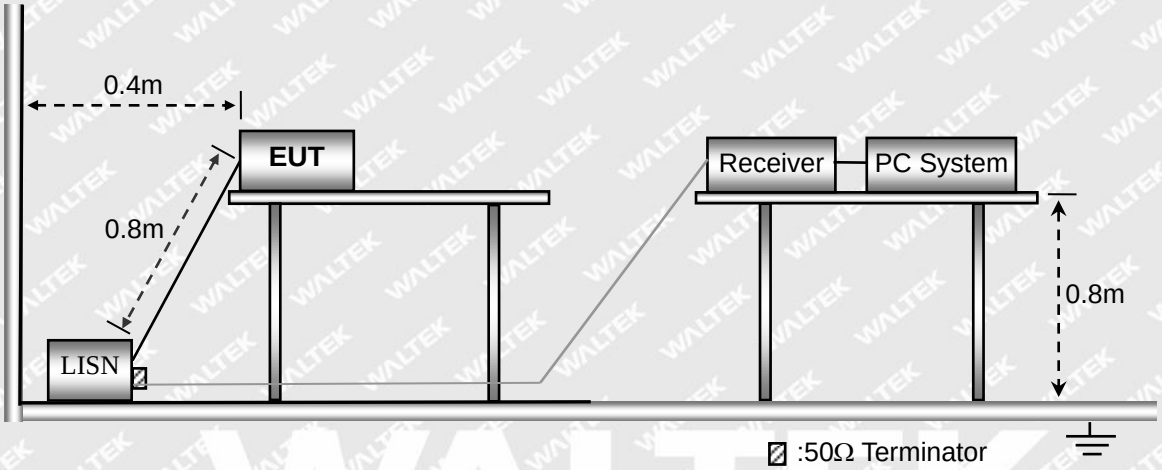
Pass: The EUT complies with the essential requirements in the standard.
Fail: The EUT does not comply with the essential requirements in the standard.
N/A: Not applicable.

3. Conducted Emissions

3.1 Test Procedure

Test is conducting under the description of EN55032 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

3.2 Basic Test Setup Block Diagram



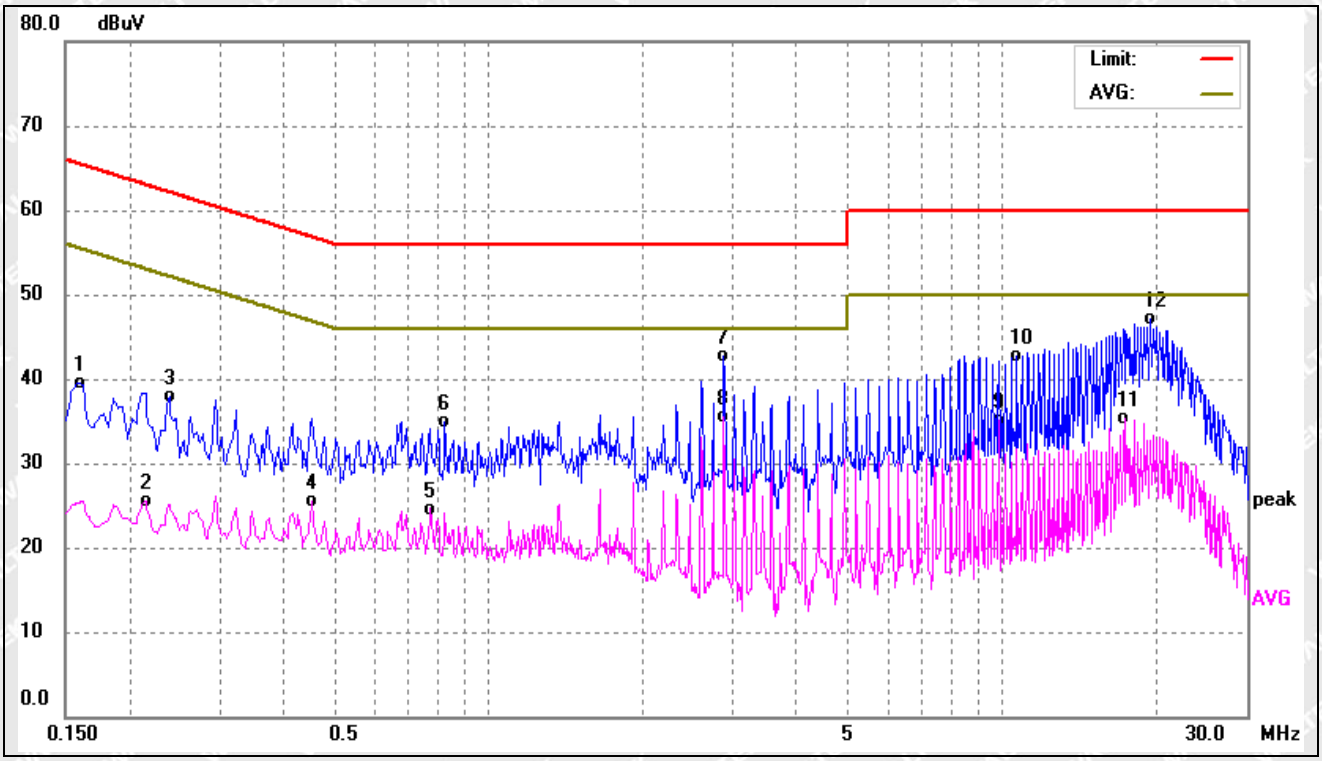
3.3 Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	54 %
ATM Pressure:	1015 mbar

3.4 Conducted Emissions Test Data

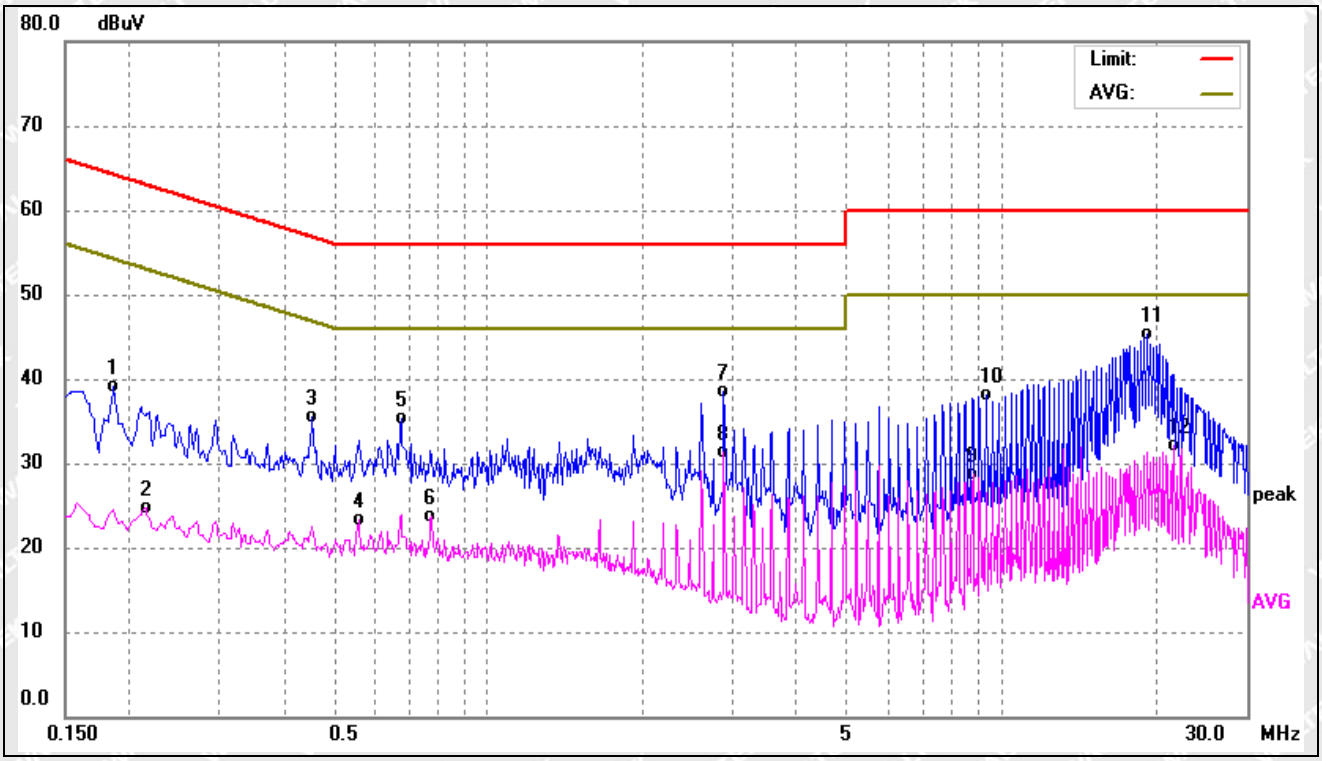
Note: Only show the worst case in the test report.

Test mode:	TM1	Polarity:	Neutral



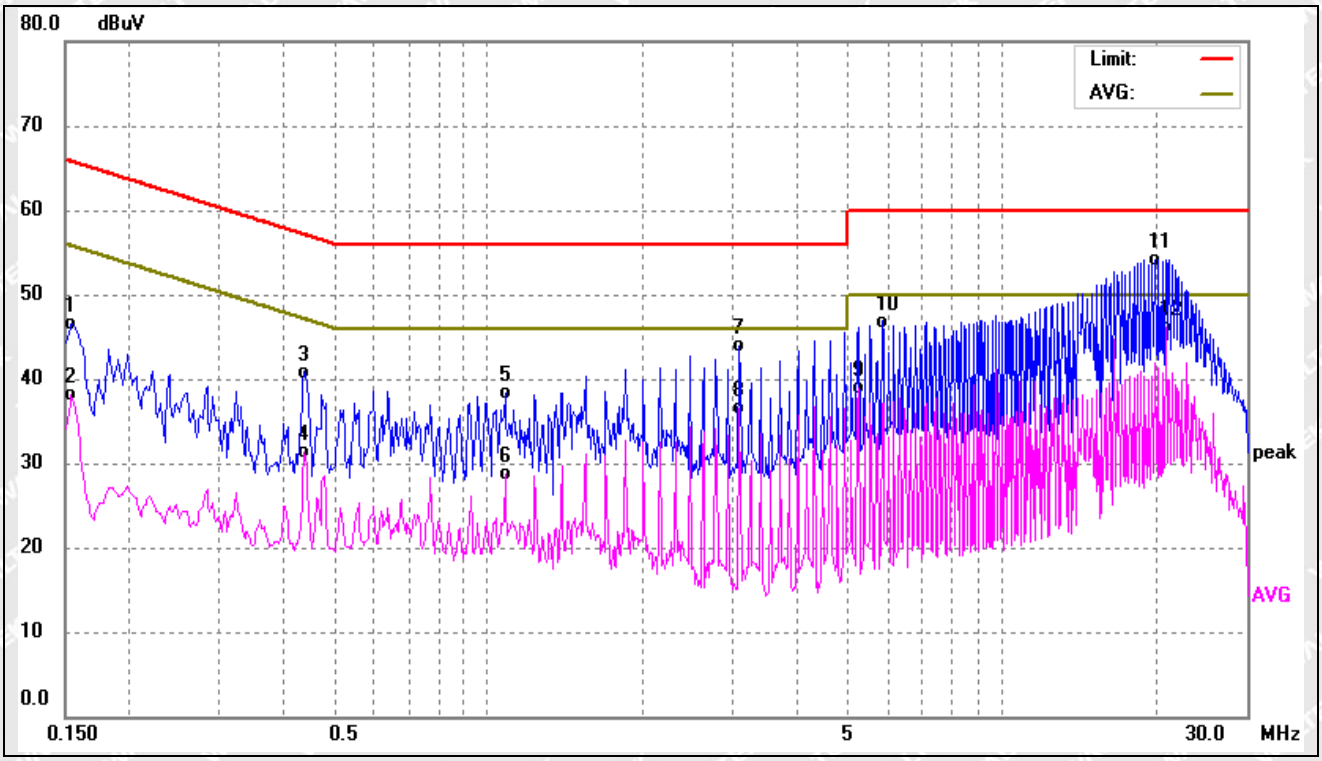
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1580	29.28	10.31	39.59	65.56	-25.97	QP
2	0.2140	15.21	10.29	25.50	53.04	-27.54	AVG
3	0.2380	27.62	10.27	37.89	62.16	-24.27	QP
4	0.4540	15.33	10.23	25.56	46.80	-21.24	AVG
5	0.7740	14.43	10.17	24.60	46.00	-21.40	AVG
6	0.8220	24.67	10.17	34.84	56.00	-21.16	QP
7	2.8820	32.42	10.27	42.69	56.00	-13.31	QP
8	2.8820	25.18	10.27	35.45	46.00	-10.55	AVG
9	9.8820	24.84	10.35	35.19	50.00	-14.81	AVG
10	10.6940	32.29	10.34	42.63	60.00	-17.37	QP
11	17.2979	24.93	10.30	35.23	50.00	-14.77	AVG
12	19.4940	36.66	10.36	47.02	60.00	-12.98	QP

Test mode:	TM1	Polarity:	Line



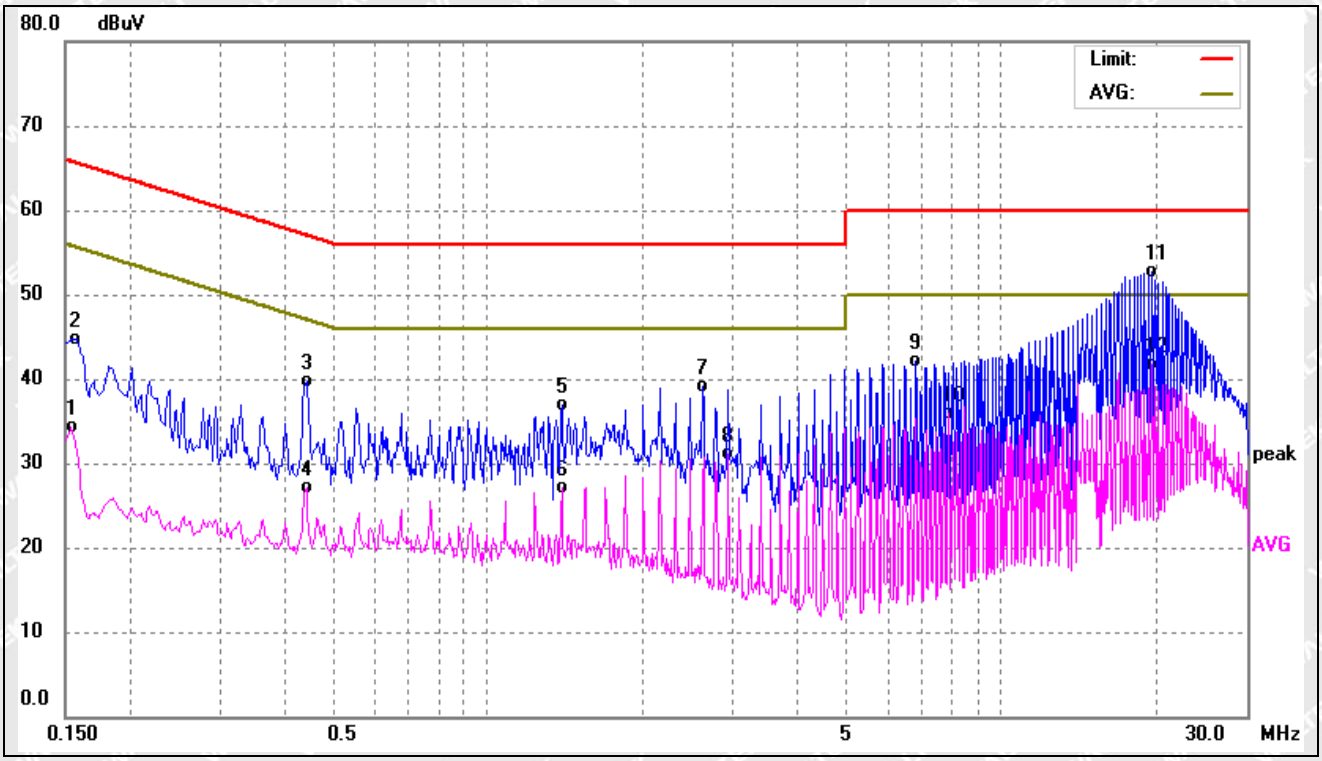
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1860	28.85	10.31	39.16	64.21	-25.05	QP
2	0.2140	14.37	10.29	24.66	53.04	-28.38	AVG
3	0.4540	25.20	10.23	35.43	56.80	-21.37	QP
4	0.5580	13.01	10.21	23.22	46.00	-22.78	AVG
5	0.6780	25.20	10.20	35.40	56.00	-20.60	QP
6	0.7780	13.46	10.17	23.63	46.00	-22.37	AVG
7	2.8820	28.16	10.27	38.43	56.00	-17.57	QP
8	2.8820	21.06	10.27	31.33	46.00	-14.67	AVG
9	8.7820	18.36	10.34	28.70	50.00	-21.30	AVG
10	9.3220	27.74	10.35	38.09	60.00	-21.91	QP
11	19.1980	34.88	10.35	45.23	60.00	-14.77	QP
12	21.6860	21.72	10.37	32.09	50.00	-17.91	AVG

Test mode:	TM2	Polarity:	Neutral



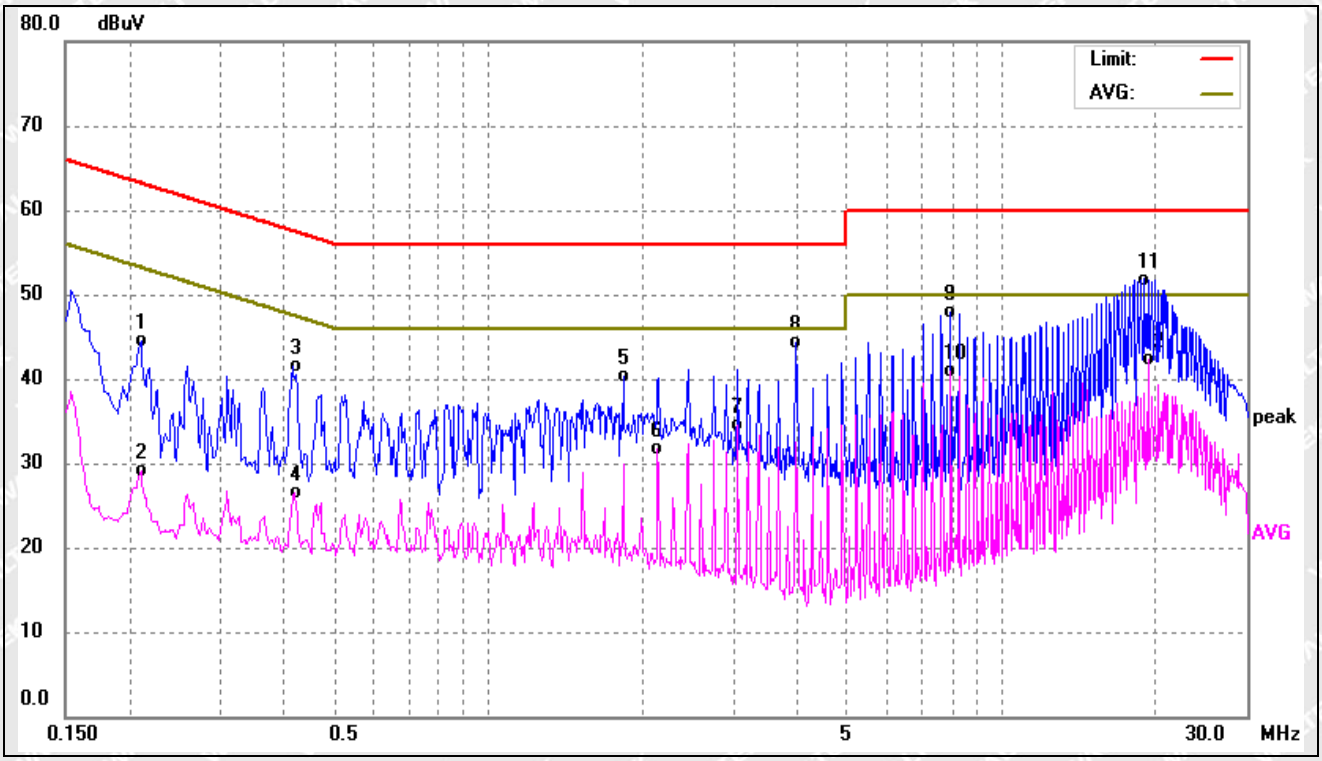
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1539	36.28	10.32	46.60	65.78	-19.18	QP
2	0.1539	27.84	10.32	38.16	55.78	-17.62	AVG
3	0.4380	30.57	10.23	40.80	57.10	-16.30	QP
4	0.4380	21.11	10.23	31.34	47.10	-15.76	AVG
5	1.0820	28.12	10.15	38.27	56.00	-17.73	QP
6	1.0820	18.62	10.15	28.77	46.00	-17.23	AVG
7	3.0860	33.64	10.28	43.92	56.00	-12.08	QP
8	3.0860	26.32	10.28	36.60	46.00	-9.40	AVG
9	5.2540	28.53	10.33	38.86	50.00	-11.14	AVG
10	5.8659	36.47	10.33	46.80	60.00	-13.20	QP
11	19.9180	43.82	10.37	54.19	60.00	-5.81	QP
12	20.8580	35.79	10.37	46.16	50.00	-3.84	AVG

Test mode:	TM2	Polarity:	Line



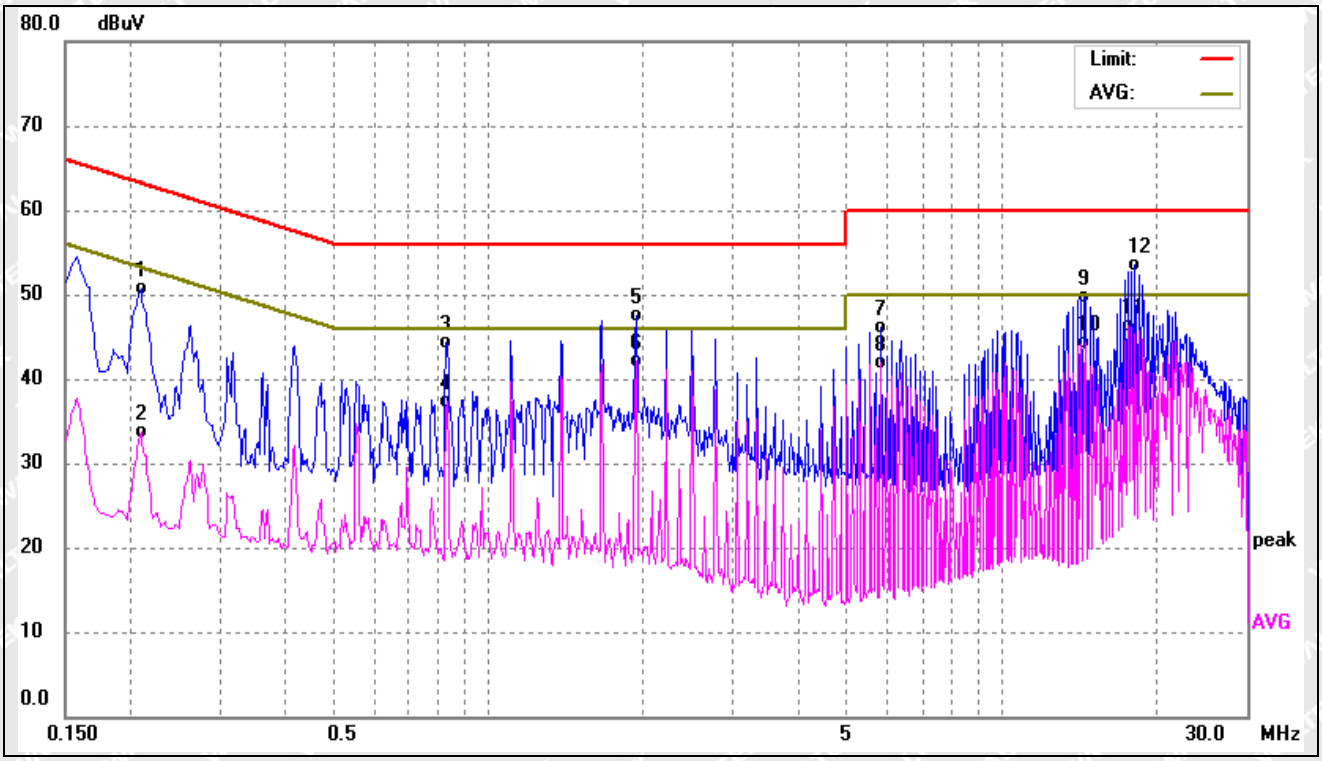
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1539	24.01	10.32	34.33	55.78	-21.45	AVG
2	0.1580	34.37	10.31	44.68	65.56	-20.88	QP
3	0.4420	29.38	10.23	39.61	57.02	-17.41	QP
4	0.4420	16.92	10.23	27.15	47.02	-19.87	AVG
5	1.3900	26.63	10.18	36.81	56.00	-19.19	QP
6	1.3900	17.00	10.18	27.18	46.00	-18.82	AVG
7	2.6220	28.75	10.27	39.02	56.00	-16.98	QP
8	2.9340	20.78	10.27	31.05	46.00	-14.95	AVG
9	6.8020	31.69	10.34	42.03	60.00	-17.97	QP
10	7.8780	25.54	10.34	35.88	50.00	-14.12	AVG
11	19.6220	42.30	10.36	52.66	60.00	-7.34	QP
12	19.6220	31.43	10.36	41.79	50.00	-8.21	AVG

Test mode:	TM3	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.2100	34.20	10.29	44.49	63.20	-18.71	QP
2	0.2100	18.83	10.29	29.12	53.20	-24.08	AVG
3	0.4140	31.19	10.22	41.41	57.57	-16.16	QP
4	0.4180	16.24	10.22	26.46	47.49	-21.03	AVG
5	1.8380	29.98	10.23	40.21	56.00	-15.79	QP
6	2.1420	21.53	10.25	31.78	46.00	-14.22	AVG
7	3.0579	24.29	10.28	34.57	46.00	-11.43	AVG
8	3.9780	34.04	10.30	44.34	56.00	-11.66	QP
9	7.9580	37.66	10.34	48.00	60.00	-12.00	QP
10	7.9580	30.55	10.34	40.89	50.00	-9.11	AVG
11	18.9860	41.46	10.34	51.80	60.00	-8.20	QP
12	19.2860	31.86	10.36	42.22	50.00	-7.78	AVG

Test mode:	TM3	Polarity:	Line

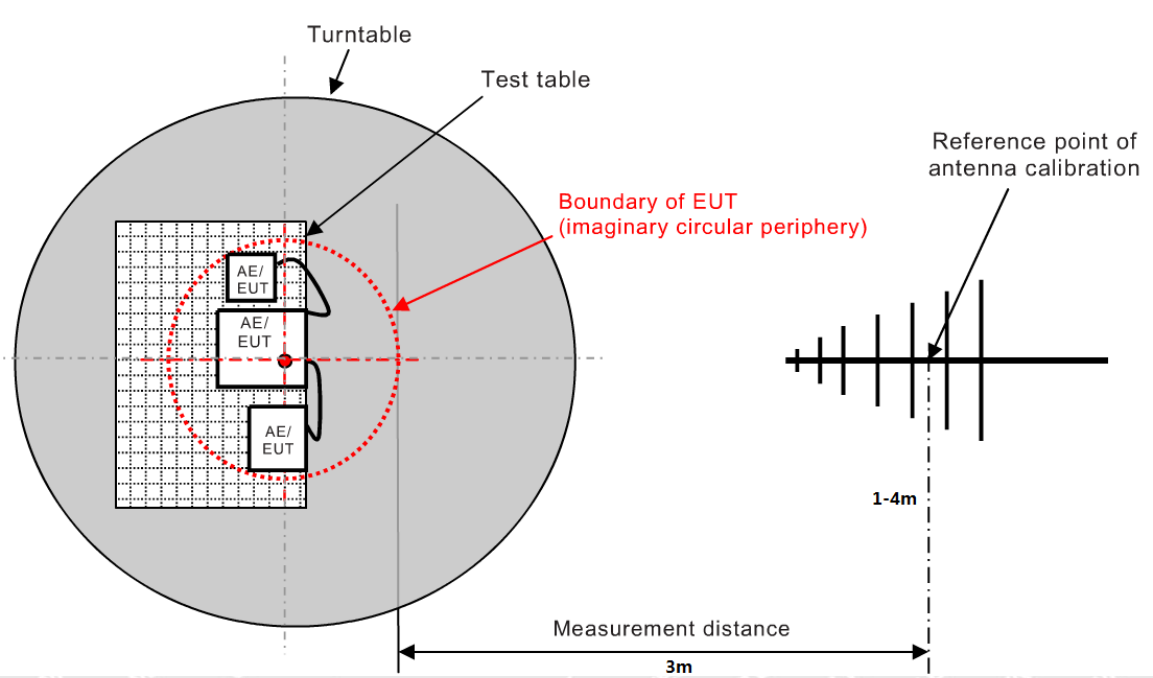


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.2099	40.35	10.29	50.64	63.21	-12.57	QP
2	0.2099	23.48	10.29	33.77	53.21	-19.44	AVG
3	0.8299	34.06	10.16	44.22	56.00	-11.78	QP
4	0.8339	27.10	10.16	37.26	46.00	-8.74	AVG
5	1.9420	37.27	10.24	47.51	56.00	-8.49	QP
6	1.9420	31.90	10.24	42.14	46.00	-3.86	AVG
7	5.8259	35.68	10.33	46.01	60.00	-13.99	QP
8	5.8259	31.65	10.33	41.98	50.00	-8.02	AVG
9	14.4900	39.49	10.25	49.74	60.00	-10.26	QP
10	14.5419	34.10	10.25	44.35	50.00	-5.65	AVG
11	17.6140	35.95	10.31	46.26	50.00	-3.74	AVG
12	18.1700	43.11	10.32	53.43	60.00	-6.57	QP

4. Radiated Emissions

4.2 Test Procedure

Test is conducting under the description of EN55032 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.



4.2 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – EN 301489 Class B Limit

4.3 Environmental Conditions

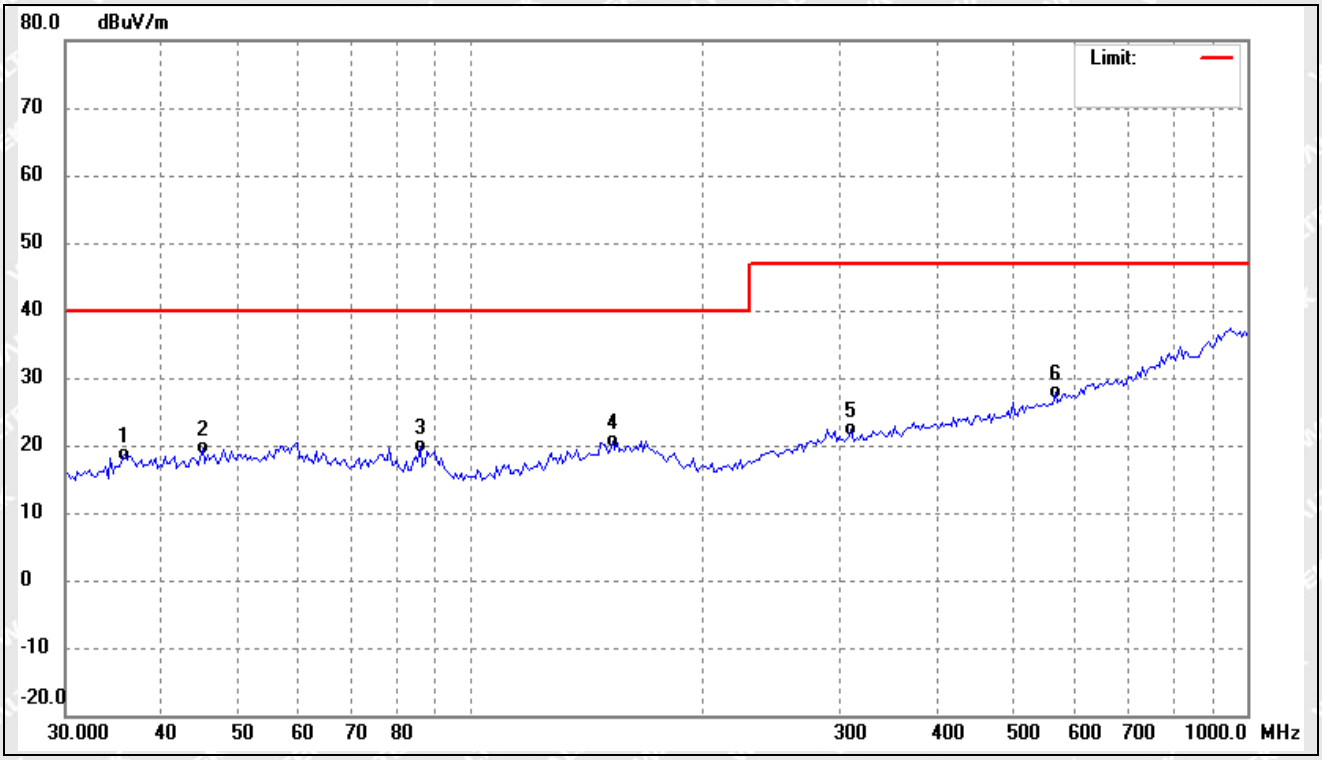
Temperature:	23.5° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.4 Summary of Test Results/Plots

Note: Only show the worst case in the test report

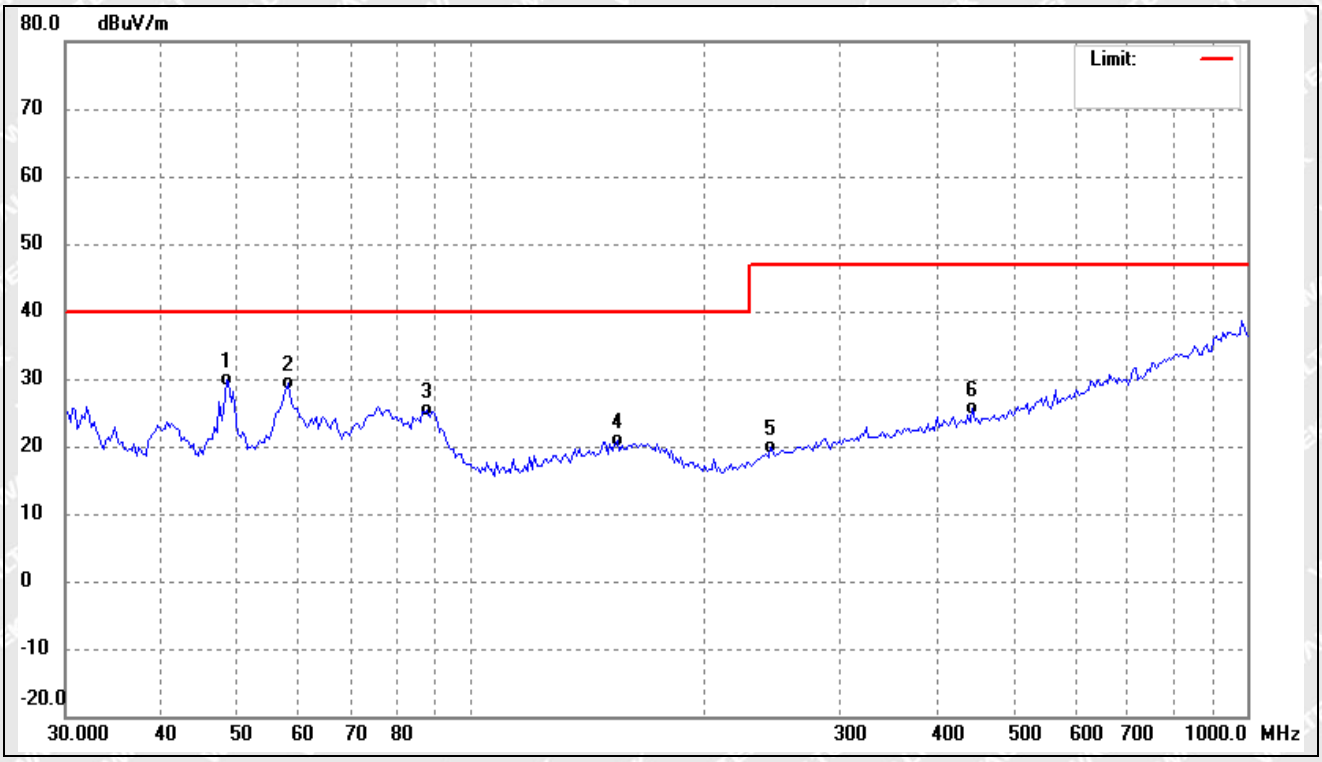
➢ 30MHz to 1GHz

Test mode:	TM1	Polarity:	Horizontal



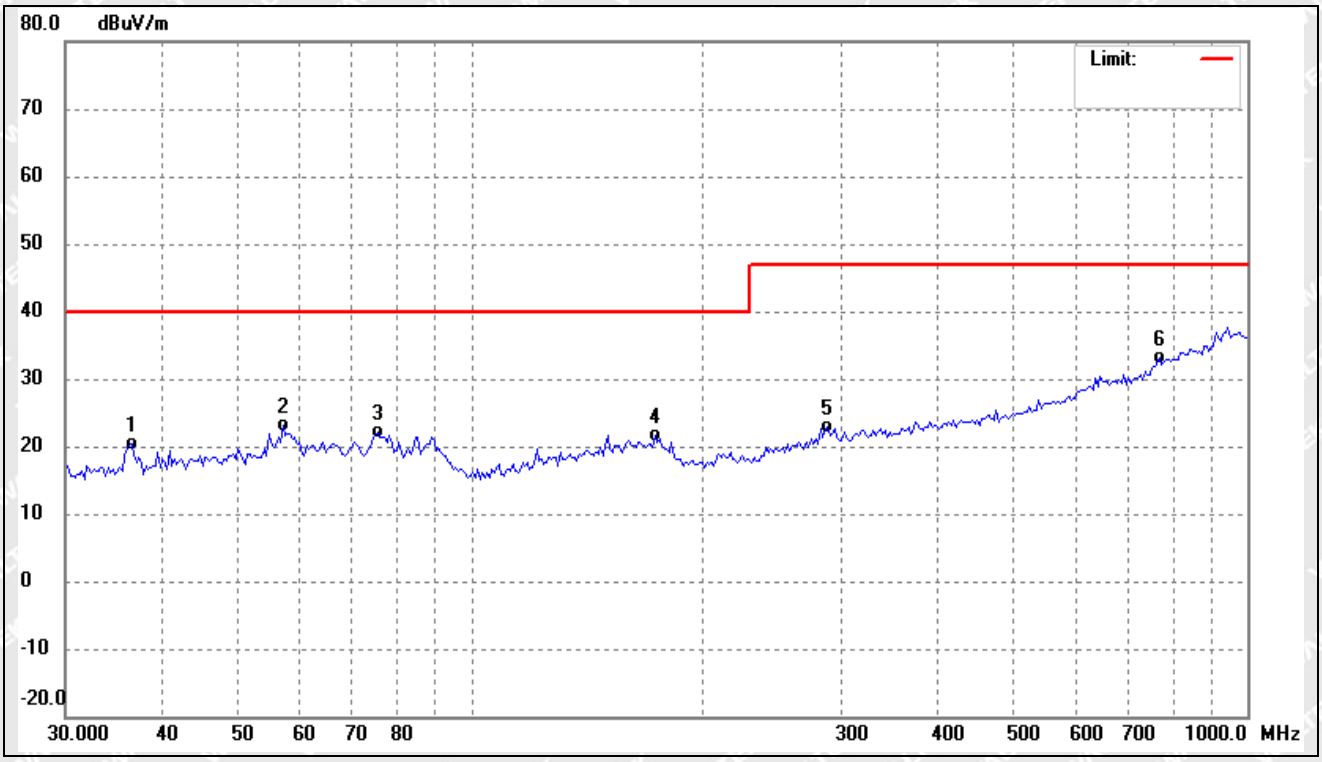
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	35.7617	28.06	-9.32	18.74	40.00	-21.26	-	-	QP
2	45.0951	27.97	-8.37	19.60	40.00	-20.40	-	-	QP
3	86.0795	33.13	-13.31	19.82	40.00	-20.18	-	-	QP
4	152.0902	29.56	-8.95	20.61	40.00	-19.39	-	-	QP
5	309.2710	30.58	-8.25	22.33	47.00	-24.67	-	-	QP
6	565.9776	31.38	-3.43	27.95	47.00	-19.05	-	-	QP

Test mode:	TM1	Polarity:	Vertical



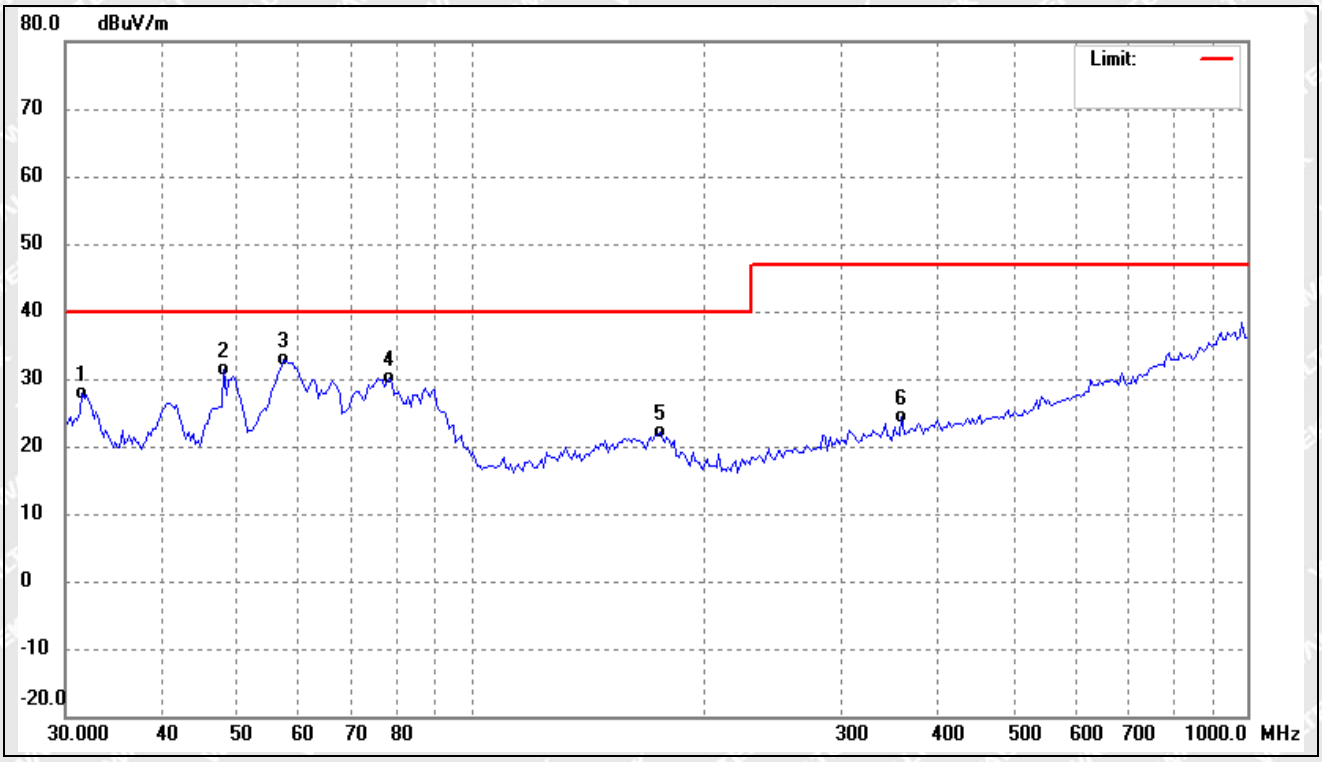
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	48.3780	38.07	-8.12	29.95	40.00	-10.05	-	-	QP
2	58.0759	38.24	-8.80	29.44	40.00	-10.56	-	-	QP
3	87.9136	38.83	-13.35	25.48	40.00	-14.52	-	-	QP
4	154.2428	29.87	-8.95	20.92	40.00	-19.08	-	-	QP
5	243.5431	30.65	-10.67	19.98	47.00	-27.02	-	-	QP
6	442.5722	31.58	-5.85	25.73	47.00	-21.27	-	-	QP

Test mode:	TM2	Polarity:	Horizontal



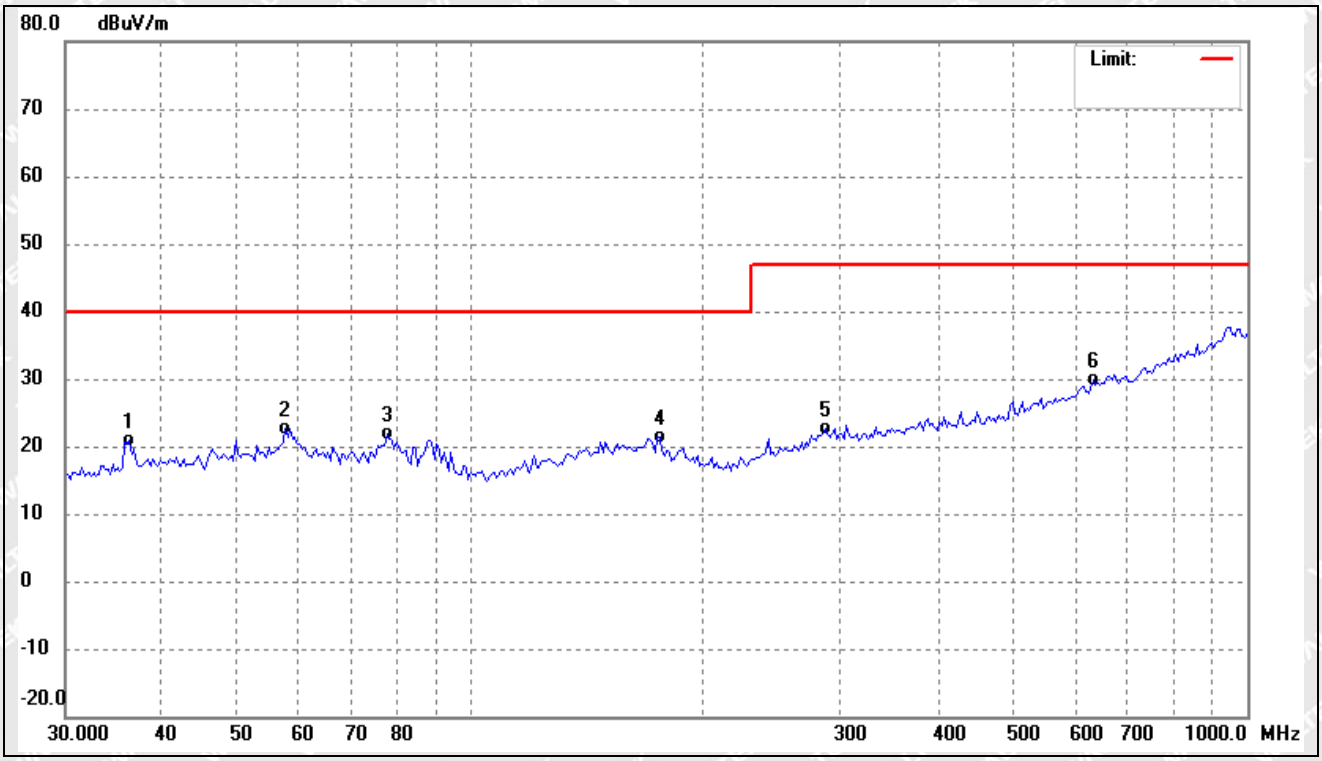
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	36.5236	29.59	-9.16	20.43	40.00	-19.57	-	-	QP
2	57.2654	31.79	-8.74	23.05	40.00	-16.95	-	-	QP
3	75.8520	34.37	-12.21	22.16	40.00	-17.84	-	-	QP
4	172.5976	31.14	-9.58	21.56	40.00	-18.44	-	-	QP
5	288.2840	31.66	-8.87	22.79	47.00	-24.21	-	-	QP
6	771.0475	32.68	0.44	33.12	47.00	-13.88	-	-	QP

Test mode:	TM2	Polarity:	Vertical



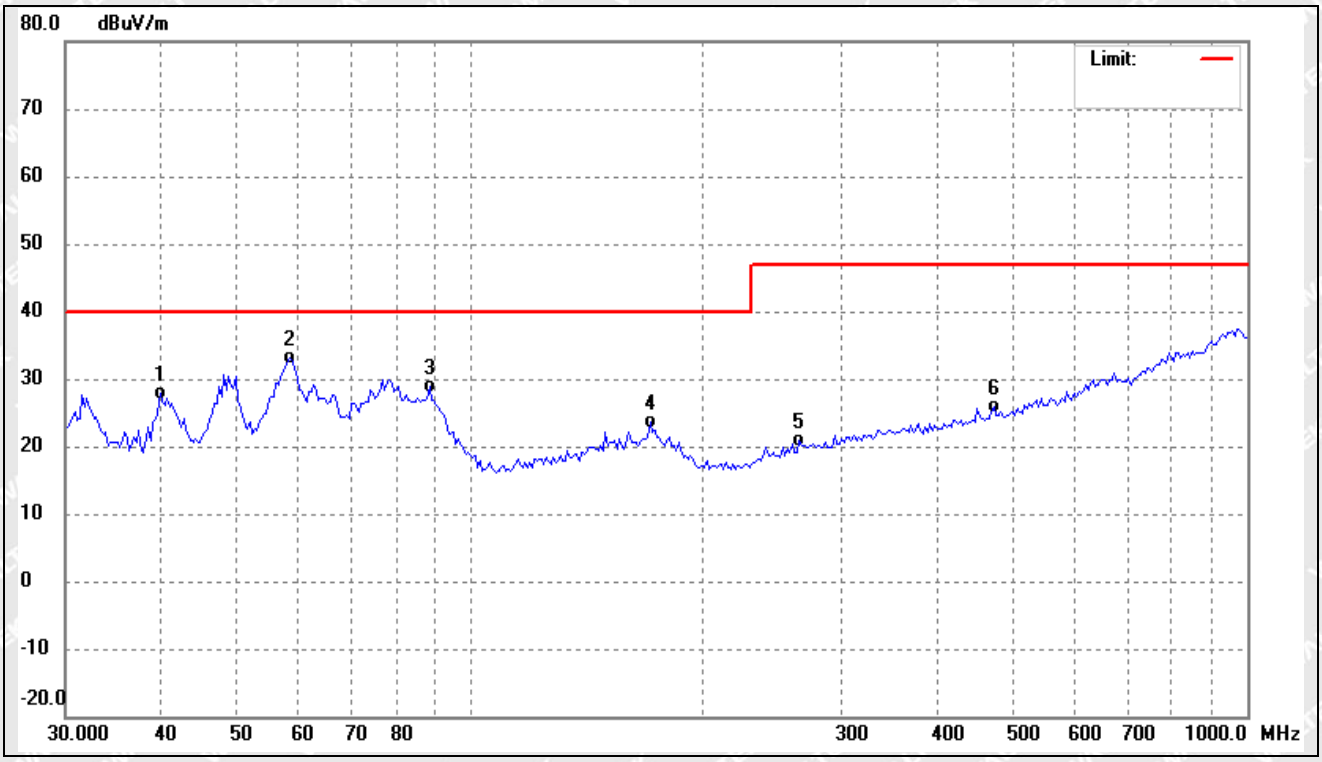
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	31.5126	37.93	-9.94	27.99	40.00	-12.01	-	-	QP
2	48.0392	39.63	-8.14	31.49	40.00	-8.51	-	-	QP
3	57.2654	41.51	-8.74	32.77	40.00	-7.23	-	-	QP
4	78.5645	42.92	-12.83	30.09	40.00	-9.91	-	-	QP
5	175.0404	32.13	-9.93	22.20	40.00	-17.80	-	-	QP
6	358.4497	31.94	-7.44	24.50	47.00	-22.50	-	-	QP

Test mode:	TM3	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	36.2678	30.05	-9.22	20.83	40.00	-19.17	-	-	QP
2	57.6692	31.46	-8.77	22.69	40.00	-17.31	-	-	QP
3	78.0143	34.49	-12.71	21.78	40.00	-18.22	-	-	QP
4	175.0404	31.23	-9.93	21.30	40.00	-18.70	-	-	QP
5	286.2652	31.47	-8.94	22.53	47.00	-24.47	-	-	QP
6	633.3284	31.76	-1.88	29.88	47.00	-17.12	-	-	QP

Test mode:	TM3	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	39.7371	36.26	-8.46	27.80	40.00	-12.20	-	-	QP
2	58.4855	42.02	-8.83	33.19	40.00	-6.81	-	-	QP
3	88.5336	42.20	-13.37	28.83	40.00	-11.17	-	-	QP
4	170.1888	32.80	-9.24	23.56	40.00	-16.44	-	-	QP
5	264.9709	30.57	-9.79	20.78	47.00	-26.22	-	-	QP
6	471.4665	31.43	-5.52	25.91	47.00	-21.09	-	-	QP

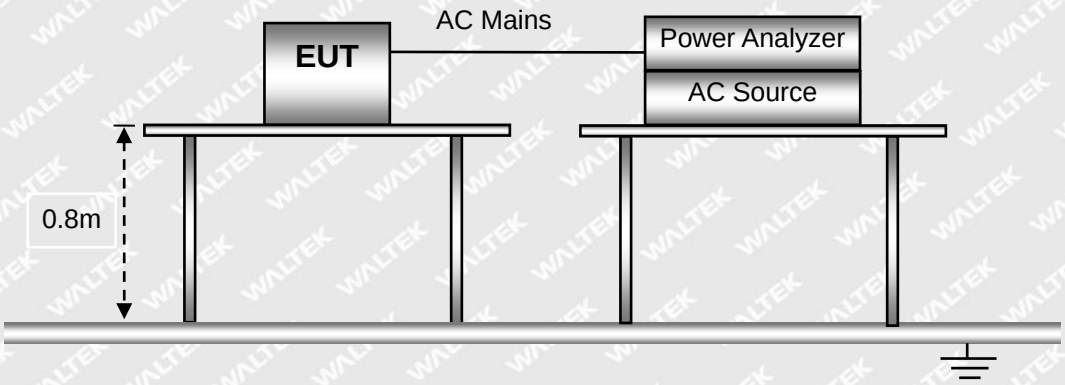
Remark:'-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

5. Harmonic Current Emissions

5.1 Test Procedure

Test is conducting under the description of EN 61000-3-2.

5.2 Test Setup Block Diagram



5.3 Test Standards

EN61000-3-2, Clause 7.1 Limits for Class A equipment.

5.4 Environmental Conditions

Temperature:	25°C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

5.5 Harmonic Current Emissions Test Data

Harmonics – Class-A

Test category: Class-A (European limits) **Test Margin: 100**

Test date: 2023/2/27 **Start time: 14:56:31** **End time: 14:59:12**

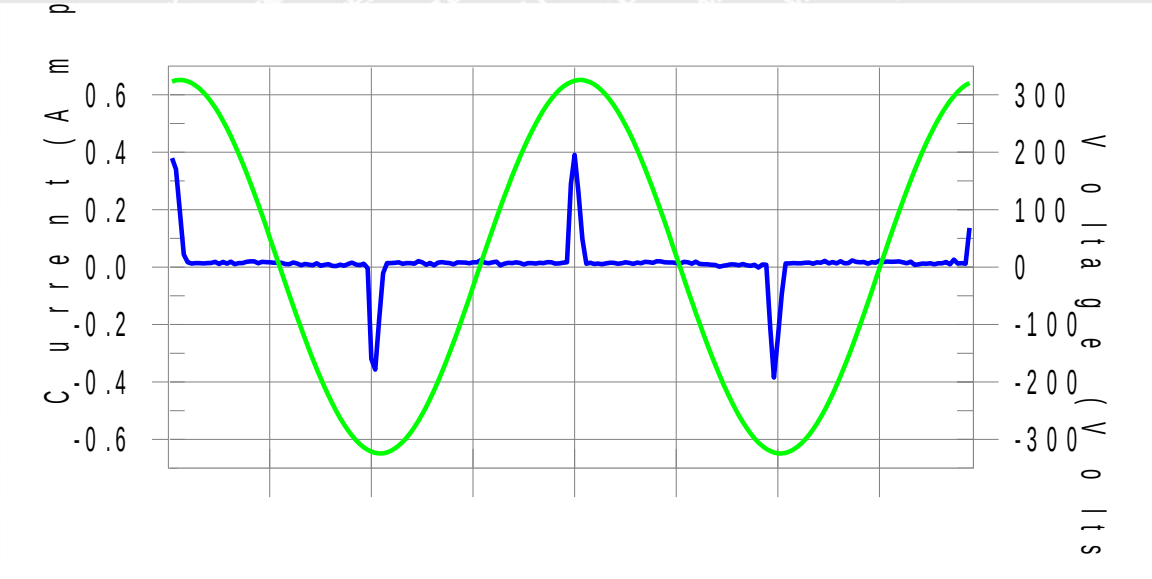
Test duration (min): 2.5 **Data file name: H-000405.cts_data**

Comment: Comments

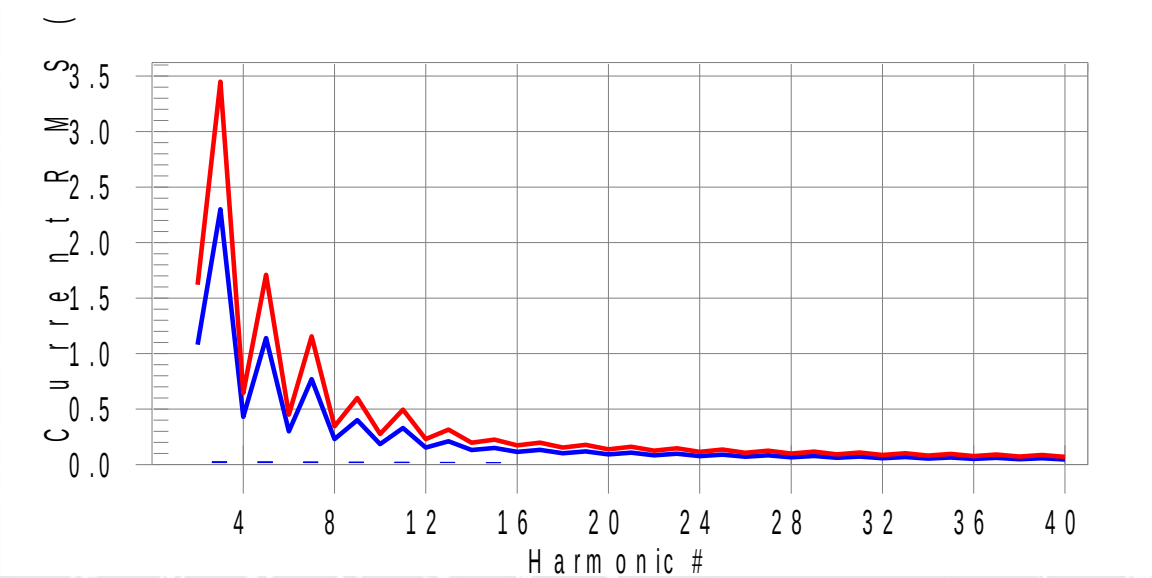
Customer: Customer information

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass **Worst harmonics H17-8.5% of 150% limit, H17-12.5% of 100% limit**

Current Test Result Summary (Run time)

Test category: Class-A (European limits) **Test Margin: 100**
Test date: 2023/2/27 **Start time: 14:56:31** **End time: 14:59:12**
Test duration (min): 2.5 **Data file name: H-000405.cts_data**
Comment: Comments
Customer: Customer information

Test Result: Pass **Source qualification: Normal**
THC(A): 0.068 **I-THD(%): 240.8** **POHC(A): 0.022** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	230.08	Frequency(Hz):	50.00
I_Peak (Amps):	0.432	I_RMS (Amps):	0.077
I_Fund (Amps):	0.028	Crest Factor:	5.682
Power (Watts):	6.5	Power Factor:	0.374

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	0.026	2.300	1.1	0.027	3.450	0.8	Pass
4	0.001	0.430	N/A	0.001	0.645	N/A	Pass
5	0.025	1.140	2.2	0.026	1.710	1.5	Pass
6	0.000	0.300	N/A	0.001	0.450	N/A	Pass
7	0.025	0.770	3.2	0.025	1.155	2.2	Pass
8	0.000	0.230	N/A	0.001	0.345	N/A	Pass
9	0.023	0.400	5.8	0.024	0.600	3.9	Pass
10	0.000	0.184	N/A	0.001	0.276	N/A	Pass
11	0.022	0.330	6.6	0.022	0.495	4.5	Pass
12	0.000	0.153	N/A	0.001	0.230	N/A	Pass
13	0.020	0.210	9.6	0.020	0.315	6.5	Pass
14	0.000	0.131	N/A	0.001	0.197	N/A	Pass
15	0.018	0.150	12.3	0.019	0.225	8.3	Pass
16	0.000	0.115	N/A	0.001	0.173	N/A	Pass
17	0.017	0.132	12.5	0.017	0.198	8.5	Pass
18	0.000	0.102	N/A	0.001	0.153	N/A	Pass
19	0.015	0.118	12.3	0.015	0.178	8.3	Pass
20	0.000	0.092	N/A	0.001	0.138	N/A	Pass
21	0.013	0.107	11.8	0.013	0.161	8.0	Pass
22	0.000	0.084	N/A	0.001	0.125	N/A	Pass
23	0.011	0.098	11.0	0.011	0.147	7.4	Pass
24	0.000	0.077	N/A	0.001	0.115	N/A	Pass
25	0.009	0.090	9.9	0.009	0.135	6.7	Pass

26	0.000	0.071	N/A	0.001	0.107	N/A	Pass
27	0.007	0.083	8.8	0.007	0.125	5.9	Pass
28	0.000	0.066	N/A	0.001	0.099	N/A	Pass
29	0.006	0.078	7.5	0.006	0.116	5.1	Pass
30	0.000	0.061	N/A	0.001	0.092	N/A	Pass
31	0.005	0.073	N/A	0.005	0.109	N/A	Pass
32	0.000	0.058	N/A	0.000	0.086	N/A	Pass
33	0.004	0.068	N/A	0.004	0.102	N/A	Pass
34	0.000	0.054	N/A	0.000	0.081	N/A	Pass
35	0.003	0.064	N/A	0.003	0.096	N/A	Pass
36	0.000	0.051	N/A	0.000	0.077	N/A	Pass
37	0.003	0.061	N/A	0.003	0.091	N/A	Pass
38	0.000	0.048	N/A	0.000	0.073	N/A	Pass
39	0.003	0.058	N/A	0.003	0.087	N/A	Pass
40	0.000	0.046	N/A	0.000	0.069	N/A	Pass

Voltage Source Verification Data (Run time)

Test category: Class-A (European limits) **Test Margin: 100**
Test date: 2023/2/27 **Start time: 14:56:31** **End time: 14:59:12**
Test duration (min): 2.5 **Data file name: H-000405.cts_data**
Comment: Comments
Customer: Customer information

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	**230.08**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.432**	**I_RMS (Amps):**	**0.077**
I_Fund (Amps):	**0.028**	**Crest Factor:**	**5.682**
Power (Watts):	**6.5**	**Power Factor:**	**0.374**

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.059	0.460	12.84	OK
3	0.501	2.070	24.20	OK
4	0.077	0.460	16.83	OK
5	0.056	0.920	6.12	OK
6	0.034	0.460	7.41	OK
7	0.018	0.690	2.65	OK
8	0.017	0.460	3.80	OK
9	0.019	0.460	4.08	OK
10	0.009	0.460	1.87	OK
11	0.020	0.230	8.79	OK
12	0.013	0.230	5.44	OK
13	0.023	0.230	9.83	OK
14	0.006	0.230	2.63	OK
15	0.016	0.230	7.13	OK
16	0.009	0.230	3.80	OK
17	0.018	0.230	7.90	OK
18	0.011	0.230	4.92	OK
19	0.022	0.230	9.76	OK
20	0.015	0.230	6.47	OK
21	0.020	0.230	8.58	OK
22	0.004	0.230	1.70	OK
23	0.016	0.230	7.05	OK
24	0.004	0.230	1.66	OK
25	0.013	0.230	5.60	OK
26	0.003	0.230	1.13	OK

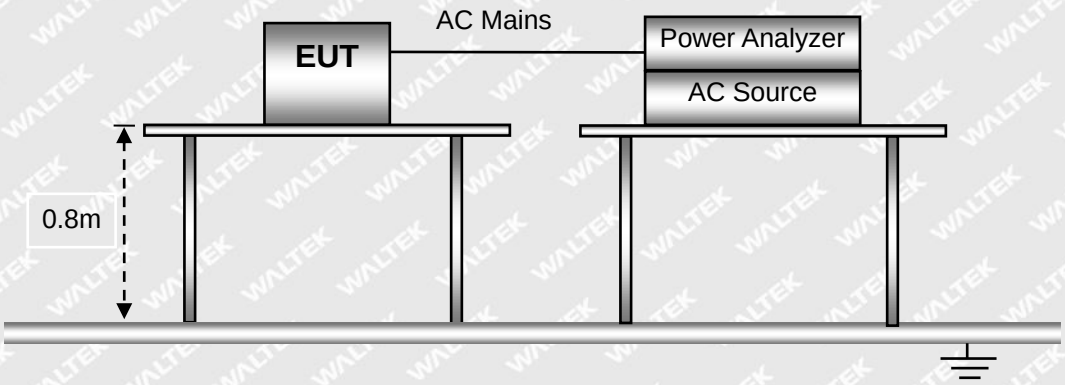
27	**0.009**	**0.230**	**3.99**	**OK**
28	**0.004**	**0.230**	**1.76**	**OK**
29	**0.014**	**0.230**	**6.24**	**OK**
30	**0.003**	**0.230**	**1.48**	**OK**
31	**0.010**	**0.230**	**4.35**	**OK**
32	**0.003**	**0.230**	**1.35**	**OK**
33	**0.010**	**0.230**	**4.16**	**OK**
34	**0.003**	**0.230**	**1.30**	**OK**
35	**0.007**	**0.230**	**3.19**	**OK**
36	**0.003**	**0.230**	**1.29**	**OK**
37	**0.007**	**0.230**	**2.83**	**OK**
38	**0.003**	**0.230**	**1.10**	**OK**
39	**0.005**	**0.230**	**2.33**	**OK**
40	**0.008**	**0.230**	**3.35**	**OK**

6. Voltage Fluctuation and Flicker

6.1 Test Procedure

Test is conducting under the description of EN 61000-3-3.

6.2 Test Setup Block Diagram



6.3 Test Standards

EN61000-3-3, Limit: Clause 5.

6.4 Environmental Conditions

Temperature:	25°C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

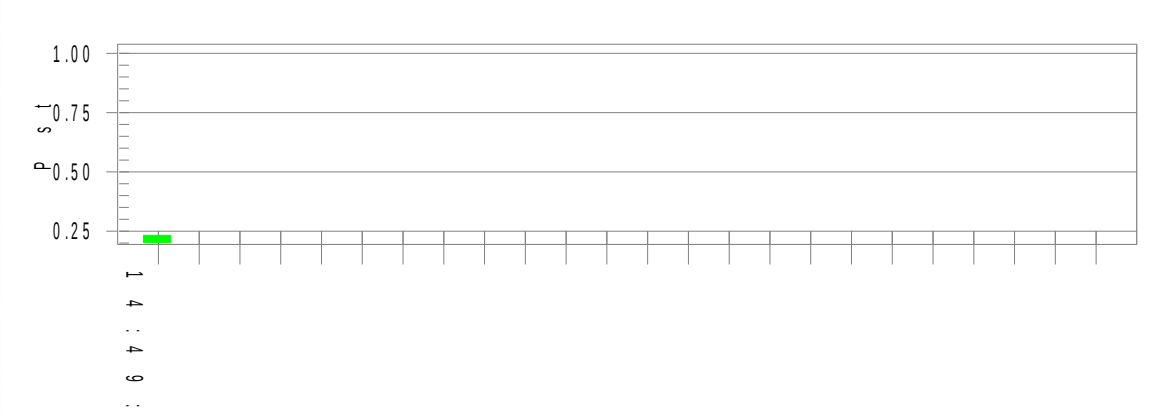
6.5 Voltage Fluctuation and Flicker Test Data

Result: The EUT is compliance with the requirements of this section.

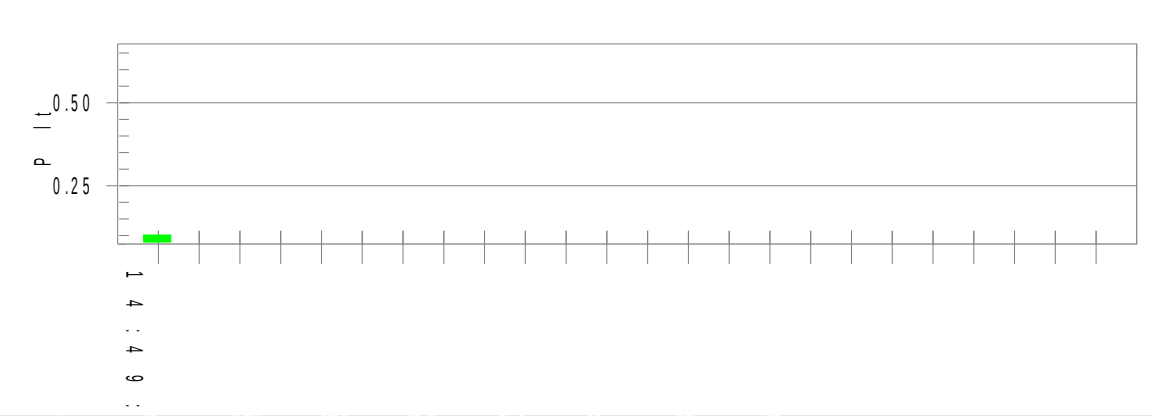
Test mode:	TM1

Test Result: Pass **Status: Test Completed**

Pst_1 and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt): 230.05

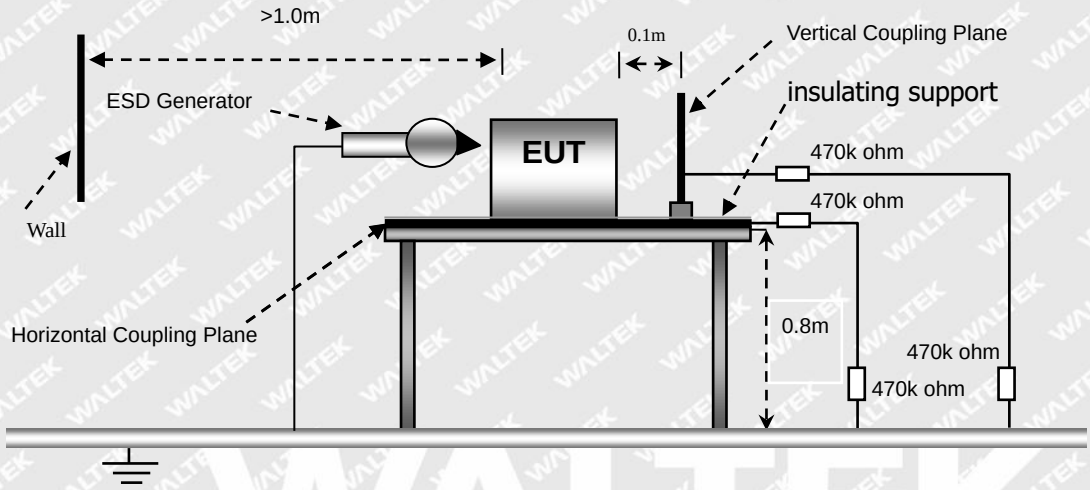
Highest dt (%):		**Test limit (%):**		
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.00**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.233**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.102**	**Test limit:**	**0.650**	**Pass**

7. Electrostatic Discharge (ESD)

7.1 Test Procedure

Test is conducting under the description of EN 61000-4-2.

7.2 Test Setup Block Diagram



7.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	B
Note: TM4 for TT,TR		

7.4 Environmental Conditions

Temperature:	25°C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

7.5 Electrostatic Discharge Immunity Test Data

Test mode	TM1-TM4							
EN 61000-4-2	Test Levels (kV)							
Test Points	-2	+2	-4	+4	-6	+6	-8	+8
Air Discharge								
USB Port	A	A	A	A	A	A	A	A
Enclosure	A	A	A	A	A	A	A	A
Direct Contact Discharge								
USB Port	A	A	A	A	/	/	/	/
Enclosure	A	A	A	A	/	/	/	/
Indirect Contact Discharge								
HCP (6 Sides)	A	A	A	A	/	/	/	/
VCP (4 Sides)	A	A	A	A	/	/	/	/

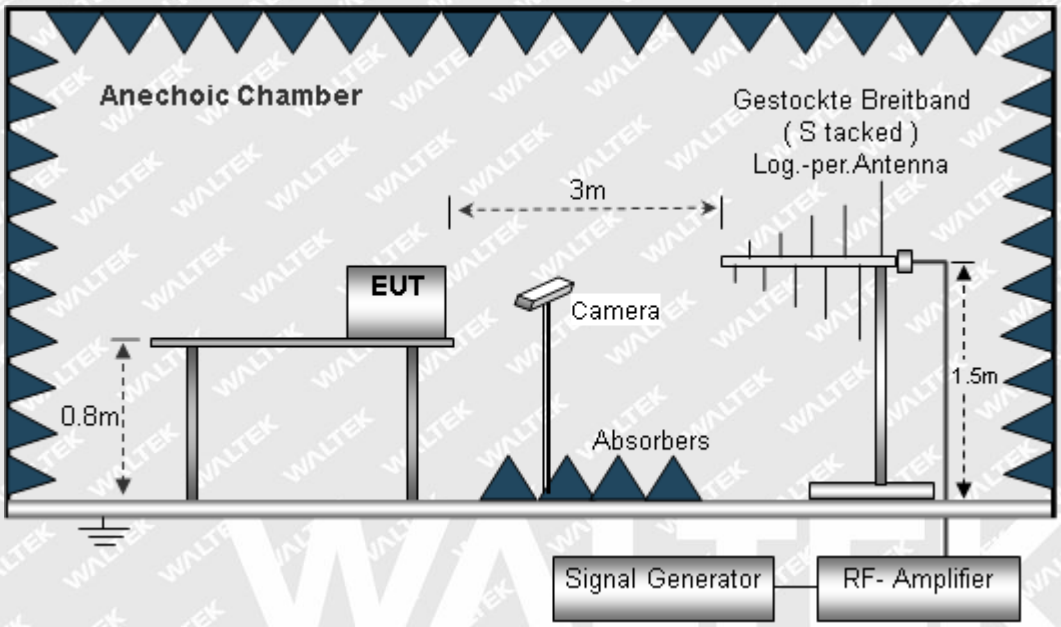
Test Result: Pass

8. Radio Frequency Electromagnetic Field (R/S)

8.1 Test Procedure

Test is conducting under the description of EN 61000-4-3.

8.2 Test Setup Block Diagram



8.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	A
Note: TM4for CT,CR		

8.4 Environmental Conditions

Temperature:	25°C
Relative Humidity:	50%
ATM Pressure:	1011mbar

8.5 Continuous Radiated Disturbances Test Data

Frequency step: 1% of fundamental

Dwell time: 1 second

Modulation: AM by 1kHz sine wave with 80% modulation depth

Test mode		TM1-TM4							
Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	3	A	A	A	A	A	A	A	A
1000-3000	3	A	A	A	A	A	A	A	A
3000-6000	3	A	A	A	A	A	A	A	A

Test Result: Pass

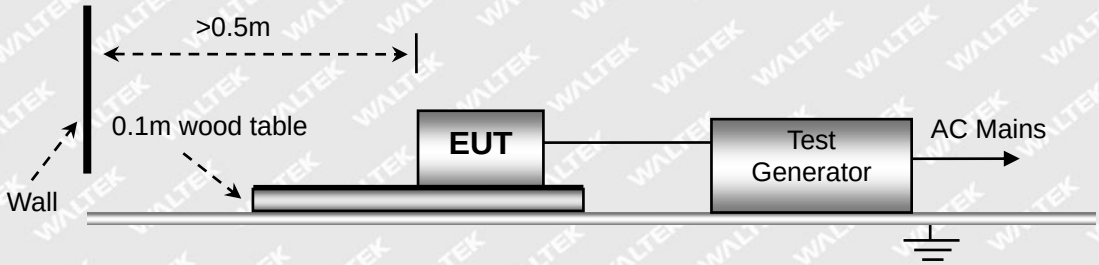
9. Fast Transients, Common Mode (EFT)

9.1 Test Procedure

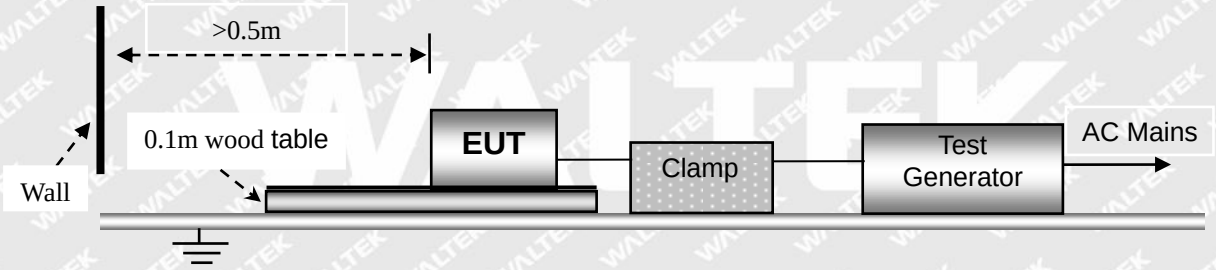
Test is conducting under the description of EN 61000-4-4.

9.2 Test Setup Block Diagram

For AC Mains or DC Ports:



For Signal or Telecommunication Ports:



9.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	B
Note: TM4 for TT,TR		

9.4 Environmental Conditions

Temperature:	25°C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

9.5 Electrical Fast Transients Test Data

Test Mode		TM1-TM4							
EN 61000-4-4 Test Line		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
AC Main Power port	L	A	A	A	A	/	/	/	/
	N	A	A	A	A	/	/	/	/
	PE	/	/	/	/	/	/	/	/
	L-N	A	A	A	A	/	/	/	/
	L-PE	/	/	/	/	/	/	/	/
	N-PE	/	/	/	/	/	/	/	/
	L-N-PE	/	/	/	/	/	/	/	/
Signal ports	/	/	/	/	/	/	/	/	/

Test Result: Pass

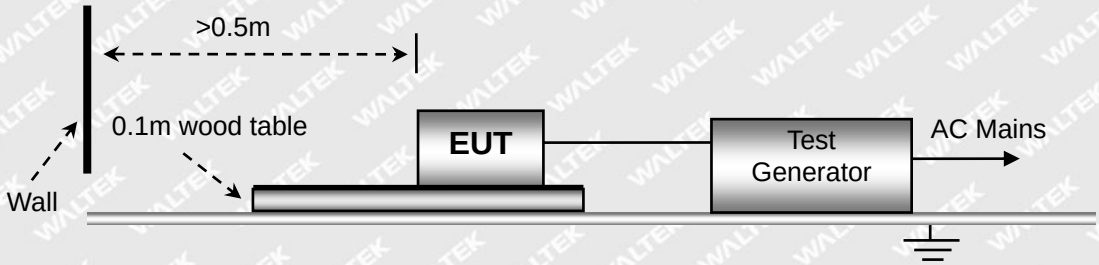
10. Surges

10.1 Test Procedure

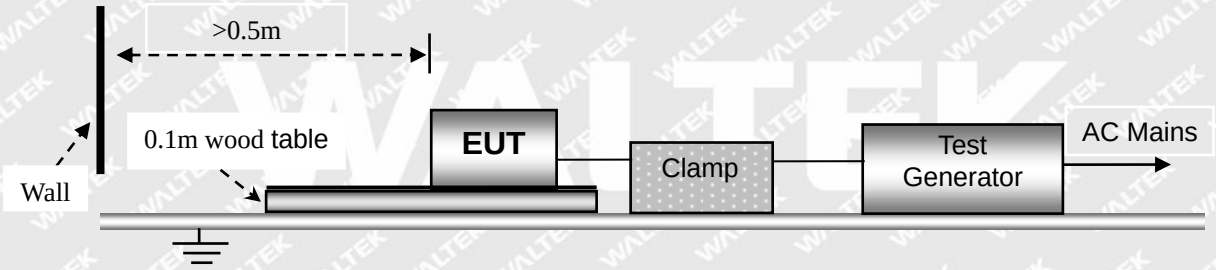
Test is conducting under the description of EN 61000-4-5.

10.2 Test Setup Block Diagram

For AC Mains or DC Ports:



For Signal or Telecommunication Ports:



10.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	B
Note: TM4 for TT,TR		

10.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

10.5 Surge Test Data

Test Mode	TM1-TM4			
Voltage	**Poll**	**Path**	**Pass**	**Fail**
0.5kV	±	L-N	A	/
1kV	±	L-N	A	/
2kV	±	L-N, L-PE, N-PE	/	/
4kV	±	L-N, L-PE, N-PE	/	/

Test Result: Pass

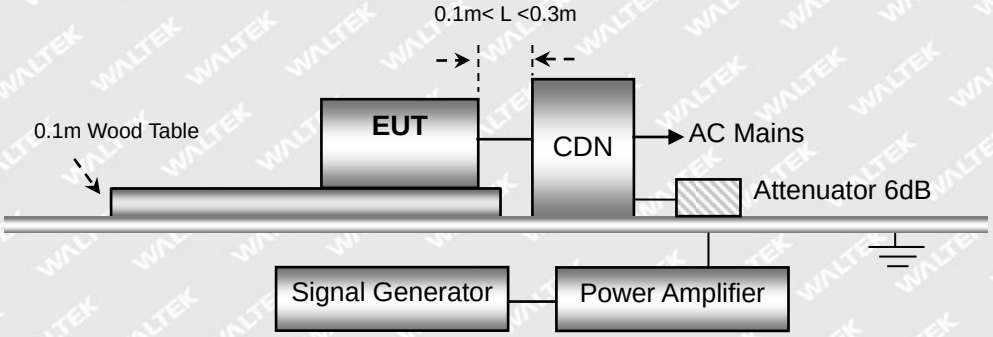
11. Radio Frequency, Common Mode (C/S)

11.1 Test Procedure

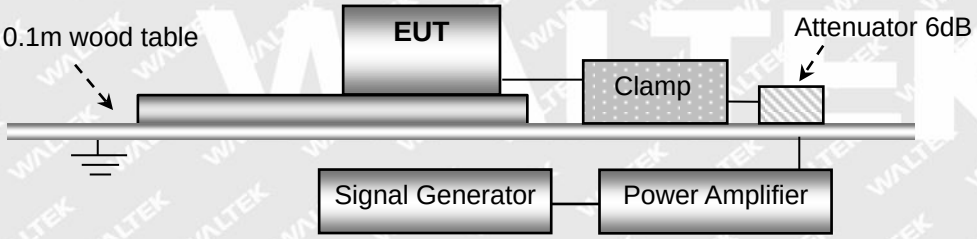
Test is conducting under the description of EN 61000-4-6.

11.2 Test Setup Block Diagram

For AC Mains or DC Input:



For Signal or Telecommunication Ports:



11.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	A
Note: TM4 for CT,CR		

11.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

11.5 Continuous Conducted Disturbances Test Data

Sweep frequency range: 150kHz~80MHz

Frequency step: 1% of fundamental

Dwell time: 1 second

Test Mode		TM1-TM4		
Level	**Voltage (V) (rms, unmodulated)**	**Modulation:**	**Pass**	**Fail**
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

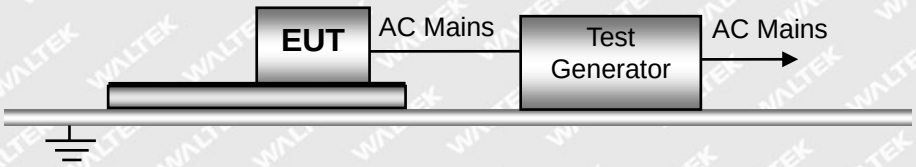
Test Result: Pass

12. Voltage Dips and Interruptions

12.1 Test Procedure

Test is conducting under the description of EN 61000-4-11.

12.2 Test Setup Block Diagram



12.3 Test Performance

Performance Criterion:	Mode	Verdict
	TM1-TM4	B for voltage dip/ C for voltage interruption
Note: TM4 for TT,TR		

12.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

12.5 Voltage Dips And Interruptions Test Data

U: Voltage dips in % U_T (U_T is rated voltage for the EUT)

T: Test duration

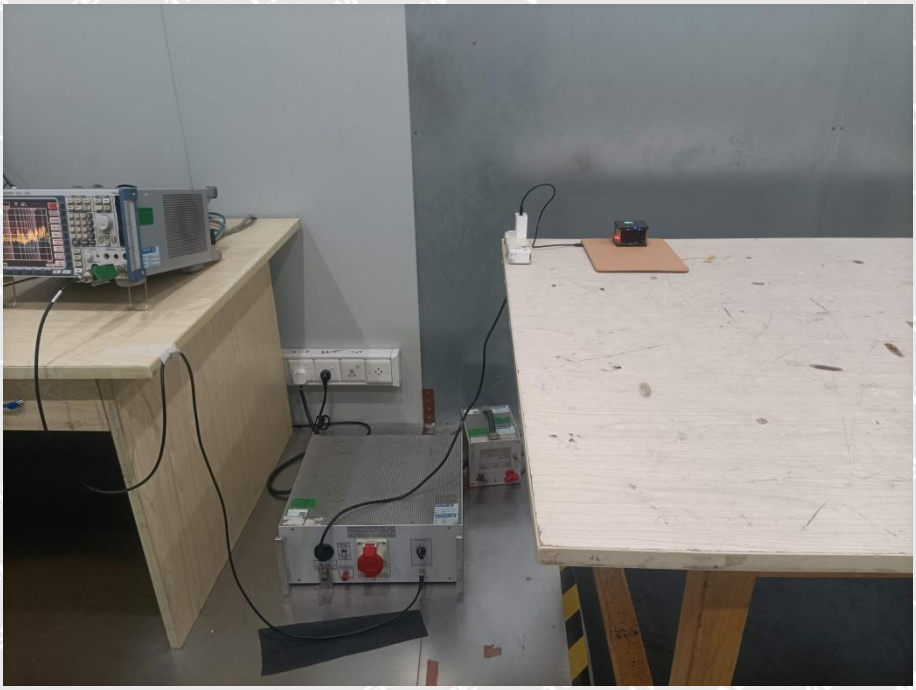
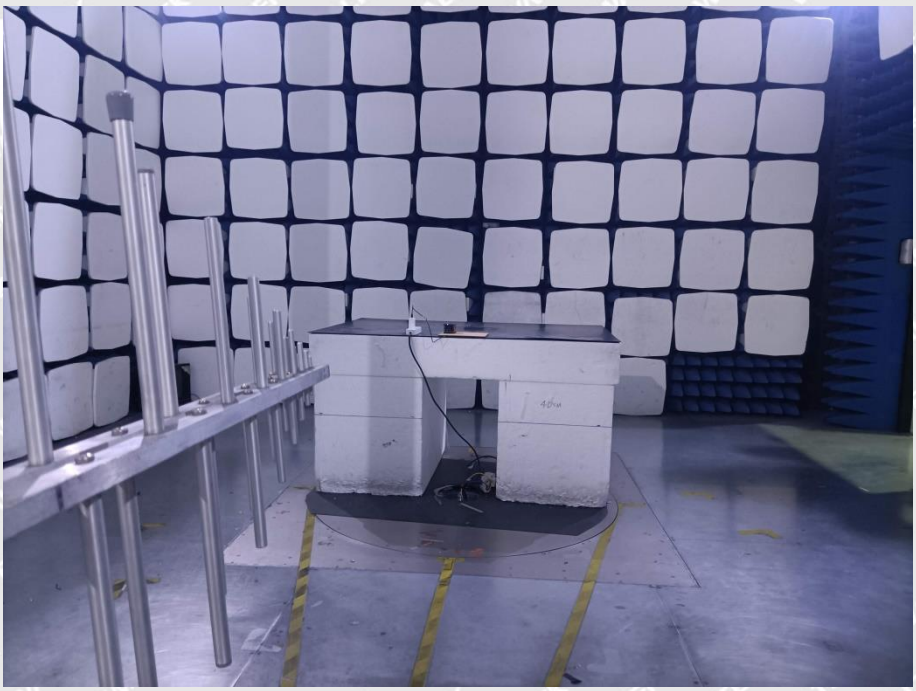
Level	U	T	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	A	/
2	100%	20ms	0/90/180/270	3	B	/
3	30%	500ms	0/90/180/270	3	B	/
4	100%	5000ms	0/90/180/270	3	B	/

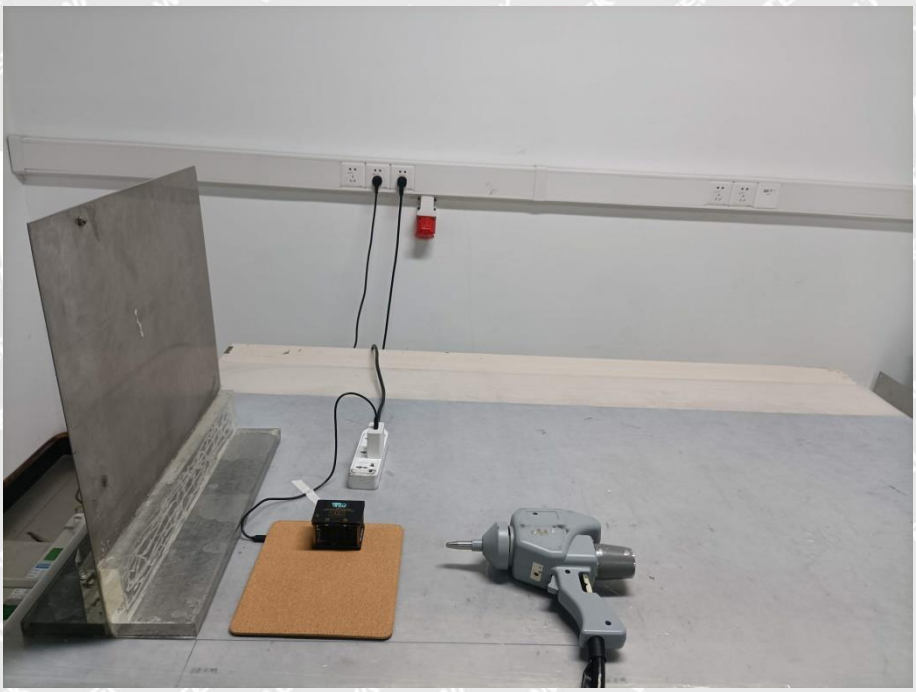
Test Result: Pass

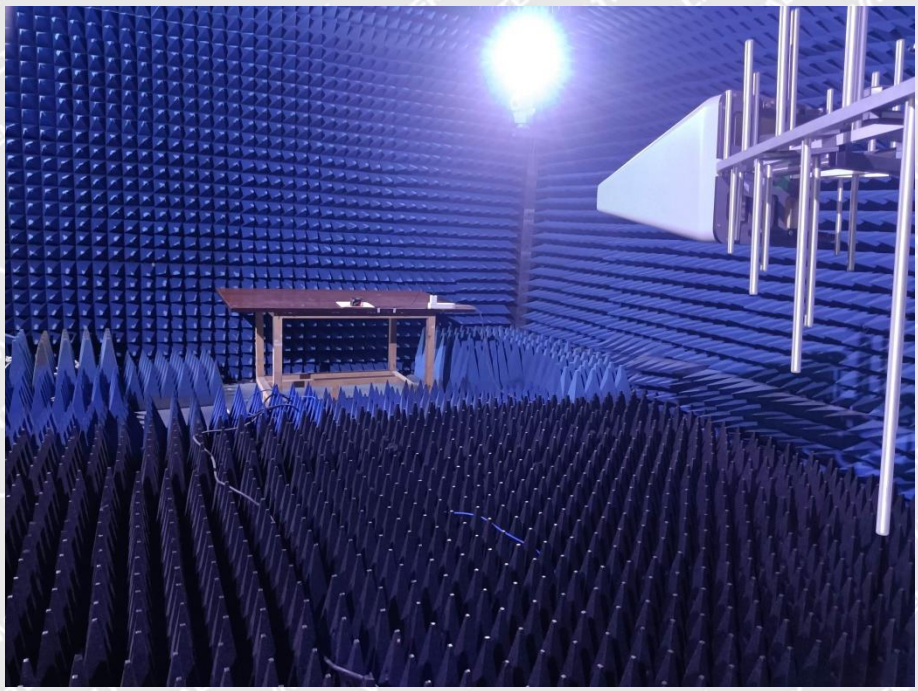
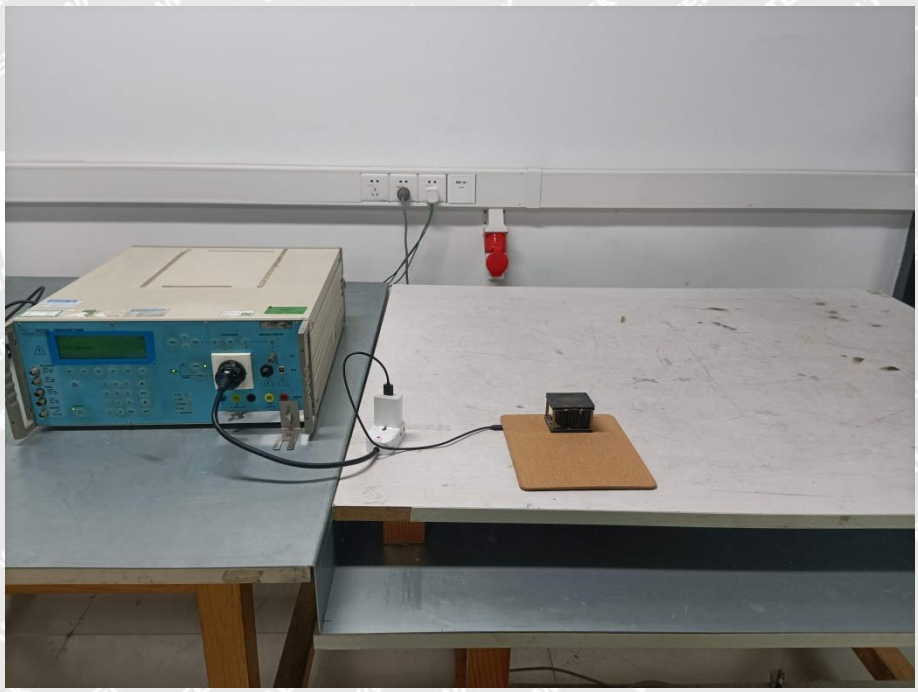
EXHIBIT 1 - EUT PHOTOGRAPHS

Please refer to “ANNEX”.

EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

Conducted Emission Test Setup	
Radiation Emission Test View(30MHz to 1GHz)	

Harmonic/Flicker Test View	
EN 61000-4-2 Test View	

EN 61000-4-3 Test View	
EN 61000-4-4/5/11 Test View	

EN 61000-4-6 Test View	

******* END OF REPORT *******