

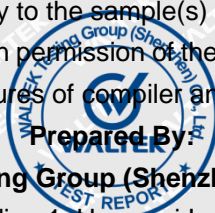


TEST REPORT

Reference No..... : WTF21X04042129R1W-3
 Manufacturer : Mid Ocean Brands B.V.
 Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
 Product : Round Magnetic Wireless Charger, Bamboo Magnetic Wireless Charger, Magnetic wireless charger with stand
 Test Model : MO6253, MO6266, MO6369
 Standards : EN 55011:2016/A1:2017
 EN IEC 61000-6-1:2019
 EN IEC 61000-3-2:2019
 EN 61000-3-3:2014+A1:2019
 ETSI EN 301 489-1 V2.2.3 (2019-11)
 ETSI EN 301 489-3 V2.1.1 (2019-03)
 Date of Receipt sample : Apr. 30, 2021
 Date of Test..... : Apr. 30, 2021 to May. 24, 2021
 Date of Issue : Oct. 29, 2021
 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 compiler and approver.



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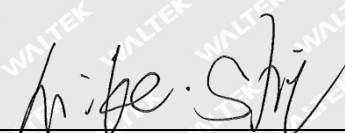
Tel.: +86-755-33663308

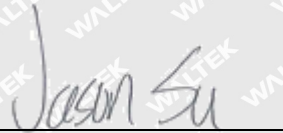
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Report version

Version No.	Date of issue	Description
Rev.00	May. 24, 2021	Original report WTF21X04042129W-3.
Rev.01	Oct. 29, 2021	Refer the old report WTF21X04042129W-3, updated the EUT appearance photos, model name, but the circuit and the electronic construction do not change, declared by the manufacturer. So the test data from the original report.
/	/	/

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Manufacturer: Mid Ocean Brands B.V.
 Address of manufacturer: 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,
 Kowloon, Hong Kong

General Description of EUT	
Product Name:	Round Magnetic Wireless Charger, Bamboo Magnetic Wireless Charger, Magnetic wireless charger with stand
Trade Name:	/
Model No.:	MO6253
Adding Model(s):	MO6266, MO6369
Rated Voltage:	AC230V; Adapter DC5V/9V
Battery Capacity:	/
Power Adaptor Model:	/
Software Version:	leader 2021.03
Hardware Version:	wirelesscharging-AB0283
<p><i>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 MO6253, but the circuit and the electronic construction do not change, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
WPT	
Frequency Range:	110-205kHz
Radiated H-Field:	31.36dBuA/m(@3m)
Type of Antenna:	Coil Antenna



1.2 Test Standards

The tests were performed according to following standards:

EN IEC 61000-6-1:2019 Electromagnetic compatibility (EMC) —Part 6-1: Generic standards —Immunity for residential, commercial and light-industrial environments.

EN 55011:2016/A1:2017 Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement.

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

EN 61000-3-3:2013+A1:2019 Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

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

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). 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	(Wireless Output:5W; AC230V/50Hz for Adapter DC5V)
TM2	Wireless Charging	(Wireless Output:10W; AC230V/50Hz for Adapter DC9V)
TM3	WPT (127KHz)	TR&CR for EMS testing (Wireless Output:5W)
TM4	WPT (127KHz)	TR&CR for EMS testing (Wireless Output:10W)

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Unshielded	Without Core

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	0.8	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
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 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.



➤ **EN 55011, The performance criteria are:**

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

- A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.
- B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacturer. No change in operating state or loss of data is permitted. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

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1.7 Measurement Uncertainty

Measurement uncertainty	
Parameter	Uncertainty
Uncertainty for Radiated Emission in 3m chamber	@30-200MHz $\pm 4.52\text{dB}$ @0.2-1GHz $\pm 5.56\text{dB}$ @1-6GHz $\pm 3.84\text{dB}$ @6-18GHz $\pm 3.92\text{dB}$
Uncertainty for Conducted Emission	@9-150kHz $\pm 3.74\text{dB}$ @0.15-30MHz $\pm 3.34\text{dB}$
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					
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2021-03-30	2022-03-29
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-04-12	2022-04-11
Amplifier	Agilent	8447F	3113A06717	2021-04-12	2022-04-11
Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
Chamber B					
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
Amplifier	Agilent	8447D	2944A10179	2021-04-12	2022-04-11
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2021-04-27	2022-04-26
CE					
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2021-04-12	2022-04-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2021-04-15	2022-04-14
AC LISN	Schwarz beck	NSLK8126	8126-224	2021-04-12	2022-04-11
8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2021-04-12	2022-04-11
8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2021-04-12	2022-04-11
EMF					
VDH Test Head	AFJ	VDH 30	SC022Z	2021-04-15	2022-04-14
3 Loop Antenna					
Loop Antenna	ZHINAN	ZN30401	19037	2021-04-26	2023-04-25
Clamp					
Clamp	Luthi	MDS21	3809	2021-04-16	2022-04-15
PFMF					
PMF Generator	LIONCEL	PMF-801C-C	0171101	2021-04-12	2022-04-11
PMF Antenna	LIONCEL	PMF-801C-A	0180302	2021-04-12	2022-04-11
Instantaneous PMF Generator Module	LIONCEL	PMF-801C-T	0171001	2021-04-12	2022-04-11
H/F					
Digital Power Analyzer	California Instrument	CTS	72831	2021-04-12	2022-04-11
Power Source	California Instrument	5001IX-CTS-400	25965	2021-04-12	2022-04-11
ESD					
ESD Generator	LIONCEL	ESD-203B	0170901	2021-04-16	2022-04-15
EFT/SURGE/DIPS					

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Transient 2000	EMC PARTNER	TRA2000	863	2021-04-12	2022-04-11
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2021-04-12	2022-04-11
CS					
CONDUCTED IMMUNITY TEST SYSTEM	FRANKONIA	CIT-10/75	126B1247/2013	2021-01-08	2022-01-07
Attenuator	EMTEST	MA-5100/6BF2	1009	2021-03-30	2022-03-29
CDN	Luthi	L-801M2/M3	2665	2021-04-12	2022-04-11
EM Injection Clamp	FCC	F-203I-23mm	91536	2020-05-28	2021-05-27
RS					
Signal Generator	HP	8688B	3438A00604	2021-03-30	2022-03-29
Power Meter	KEITHLEY	3500	1162591	2021-03-27	2022-03-26
Power Meter	KEITHLEY	3500	1121428	2021-03-27	2022-03-26
RF Power Amplifier	MicoTop	MPA-80-1000-250	MPA1906239	2021-03-27	2022-03-26
RF Power Amplifier	MicoTop	MPA-80-1000-100	MPA1906238	2021-03-27	2022-03-26
Antenna	SCHWARZBECK	STLP 9129	9129 114	N/A	N/A

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.

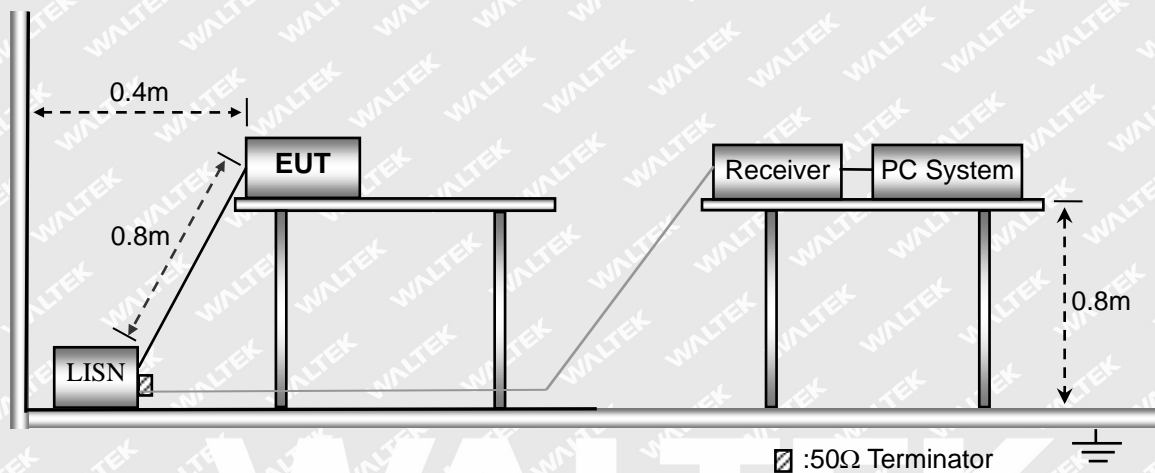


3. Conducted Emissions

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

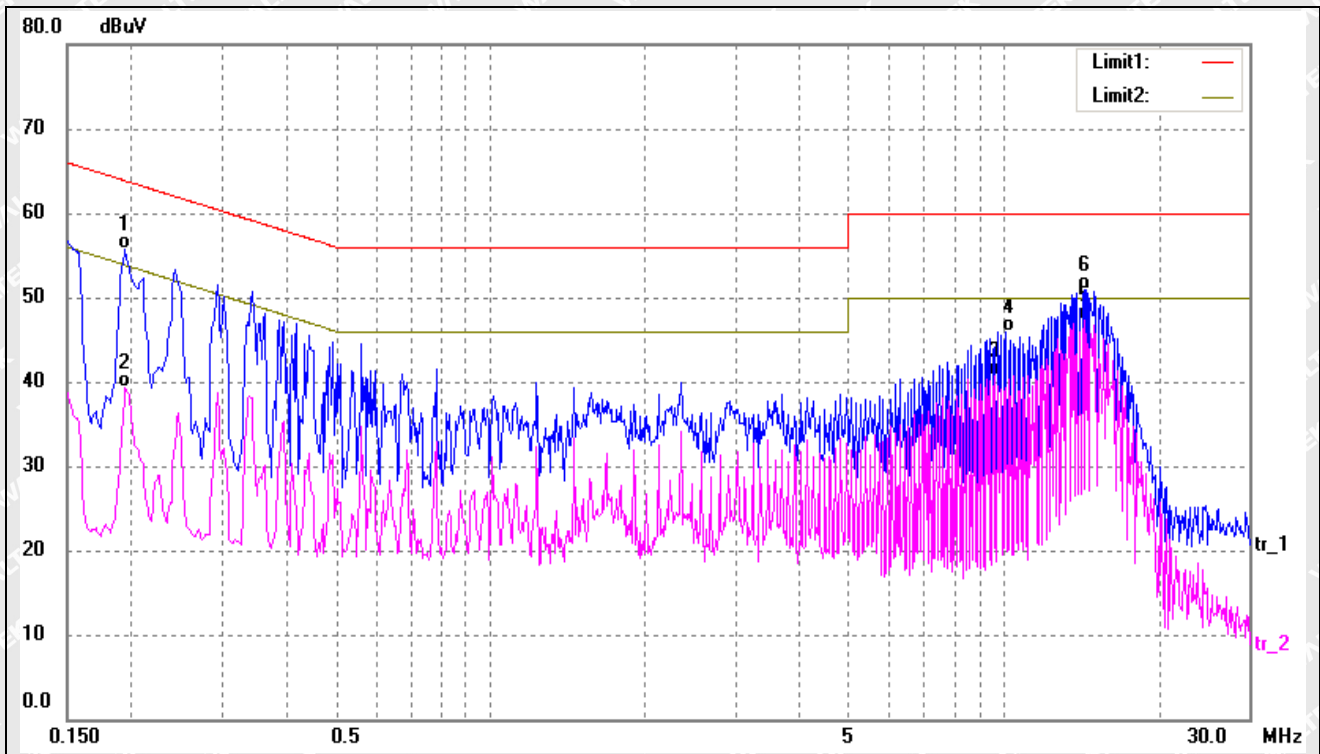
Temperature:	23.5 °C
Relative Humidity:	54 %
ATM Pressure:	1015 mbar

3.4 Conducted Emissions Test Data

Note: Only show the worst case in the test report



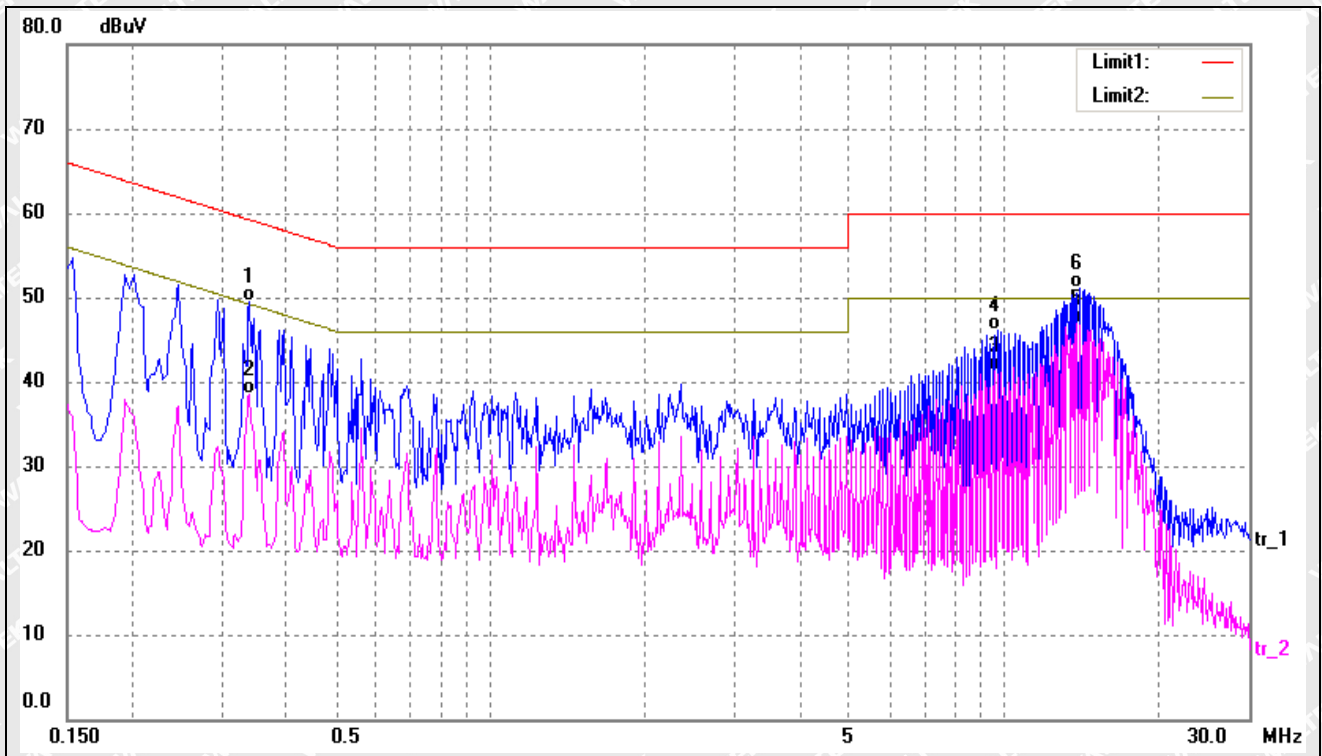
Test mode:	TM1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1940	45.40	10.27	55.67	63.86	-8.19	QP
2	0.1940	29.08	10.27	39.35	53.86	-14.51	AVG
3	9.6380	30.35	10.28	40.63	50.00	-9.37	AVG
4	10.0860	35.71	10.28	45.99	60.00	-14.01	QP
5*	14.3460	36.82	10.54	47.36	50.00	-2.64	AVG
6	14.4580	40.46	10.54	51.00	60.00	-9.00	QP



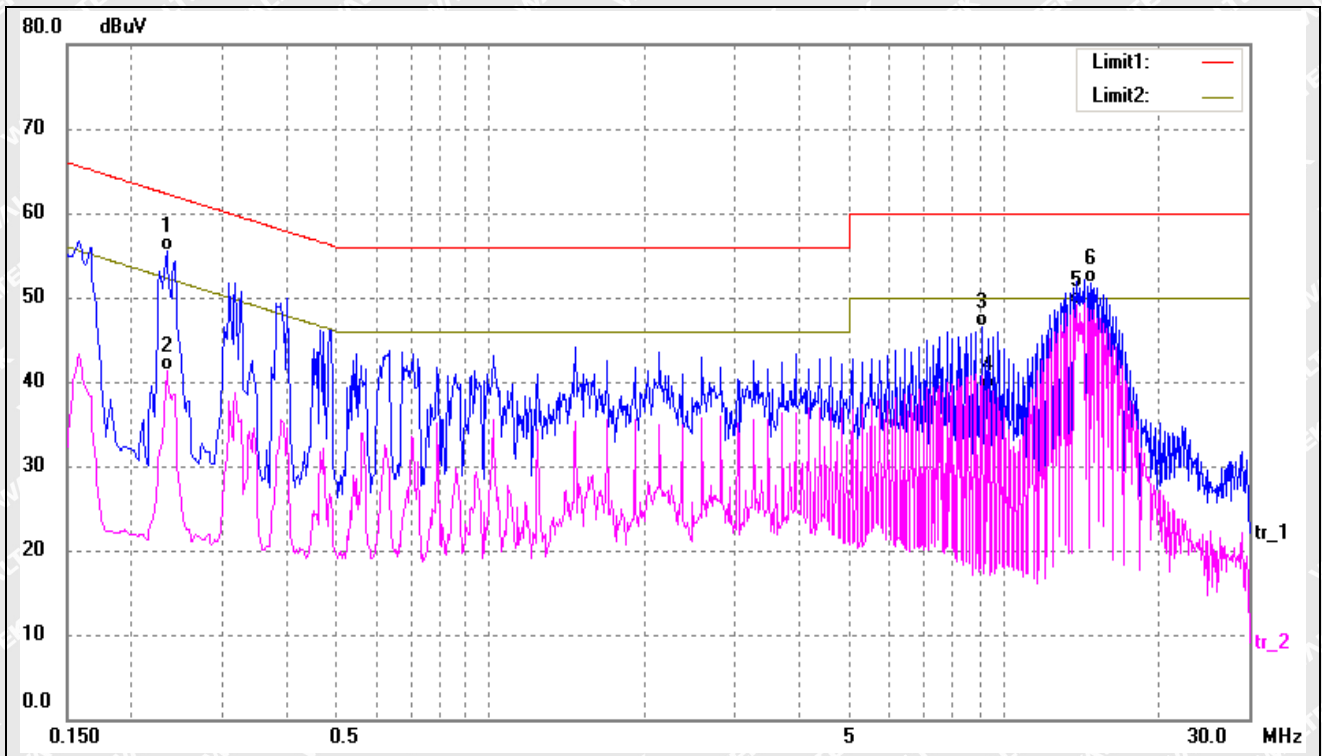
Test mode:	TM1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3380	39.28	10.26	49.54	59.25	-9.71	QP
2	0.3380	28.33	10.26	38.59	49.25	-10.66	AVG
3	9.6380	31.02	10.28	41.30	50.00	-8.70	AVG
4	9.7500	35.87	10.28	46.15	60.00	-13.85	QP
5*	13.8940	36.42	10.51	46.93	50.00	-3.07	AVG
6	14.0060	40.62	10.52	51.14	60.00	-8.86	QP



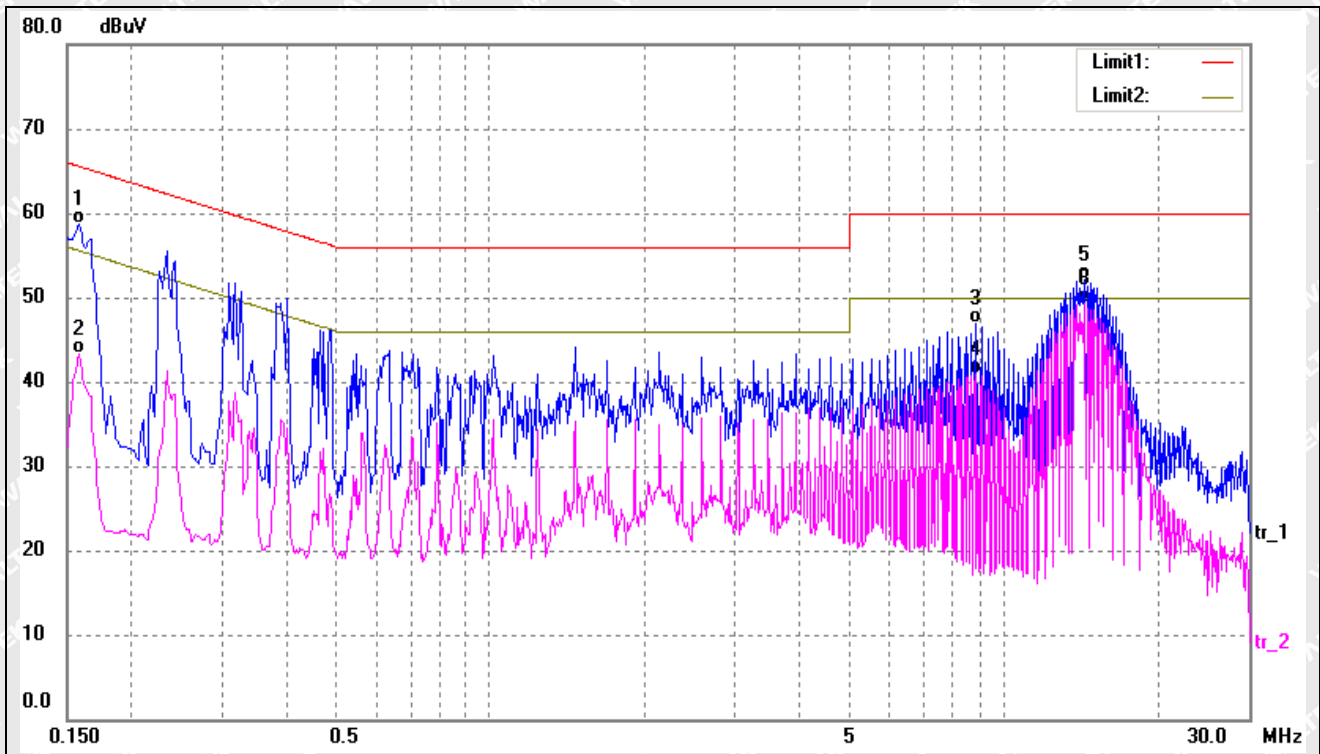
Test mode:	TM2	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2340	45.24	10.26	55.50	62.30	-6.80	QP
2	0.2340	31.07	10.26	41.33	52.30	-10.97	AVG
3	9.0860	36.31	10.27	46.58	60.00	-13.42	QP
4	9.3100	28.91	10.28	39.19	50.00	-10.81	AVG
5*	13.8780	38.61	10.51	49.12	50.00	-0.88	AVG
6	14.7660	41.16	10.57	51.73	60.00	-8.27	QP



Test mode:	TM2	Polarity:	Line
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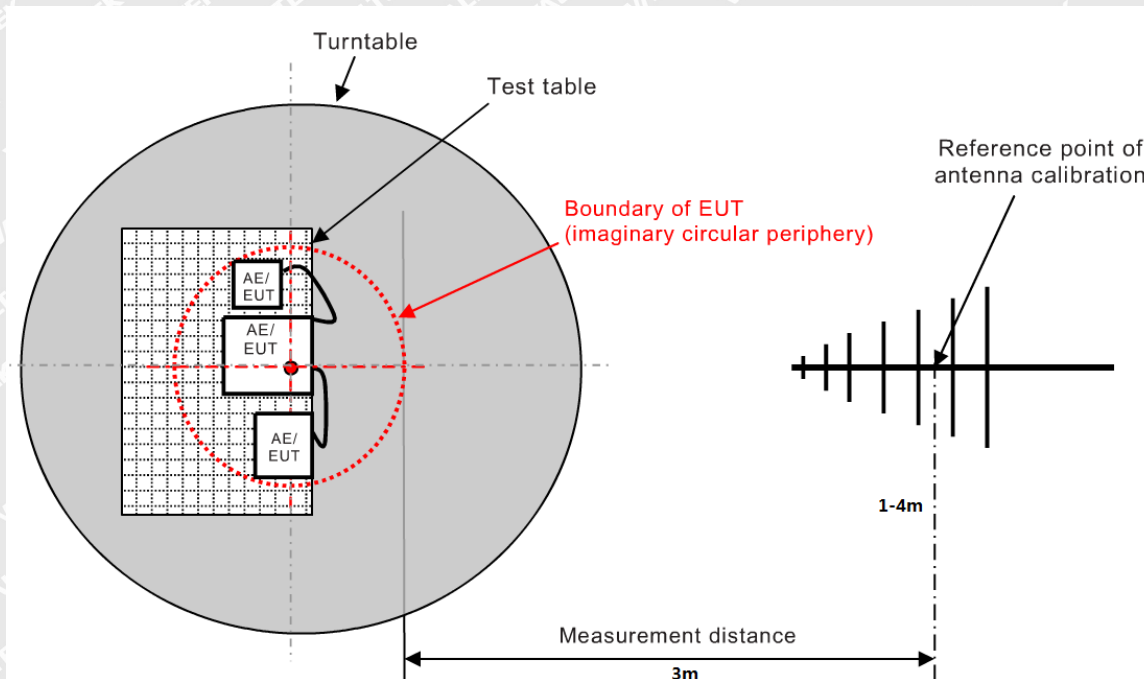
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	48.52	10.25	58.77	65.57	-6.80	QP
2	0.1580	33.07	10.25	43.32	55.57	-12.25	AVG
3	8.8620	36.54	10.27	46.81	60.00	-13.19	QP
4	8.8620	30.72	10.27	40.99	50.00	-9.01	AVG
5	14.3220	41.66	10.54	52.20	60.00	-7.80	QP
6*	14.3220	38.73	10.54	49.27	50.00	-0.73	AVG



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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of $-6\text{dB}\mu\text{V}$ means the emission is $6\text{dB}\mu\text{V}$ below the maximum limit for Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN 301489 Class B Limit}$$



4.3 Environmental Conditions

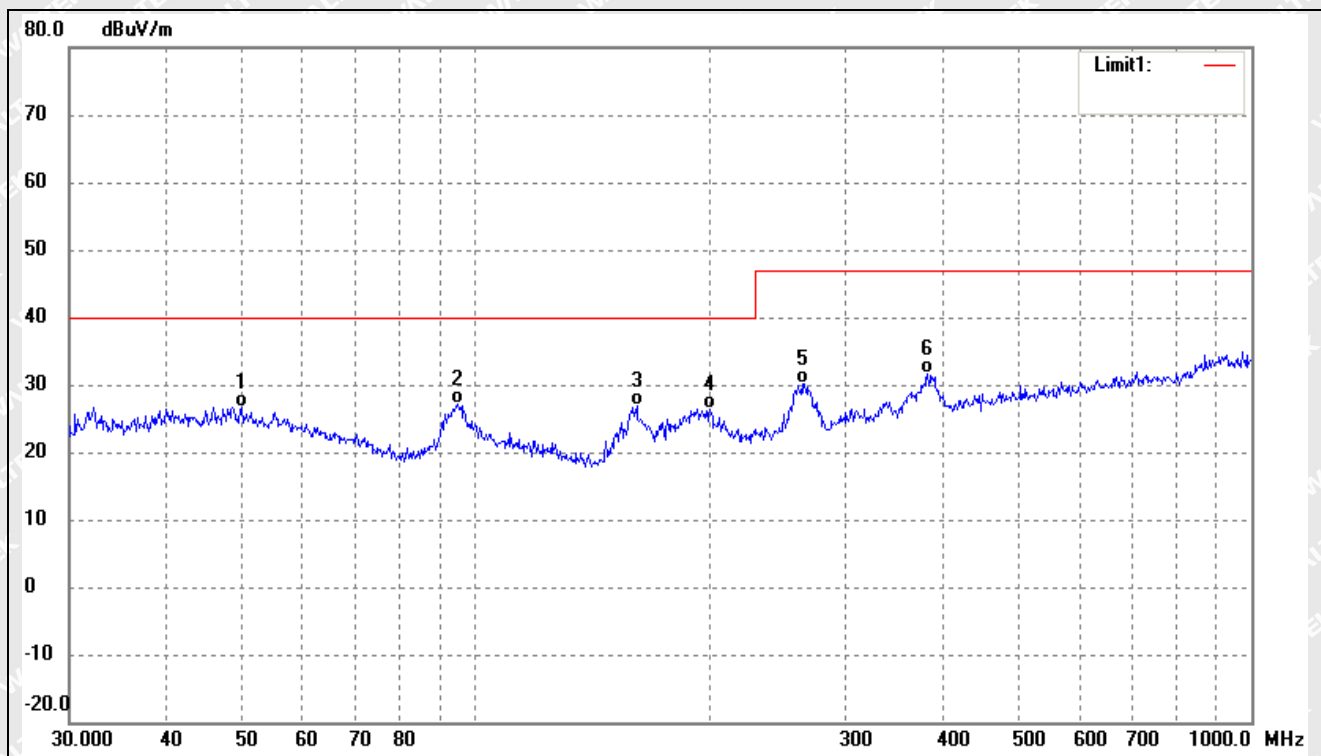
Temperature:	23.5° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.4 Summary of Test Results/Plots

Note: Only show the worst case in the test report

➤ 30MHz to 1GHz

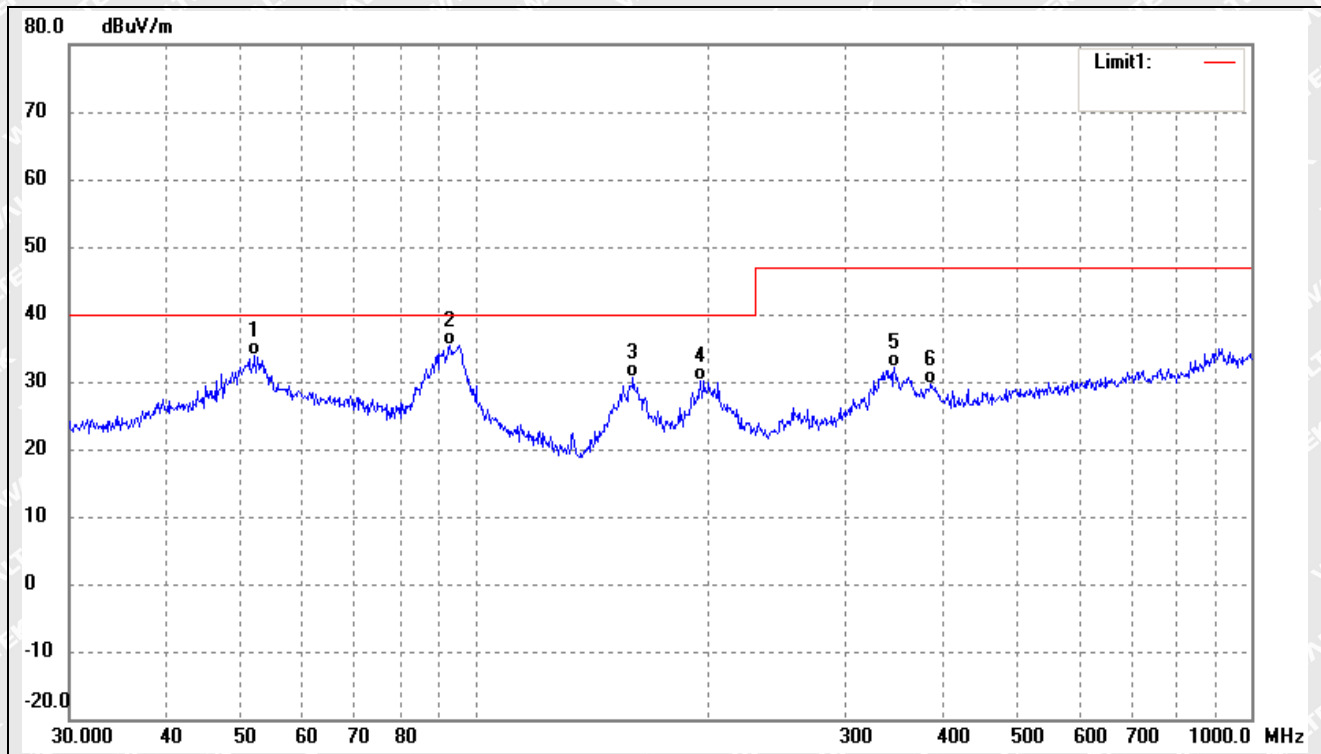
Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.0566	38.19	-11.55	26.64	40.00	-13.36	-	-	QP
2	95.0930	41.31	-14.13	27.18	40.00	-12.82	-	-	QP
3	161.4742	42.27	-15.46	26.81	40.00	-13.19	-	-	QP
4	200.6881	38.89	-12.42	26.47	40.00	-13.53	-	-	QP
5	263.8190	41.04	-10.83	30.21	47.00	-16.79	-	-	QP
6	382.5879	38.48	-6.96	31.52	47.00	-15.48	-	-	QP



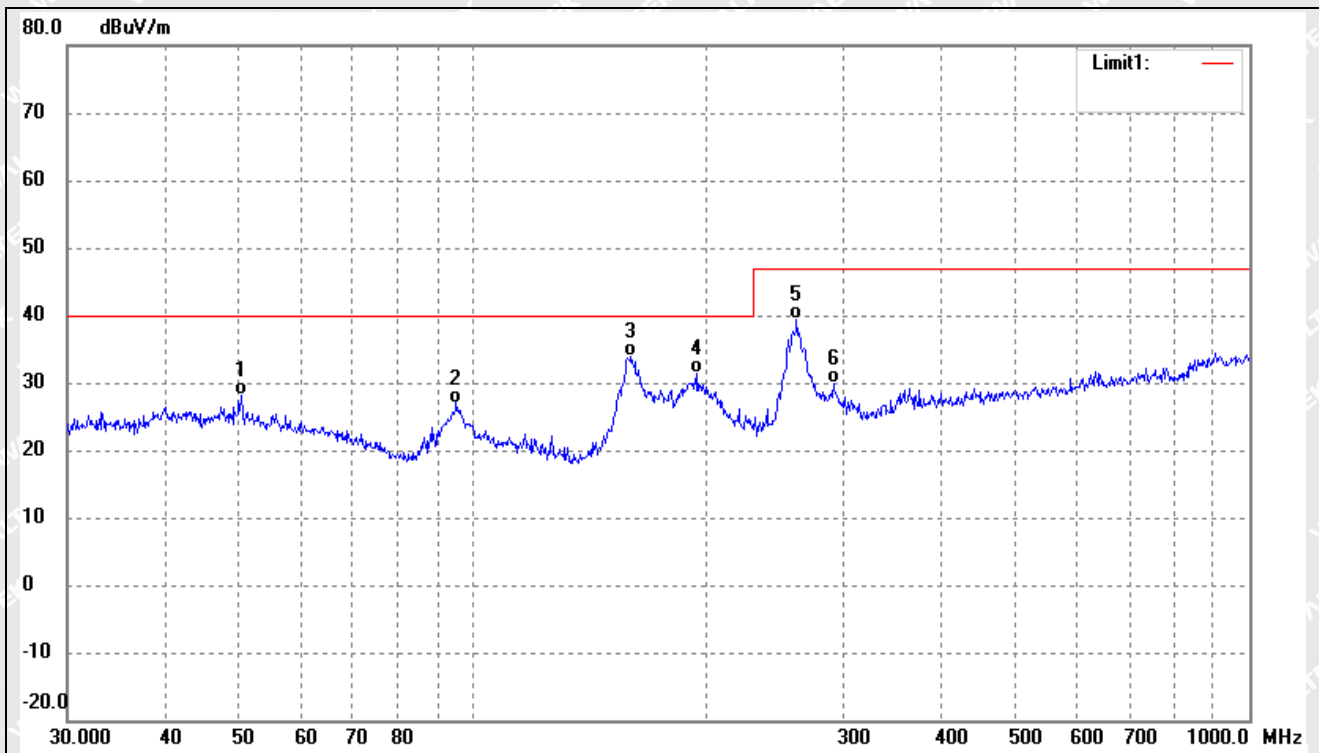
Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.0251	45.93	-12.10	33.83	40.00	-6.17	-	-	QP
2	92.7872	49.93	-14.51	35.42	40.00	-4.58	-	-	QP
3	159.7844	46.26	-15.54	30.72	40.00	-9.28	-	-	QP
4	195.1365	42.84	-12.75	30.09	40.00	-9.91	-	-	QP
5	346.8092	39.66	-7.63	32.03	47.00	-14.97	-	-	QP
6	386.6338	36.48	-6.85	29.63	47.00	-17.37	-	-	QP



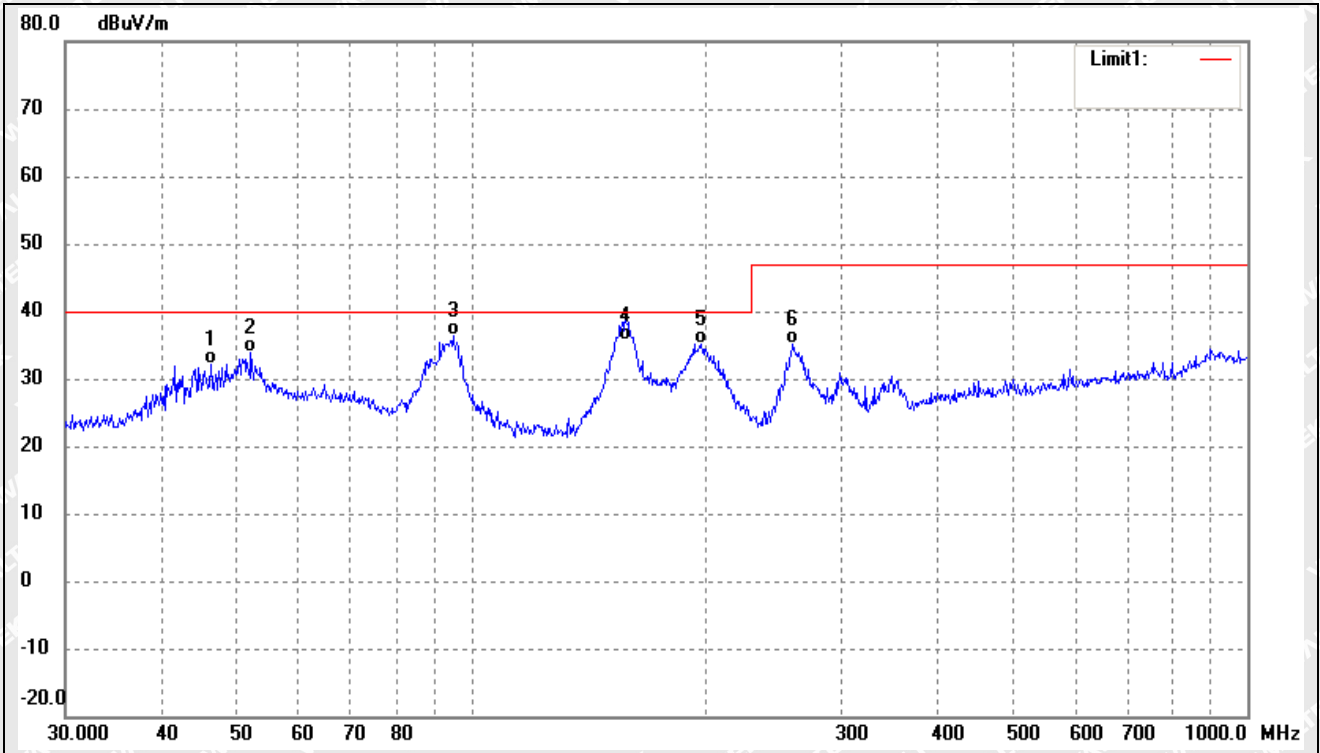
Test mode:	TM2	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.2325	39.84	-11.60	28.24	40.00	-11.76	-	-	QP
2	95.0930	41.13	-14.13	27.00	40.00	-13.00	-	-	QP
3	159.7844	49.44	-15.54	33.90	40.00	-6.10	-	-	QP
4	194.4534	44.08	-12.81	31.27	40.00	-8.73	-	-	QP
5	261.0583	50.24	-10.83	39.41	47.00	-7.59	-	-	QP
6	291.0360	39.34	-9.58	29.76	47.00	-17.24	-	-	QP



Test mode:	TM2	Polarity:	Vertical
------------	-----	-----------	----------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.1780	43.97	-11.73	32.24	40.00	-7.76	-	-	QP
2	52.0251	45.89	-12.10	33.79	40.00	-6.21	-	-	QP
3	94.7601	50.61	-14.19	36.42	40.00	-3.58	-	-	QP
4	158.1123	51.17	-15.52	35.65	40.00	-4.35	-	-	QP
5	197.8928	47.76	-12.57	35.19	40.00	-4.81	-	-	QP
6	259.2338	45.96	-10.84	35.12	47.00	-11.88	-	-	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.

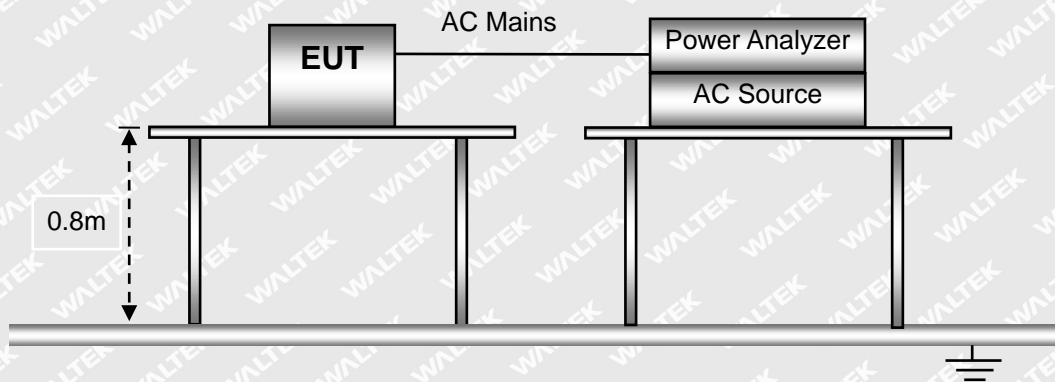


5. Harmonic Current Emissions

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:	22 °C
Relative Humidity:	53%
ATM Pressure:	1015 mbar

5.5 Harmonic Current Emissions Test Data



Harmonics – Class-A per Ed. Ed. 5.0 (2018)(Run time)

Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100

Test date: 2021-5-20

Start time: 14:08:37

End time: 14:11:18

Test duration (min): 2.5

Data file name: H-000181.cts_data

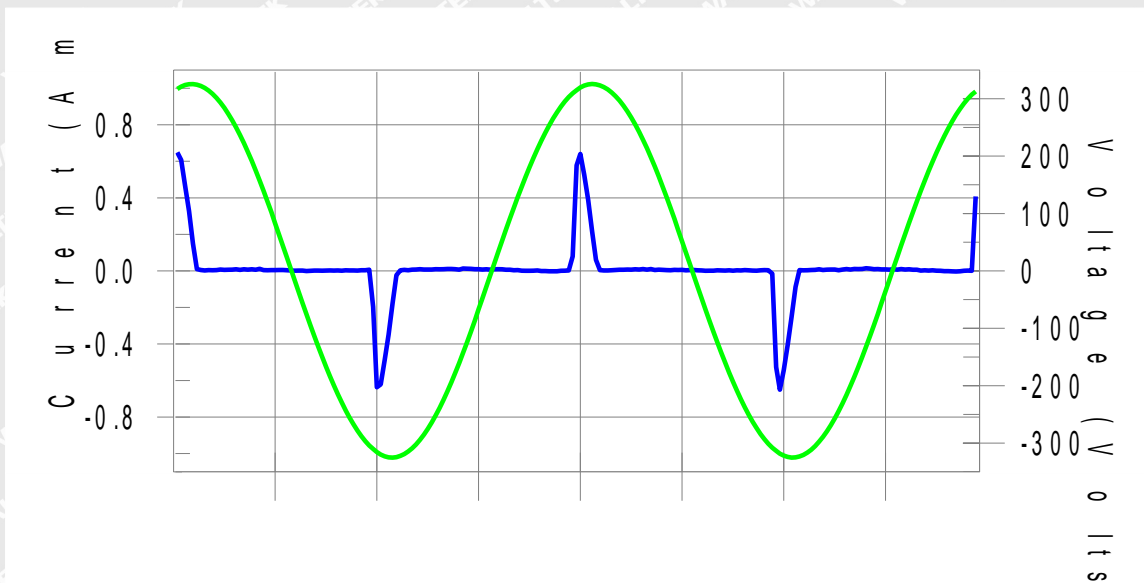
Comment: TM1

Customer: Mid Ocean Brands B.V.

Test Result: Pass

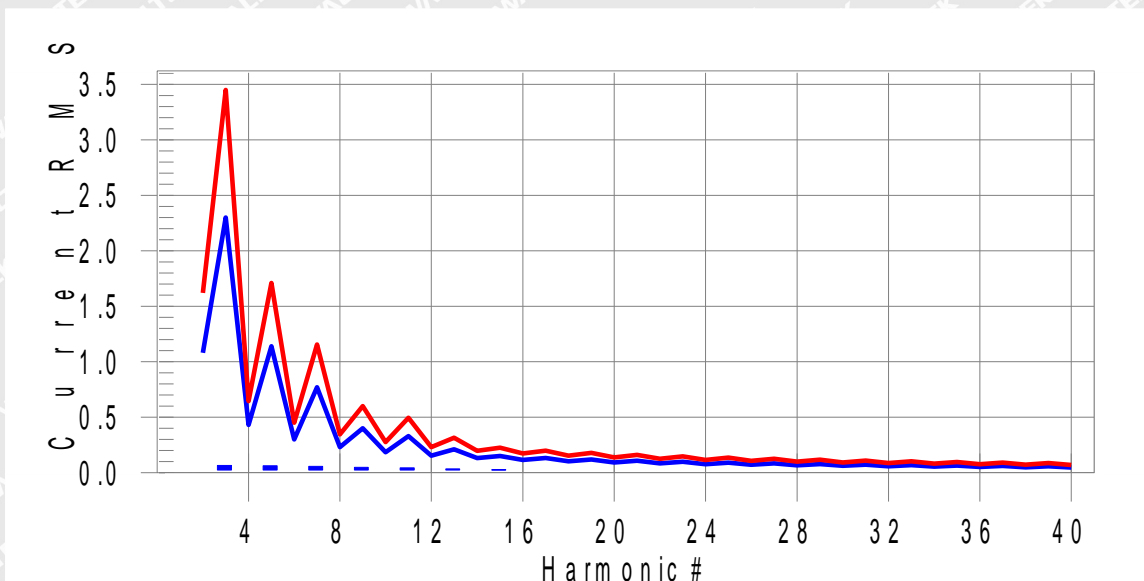
Source qualification: Normal

Current & voltage waveforms



Harmonics and Class A limit line

European Limits



Test result: Pass Worst harmonics H15-12.1% of 150% limit, H15-17.7% of 100% limit



Current Test Result Summary (Run time)

Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100

Test date: 2021-5-20

Start time: 14:08:37

End time: 14:11:18

Test duration (min): 2.5

Data file name: H-000181.cts_data

Comment: TM1

Customer: Mid Ocean Brands B.V.

Test Result: Pass

Source qualification: Normal

THC(A): 0.137

I-THD(%): 198.5

POHC(A): 0.026

POHC Limit(A): 0.251

Highest parameter values during test:

V_RMS (Volts): 230.11

Frequency(Hz): 50.00

I_Peak (Amps): 0.679

I_RMS (Amps): 0.156

I_Fund (Amps): 0.069

Crest Factor: 4.384

Power (Watts): 15.7

Power Factor: 0.447

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	0.066	2.300	2.9	0.068	3.450	2.0	Pass
4	0.001	0.430	N/A	0.001	0.645	N/A	Pass
5	0.062	1.140	5.5	0.063	1.710	3.7	Pass
6	0.000	0.300	N/A	0.001	0.450	N/A	Pass
7	0.057	0.770	7.4	0.057	1.155	4.9	Pass
8	0.000	0.230	N/A	0.001	0.345	N/A	Pass
9	0.050	0.400	12.4	0.050	0.600	8.4	Pass
10	0.000	0.184	N/A	0.001	0.276	N/A	Pass
11	0.042	0.330	12.7	0.043	0.495	8.6	Pass
12	0.000	0.153	N/A	0.000	0.230	N/A	Pass
13	0.034	0.210	16.3	0.035	0.315	11.0	Pass
14	0.000	0.131	N/A	0.000	0.197	N/A	Pass
15	0.027	0.150	17.7	0.027	0.225	12.1	Pass
16	0.000	0.115	N/A	0.000	0.173	N/A	Pass
17	0.020	0.132	15.0	0.020	0.198	10.3	Pass
18	0.000	0.102	N/A	0.000	0.153	N/A	Pass
19	0.014	0.118	12.2	0.015	0.178	8.5	Pass
20	0.000	0.092	N/A	0.000	0.138	N/A	Pass
21	0.011	0.107	10.4	0.012	0.161	7.3	Pass
22	0.000	0.084	N/A	0.000	0.125	N/A	Pass
23	0.010	0.098	10.0	0.010	0.147	7.0	Pass
24	0.000	0.077	N/A	0.000	0.115	N/A	Pass
25	0.010	0.090	10.8	0.010	0.135	7.4	Pass



26	0.000	0.071	N/A	0.000	0.107	N/A	Pass
27	0.010	0.083	11.6	0.010	0.125	8.0	Pass
28	0.000	0.066	N/A	0.000	0.099	N/A	Pass
29	0.009	0.078	11.9	0.010	0.116	8.2	Pass
30	0.000	0.061	N/A	0.000	0.092	N/A	Pass
31	0.008	0.073	11.5	0.009	0.109	8.0	Pass
32	0.000	0.058	N/A	0.000	0.086	N/A	Pass
33	0.007	0.068	10.3	0.007	0.102	7.2	Pass
34	0.000	0.054	N/A	0.000	0.081	N/A	Pass
35	0.006	0.064	8.8	0.006	0.096	6.2	Pass
36	0.000	0.051	N/A	0.000	0.077	N/A	Pass
37	0.004	0.061	N/A	0.005	0.091	N/A	Pass
38	0.000	0.048	N/A	0.000	0.073	N/A	Pass
39	0.004	0.058	N/A	0.004	0.087	N/A	Pass
40	0.000	0.046	N/A	0.000	0.069	N/A	Pass

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Voltage Source Verification Data (Run time)

Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100

Test date: 2021-5-20

Start time: 14:08:37

End time: 14:11:18

Test duration (min): 2.5

Data file name: H-000181.cts_data

Comment: TM1

Customer: Mid Ocean Brands B.V.

Test Result: Pass

Source qualification: Normal

Highest parameter values during test:

Voltage (Vrms): 230.11

Frequency(Hz): 50.00

I_Peak (Amps): 0.679

I_RMS (Amps): 0.156

I_Fund (Amps): 0.069

Crest Factor: 4.384

Power (Watts): 15.7

Power Factor: 0.447

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.048	0.460	10.49	OK
3	0.516	2.070	24.91	OK
4	0.057	0.460	12.45	OK
5	0.068	0.920	7.36	OK
6	0.028	0.460	5.98	OK
7	0.028	0.690	4.08	OK
8	0.015	0.460	3.23	OK
9	0.036	0.460	7.83	OK
10	0.011	0.460	2.34	OK
11	0.044	0.230	19.19	OK
12	0.009	0.230	3.94	OK
13	0.030	0.230	13.25	OK
14	0.004	0.230	1.64	OK
15	0.029	0.230	12.73	OK
16	0.008	0.230	3.63	OK
17	0.018	0.230	7.89	OK
18	0.010	0.230	4.14	OK
19	0.023	0.230	9.78	OK
20	0.014	0.230	6.24	OK
21	0.017	0.230	7.22	OK
22	0.004	0.230	1.79	OK
23	0.014	0.230	6.27	OK
24	0.003	0.230	1.12	OK
25	0.015	0.230	6.58	OK
26	0.002	0.230	0.93	OK



27	0.018	0.230	8.01	OK
28	0.003	0.230	1.35	OK
29	0.015	0.230	6.61	OK
30	0.004	0.230	1.56	OK
31	0.015	0.230	6.37	OK
32	0.002	0.230	1.08	OK
33	0.014	0.230	6.19	OK
34	0.002	0.230	0.77	OK
35	0.013	0.230	5.60	OK
36	0.002	0.230	1.03	OK
37	0.013	0.230	5.51	OK
38	0.002	0.230	0.93	OK
39	0.011	0.230	4.80	OK
40	0.007	0.230	3.23	OK

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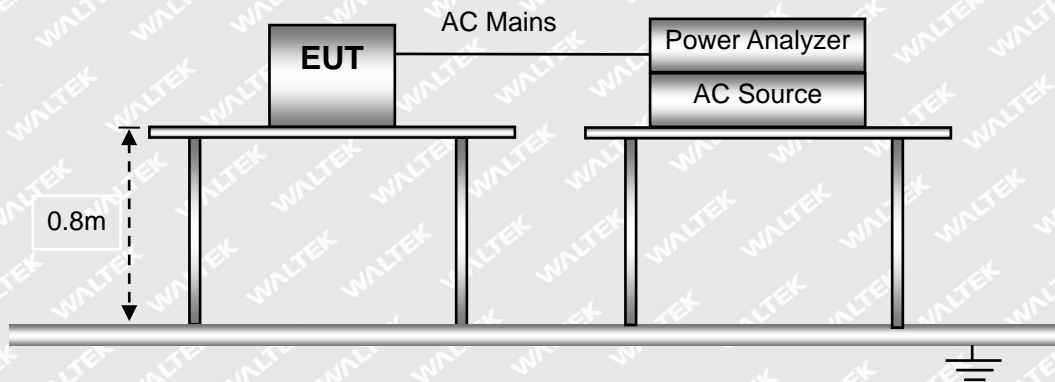


6. Voltage Fluctuation and Flicker

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:	22 °C
Relative Humidity:	53%
ATM Pressure:	1015 mbar

6.5 Voltage Fluctuation and Flicker Test Data

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

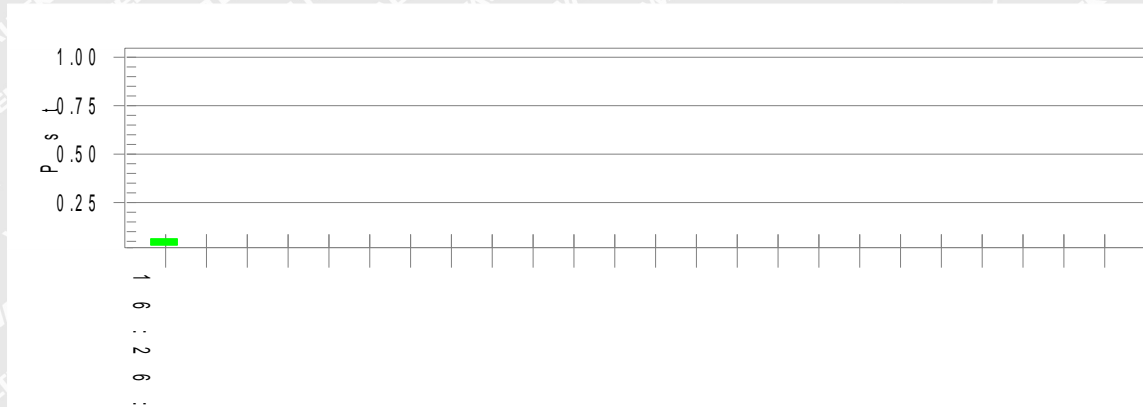


Test mode:

TM1 (worst case)

Test Result: Pass

Status: Test Completed

Pst_i and limit line**European Limits****Plt and limit line****Parameter values recorded during the test:****Vrms at the end of test (Volt): 229.98****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): 0.064 Test limit: 1.000 Pass****Highest Plt (2 hr. period): 0.028 Test limit: 0.650 Pass**

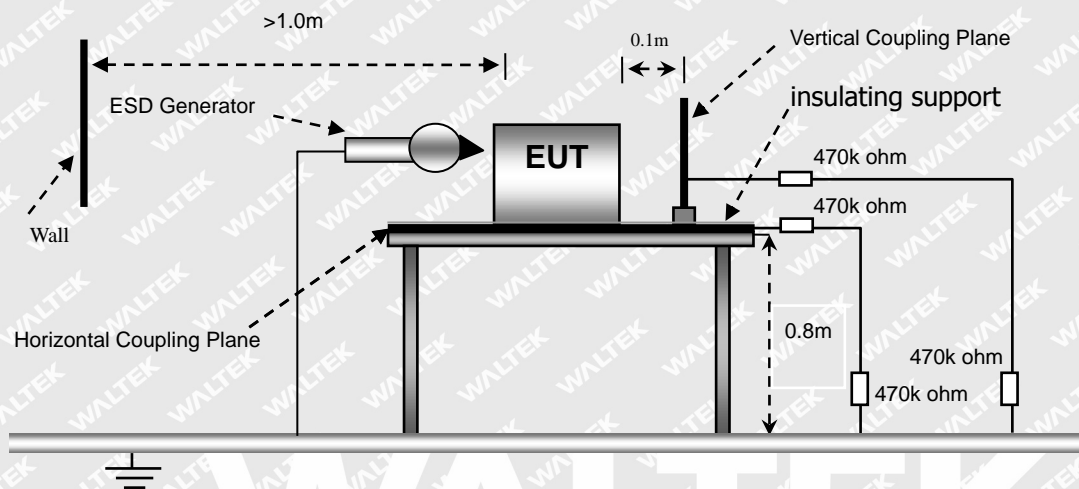


7. Electrostatic Discharge (ESD)

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

Note: TM3-TM4 for TR

7.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

7.5 Electrostatic Discharge Immunity Test Data



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

Test Result: Pass

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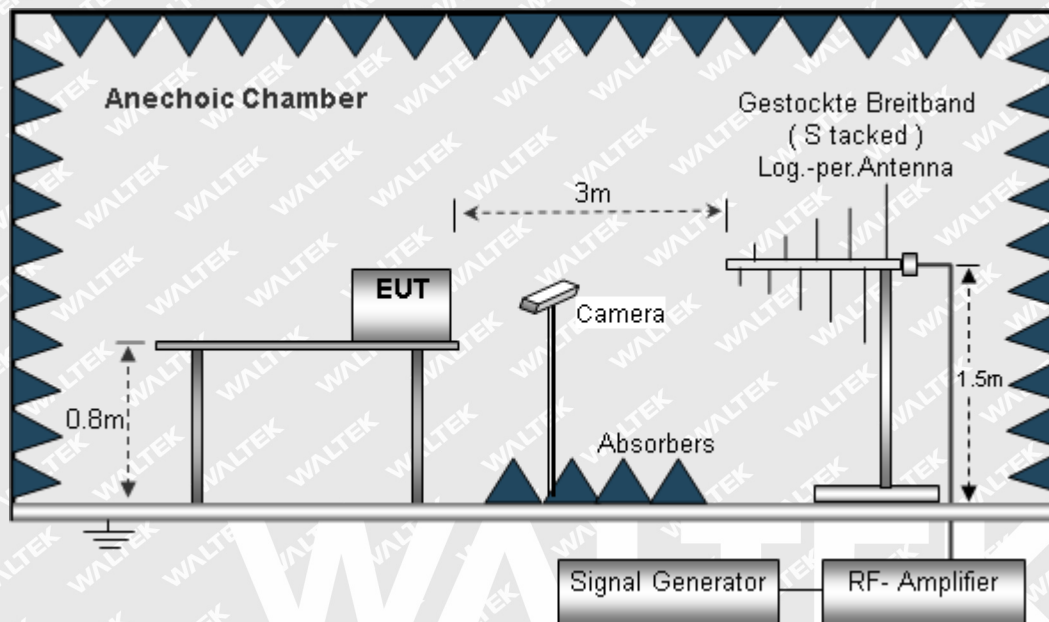


8. Radio Frequency Electromagnetic Field (R/S)

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

Note: TM3-TM4 for CR

8.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

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

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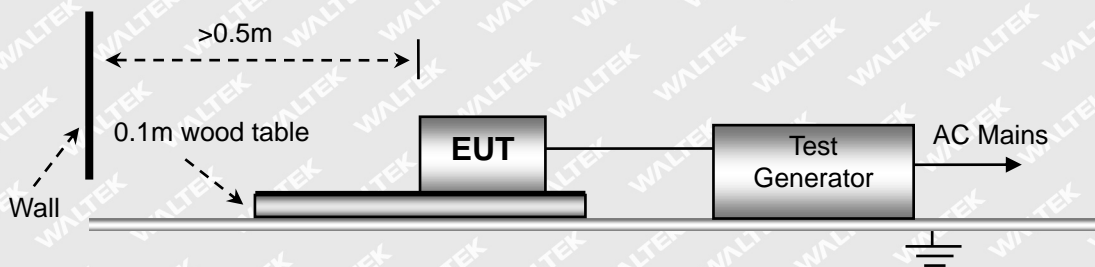
9. Fast Transients, Common Mode (EFT)

9.1 Test Procedure

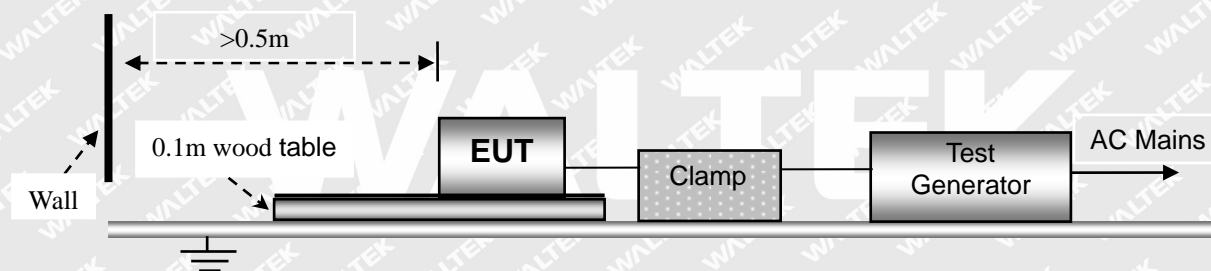
Test is conducting under the description of EN 61000-4-4.

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

Note: TM3-TM4 for TR

9.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
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

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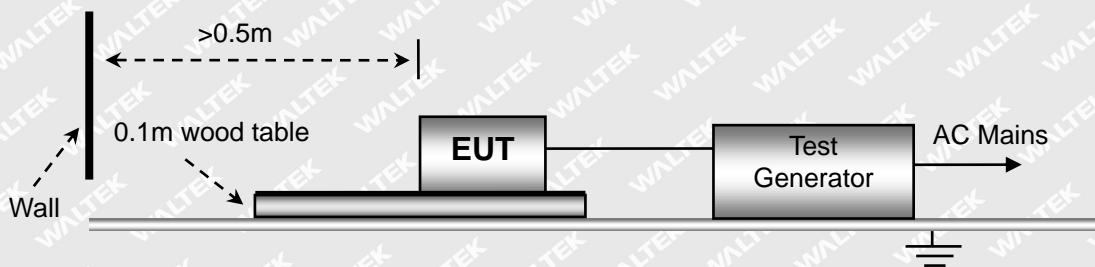
10. Surges

10.1 Test Procedure

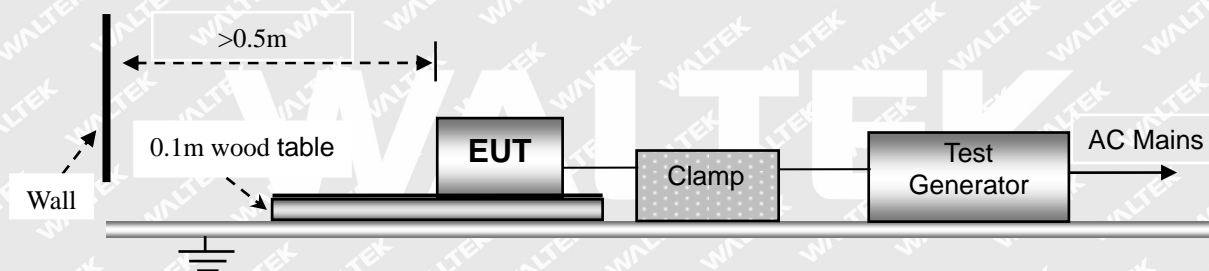
Test is conducting under the description of EN 61000-4-5.

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

Note: TM3-TM4 for TR

10.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
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

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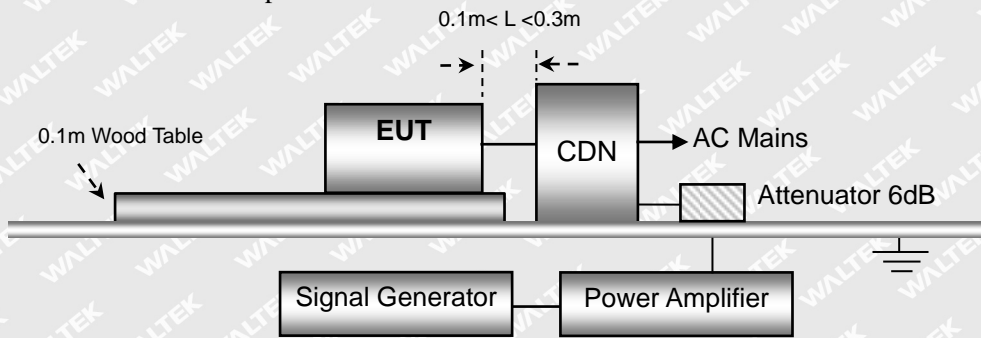
11. Radio Frequency, Common Mode (C/S)

11.1 Test Procedure

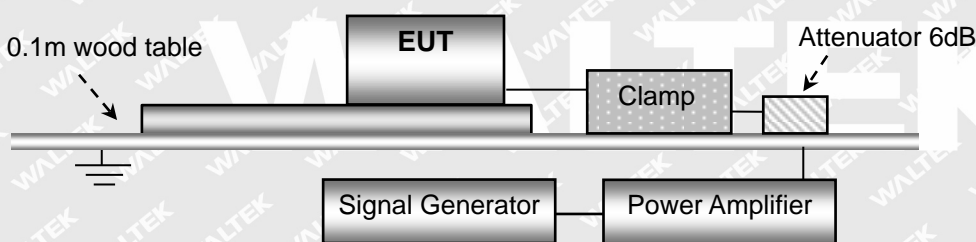
Test is conducting under the description of EN 61000-4-6.

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: TM3-TM4 for TR		

11.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
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

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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

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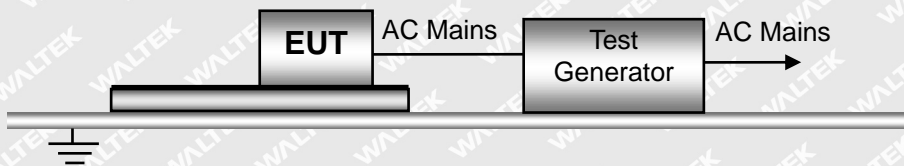


12. Voltage Dips and Interruptions

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:TM3-TM4 for TR		

12.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
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”.

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EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

**Conducted Emission
Test Setup**



**Radiation Emission Test
View(30MHz to 1GHz)**





Harmonic/Flicker Test View

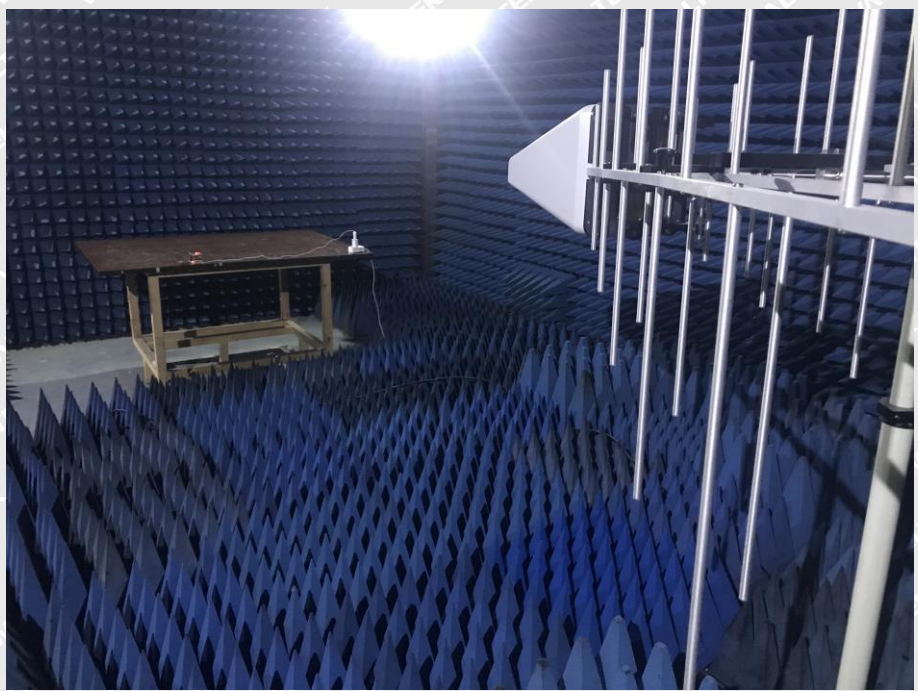


EN 61000-4-2 Test View





EN 61000-4-3 Test View



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





EN 61000-4-6 Test View



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

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