



TEST REPORT

Reference No..... : WTH21X12147023E
Applicant : Shenzhen Filmbase Technology Co., Ltd.
Address : 31F, 3A Building, Smart Park, Baolong, Longgang, Shenzhen, China
Factory: Building2#, Huaqiang Industry Park. Baolong . Longgang.
Shenzhen, China
Product : PDLC Smart Film, Smart Glass, Transformer
Test Model : FB-03-20-60V
Standards : EN 55032:2015+A11:2020
EN 55035:2017+A11:2020
EN IEC 61000-3-2:2019
EN 61000-3-3:2013+A1:2019
Date of Receipt sample ... : Dec. 23, 2021
Date of Test..... : Dec. 23, 2021 to Jan. 05, 2022
Date of Issue : Jan. 05, 2022
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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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Shenzhen Filmbase Technology Co., Ltd.
 Address of applicant: 31F, 3A Building, Smart Park, Baolong, Longgang, Shenzhen, China
 Factory: Building 2#, Huaqiang Industry Park, Baolong, Longgang, Shenzhen, China

Manufacturer: Shenzhen Yuguang New Material Co., Ltd
 Address of manufacturer: 31F, 3A Building, Smart Park, Baolong, Longgang, Shenzhen, China
 Factory: Building 2#, Huaqiang Industry Park, Baolong, Longgang, Shenzhen, China

General Description of EUT	
Product Name:	PDLC Smart Film Smart Glass Transformer
Trade Name:	Filmbase, 
Model No.:	FB-03-20-60V
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	AC 220-240V
Rated Current:	0.42A
Rated Power:	/
Power Adaptor Model:	/
Highest Internal Frequency:	Below 108MHz
Classification of Equipment:	Class B



1.2 Test Standards

The tests were performed according to following standards:

EN 55032:2015+A11:2020: Electromagnetic compatibility of multimedia equipment - Emission requirements.

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

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.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product may be 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 standards EN 55032, EN IEC 61000-3-2, EN 61000-3-3 and EN 55035 for electromagnetic compatibility of multimedia equipment, and all related testing and measurement techniques intentional standards.



1.4 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	Power Supply Mode
TM1	Working	output port is connected to the dimmer board	AC230V/50Hz

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

Special Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
input cable	1.5	Unshielded	Without	Without
output cable	0.22	Unshielded	Without	Without

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.5 Performance Criteria for EMS

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.
- C. 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.



1.6 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal. Date	Due. Date
<input type="checkbox"/> Chamber A: Below 1GHz					
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
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
<input type="checkbox"/> Chamber A: Above 1GHz					
Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
<input checked="" type="checkbox"/> Chamber B: Below 1GHz					
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	2021-05-06	2022-05-05
<input type="checkbox"/> Chamber C: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2021-12-03	2022-12-02
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
Amplifier	HP	8447F	2944A03869	2021-04-15	2022-04-14
<input checked="" type="checkbox"/> Conducted Room 1#					
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
<input type="checkbox"/> Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	10129	2021-04-12	2022-04-11
LISN	Rohde & Schwarz	ENV 216	100097	2021-04-12	2022-04-11
<input checked="" type="checkbox"/> Harmonics & Flicker					
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
<input checked="" type="checkbox"/> Electrostatic discharges					
ESD Generator	LIONCEL	ESD-203B	0170901	2021-04-16	2022-04-15
<input checked="" type="checkbox"/> Power-frequency magnetic field (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
<input checked="" type="checkbox"/> Electronic fast transient(EFT)/Surges/Dips					
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
<input checked="" type="checkbox"/> Radio frequency, continuous conducted (C/S)					
CONDUCTED IMMUNITY TEST SYSTEM	FRANKONIA	CIT-10/75	126B1247/2013	2021-12-27	2022-12-26
CDN	LIONCEL	CDN-T8	0210401	2021-05-06	2022-05-05
Attenuator	EMTEST	MA-5100/6BF2	1009	2021-03-30	2022-03-29
CDN	Luthi	L-801M2/M3	2665	2021-04-12	2022-04-11
<input checked="" type="checkbox"/> Radio frequency electromagnetic Field (R/S)					
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

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2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
EN 55032	Conducted Emission	Compliant
	Radiated Emission	Compliant
EN IEC 61000-3-2	Harmonic Current Emission	Compliant
EN 61000-3-3	Voltage Fluctuation and Flicker	Compliant
EN 55035	Electrostatic Discharge Immunity in accordance with EN 61000-4-2	Compliant
	Continuous RF electromagnetic field Disturbances Immunity in accordance with EN 61000-4-3	Compliant
	Electrical Fast Transient/Burst Immunity in accordance with EN 61000-4-4	Compliant
	Surges Immunity in accordance with EN 61000-4-5	Compliant
	Continuous induced RF disturbances Immunity in accordance with EN 61000-4-6	Compliant
	Power-frequency Magnetic Fields Immunity in accordance With EN 61000-4-8	Compliant
	Voltage Dips/Interruptions Immunity in accordance with EN 61000-4-11	Compliant
	Broadband impulse noise disturbances, repetitive	N/A
	Broadband impulse noise disturbances, isolated	N/A

N/A: not applicable



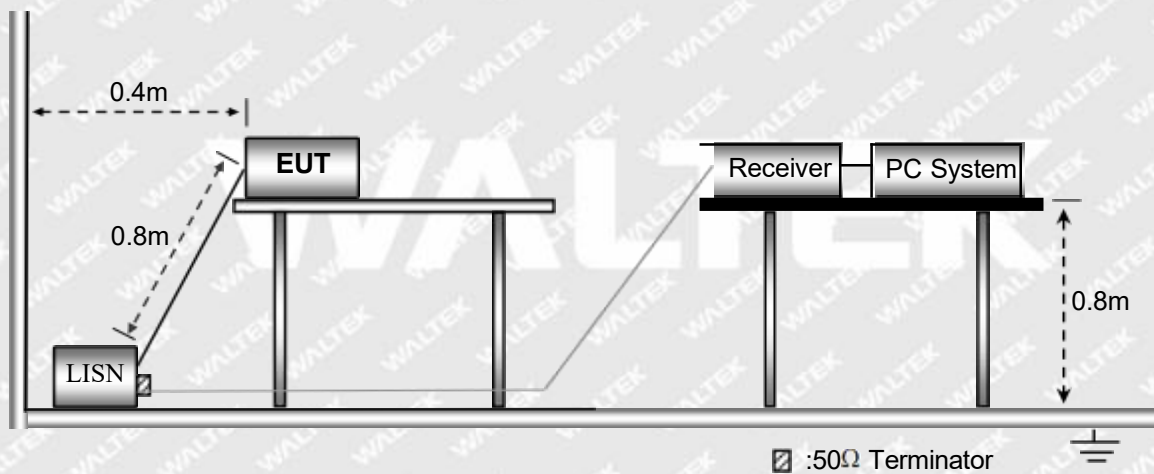
3. Conducted Emission

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement:

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB

3.2 Basic Test Setup Block Diagram





3.3 Environmental Conditions

Temperature:	21.5 ° C
Relative Humidity:	48 %
ATM Pressure:	1012 mbar

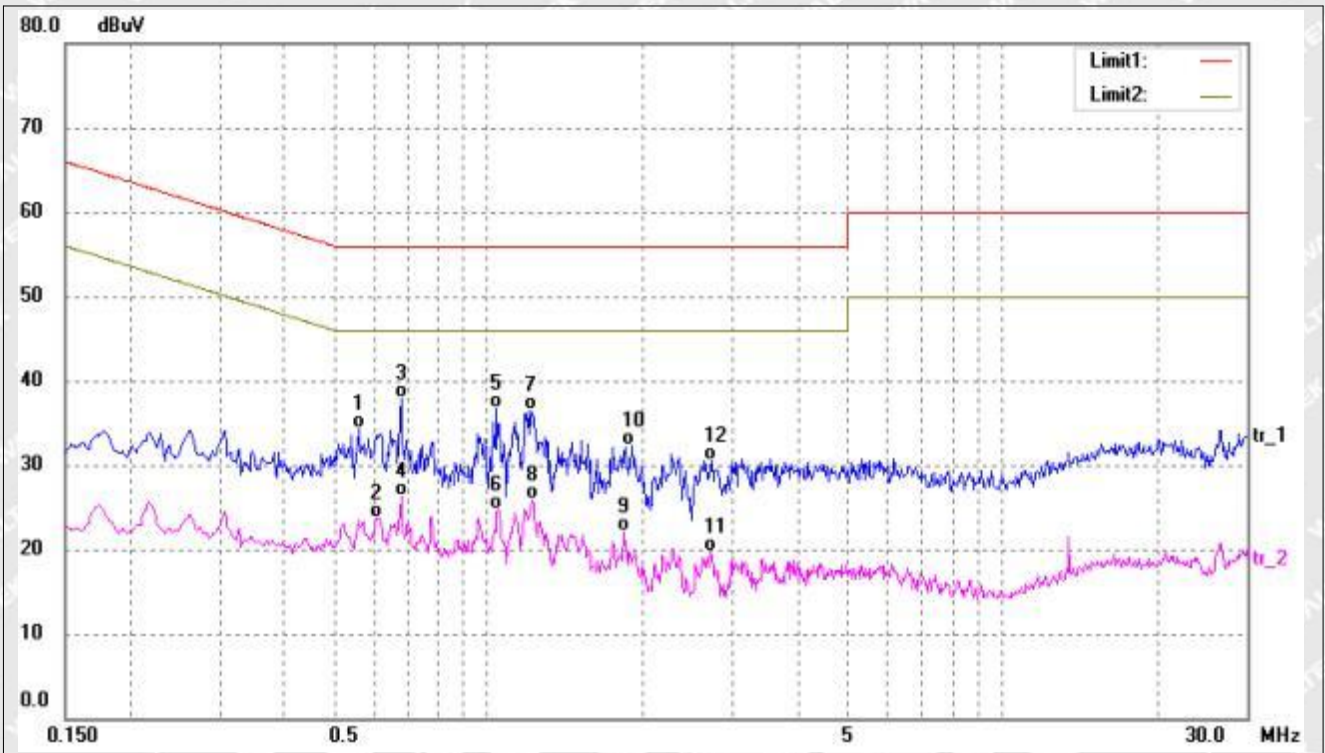
3.4 Summary of Test Results

Please find the results below:

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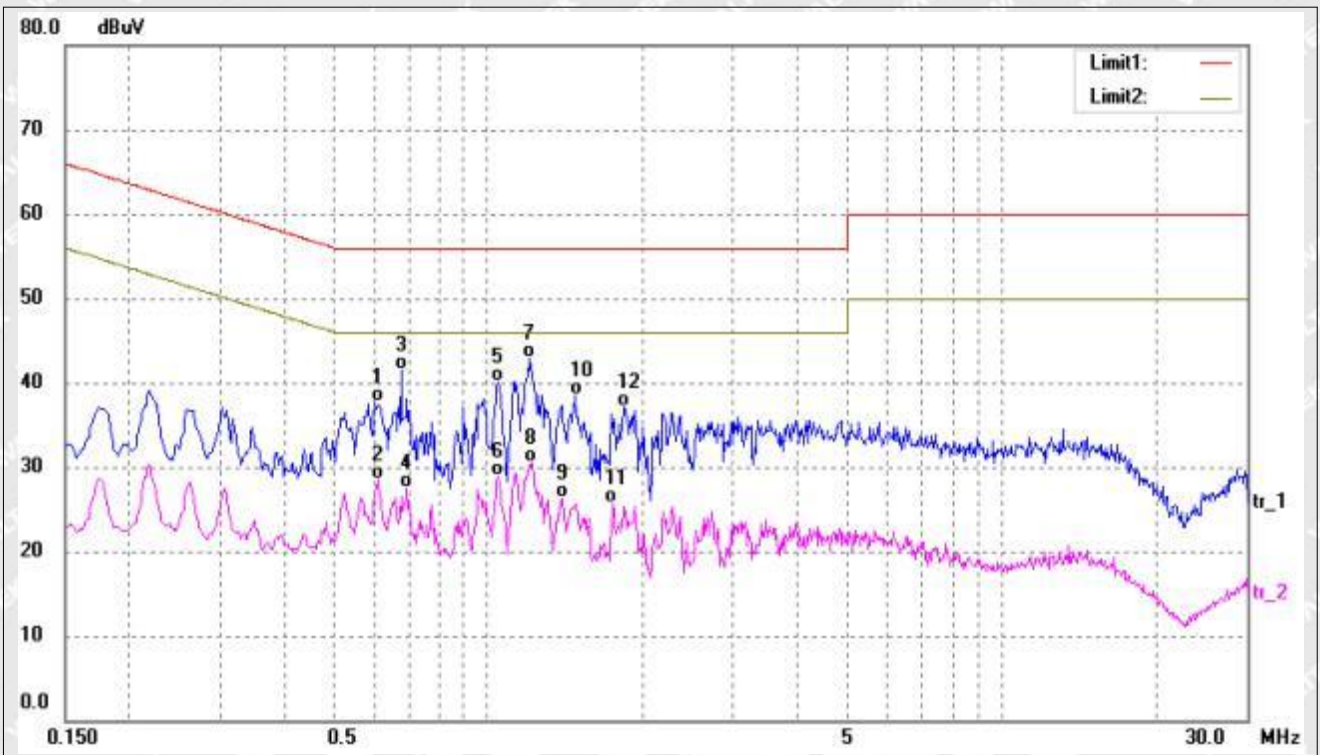
Test mode:	TM1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5580	24.00	10.29	34.29	56.00	-21.71	QP
2	0.6060	13.31	10.32	23.63	46.00	-22.37	AVG
3*	0.6780	27.44	10.37	37.81	56.00	-18.19	QP
4	0.6780	15.98	10.37	26.35	46.00	-19.65	AVG
5	1.0420	26.22	10.54	36.76	56.00	-19.24	QP
6	1.0460	14.21	10.54	24.75	46.00	-21.25	AVG
7	1.1980	26.03	10.47	36.50	56.00	-19.50	QP
8	1.2180	15.38	10.46	25.84	46.00	-20.16	AVG
9	1.8340	11.88	10.20	22.08	46.00	-23.92	AVG
10	1.9020	22.19	10.17	32.36	56.00	-23.64	QP
11	2.7180	9.53	10.10	19.63	46.00	-26.37	AVG
12	2.7260	20.41	10.10	30.51	56.00	-25.49	QP



Test mode:	TM1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.6020	27.37	10.32	37.69	56.00	-18.31	QP
2	0.6100	18.16	10.33	28.49	46.00	-17.51	AVG
3	0.6780	31.23	10.37	41.60	56.00	-14.40	QP
4	0.6940	17.12	10.38	27.50	46.00	-18.50	AVG
5	1.0460	29.50	10.54	40.04	56.00	-15.96	QP
6	1.0460	18.37	10.54	28.91	46.00	-17.09	AVG
7*	1.2020	32.52	10.47	42.99	56.00	-13.01	QP
8	1.2220	20.02	10.46	30.48	46.00	-15.52	AVG
9	1.3900	15.94	10.39	26.33	46.00	-19.67	AVG
10	1.4780	28.13	10.36	38.49	56.00	-17.51	QP
11	1.7460	15.37	10.24	25.61	46.00	-20.39	AVG
12	1.8300	26.85	10.21	37.06	56.00	-18.94	QP



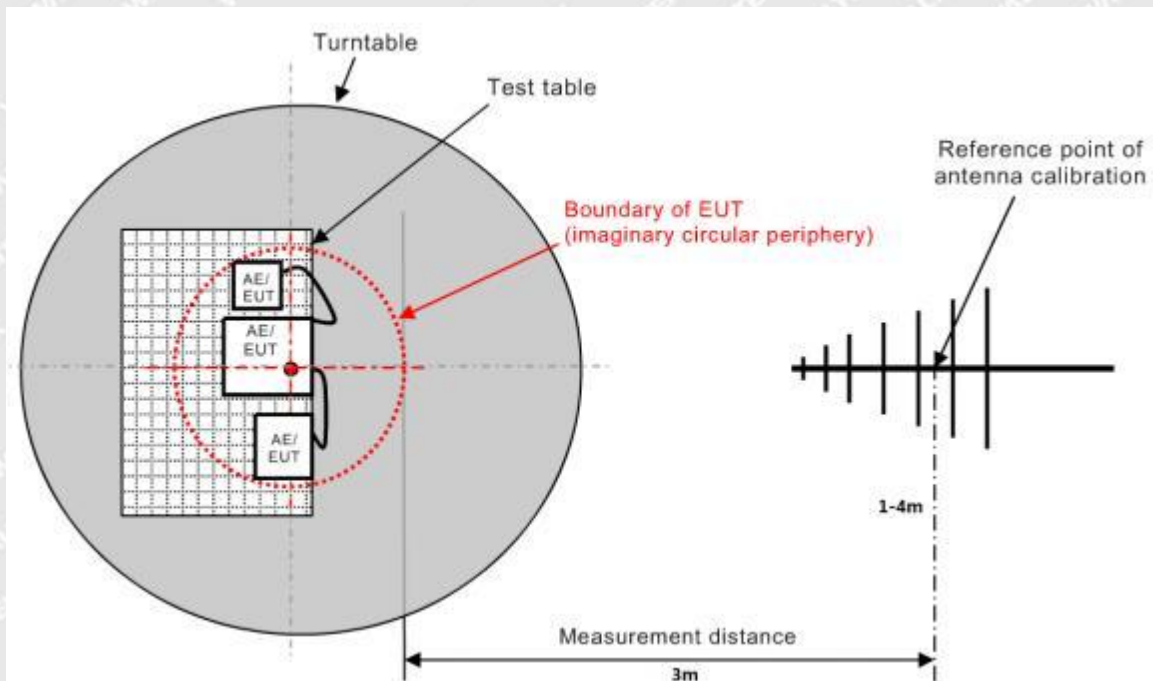
4. Radiated Emission

4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement:

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Radiated Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-18GHz ±3.92dB

4.2 Basic Test Setup Block Diagram





4.3 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:

$$\begin{aligned} \text{Corr. Ampl.} &= \text{Indicated Reading} + \text{Correct} \\ \text{Correct} &= \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain} \end{aligned}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN 55032 Class B Limit}$$

4.4 Environmental Conditions

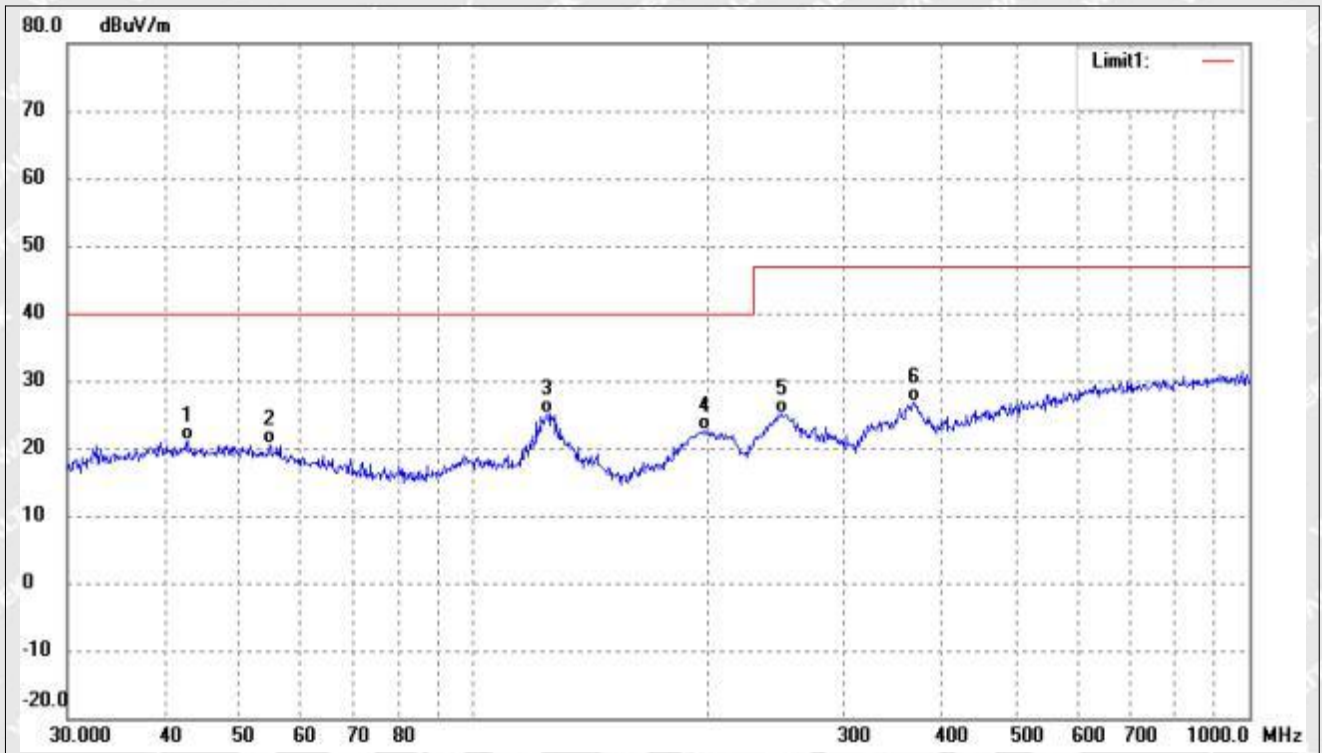
Temperature:	22.5° C
Relative Humidity:	51 %
ATM Pressure:	1010 mbar

4.5 Summary of Test Results

Please find the results below:



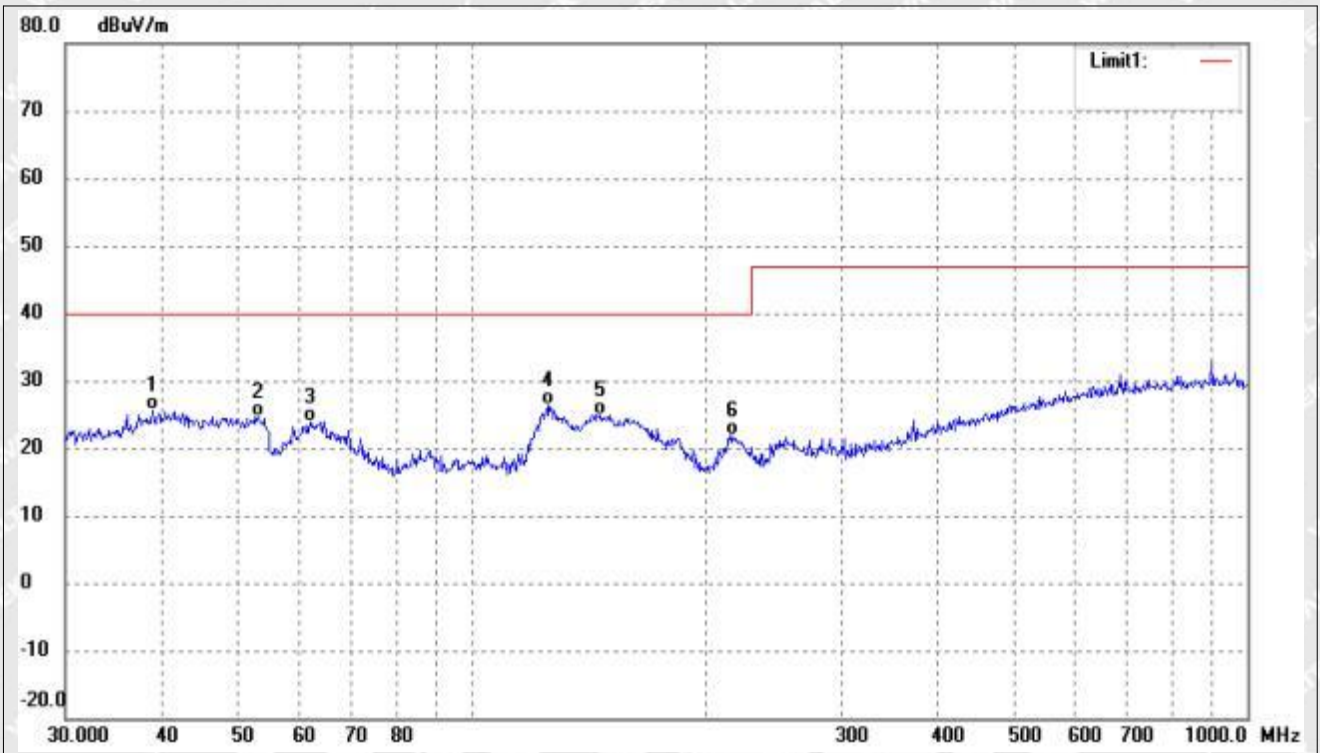
Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	42.8998	28.15	-6.99	21.16	40.00	-18.84	281	100	QP
2	54.6429	28.26	-7.64	20.62	40.00	-19.38	92	100	QP
3	124.5690	35.59	-10.44	25.15	40.00	-14.85	331	100	QP
4	198.5880	32.47	-9.75	22.72	40.00	-17.28	97	100	QP
5	250.3012	33.46	-8.31	25.15	47.00	-21.85	217	100	QP
6	370.7023	31.76	-4.78	26.98	47.00	-20.02	115	100	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	38.8879	32.98	-7.27	25.71	40.00	-14.29	149	100	QP
2	53.1313	32.16	-7.42	24.74	40.00	-15.26	114	100	QP
3	61.9951	32.78	-8.78	24.00	40.00	-16.00	97	100	QP
4	125.4457	36.91	-10.59	26.32	40.00	-13.68	132	100	QP
5	146.8877	37.48	-12.51	24.97	40.00	-15.03	184	100	QP
6	216.7828	31.24	-9.24	22.00	40.00	-18.00	308	100	QP



5. Harmonic Current Emissions

5.1 Test Procedure

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

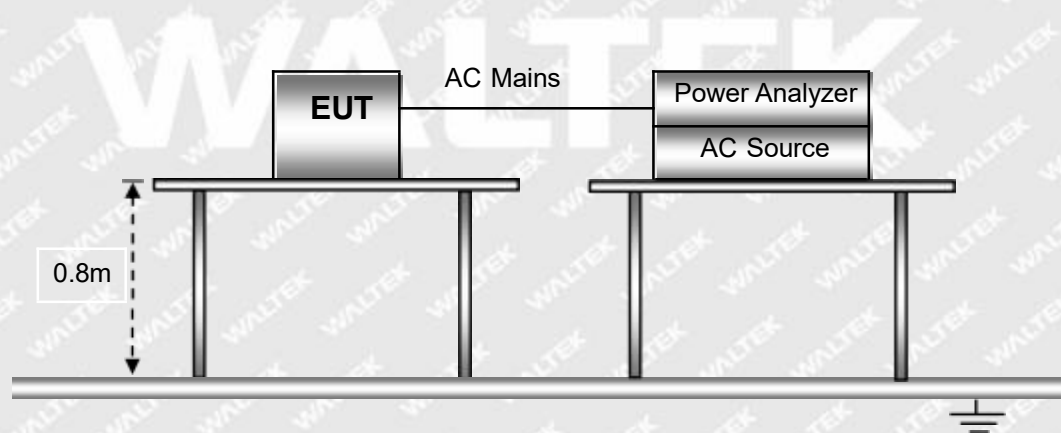
5.2 Test Standards

EN IEC 61000-3-2, Clause 7.1 Limits for Class A equipment.

5.3 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	51 %
ATM Pressure:	1013 mbar

5.4 Basic Test Setup Block Diagram



5.5 Harmonic Current Emissions Test Data

According to Clause 7 of EN IEC 61000-3-2, the rated power of the EUT is less than 75W, belong to „equipment with a rated power of 75W or less“, therefore „limits are not specified in this edition of the standards“. It is deemed to fully fit the requirements of the standards.

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



6. Voltage Fluctuation Flicker

6.1 Test Procedure

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

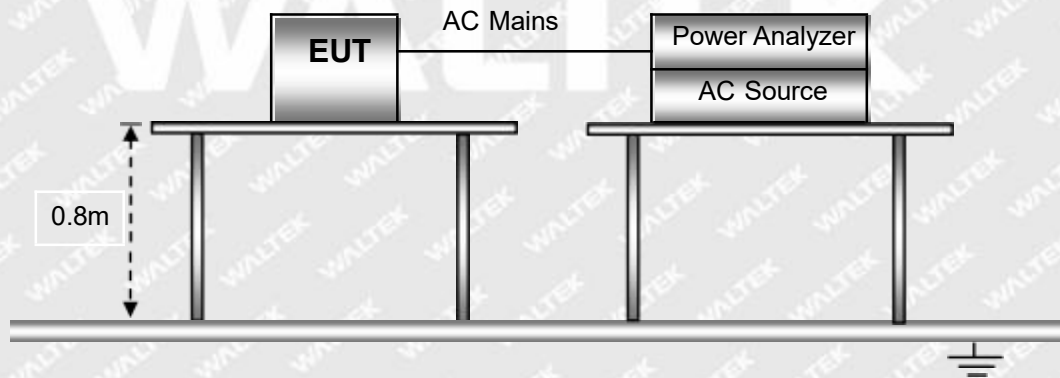
6.2 Test Standards

EN 61000-3-3, Limit: Clause 5.

6.3 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	52 %
ATM Pressure:	1013 mbar

6.4 Basic Test Setup Block Diagram



6.5 Voltage Fluctuation and Flicker Test Data



Test mode:	TM1
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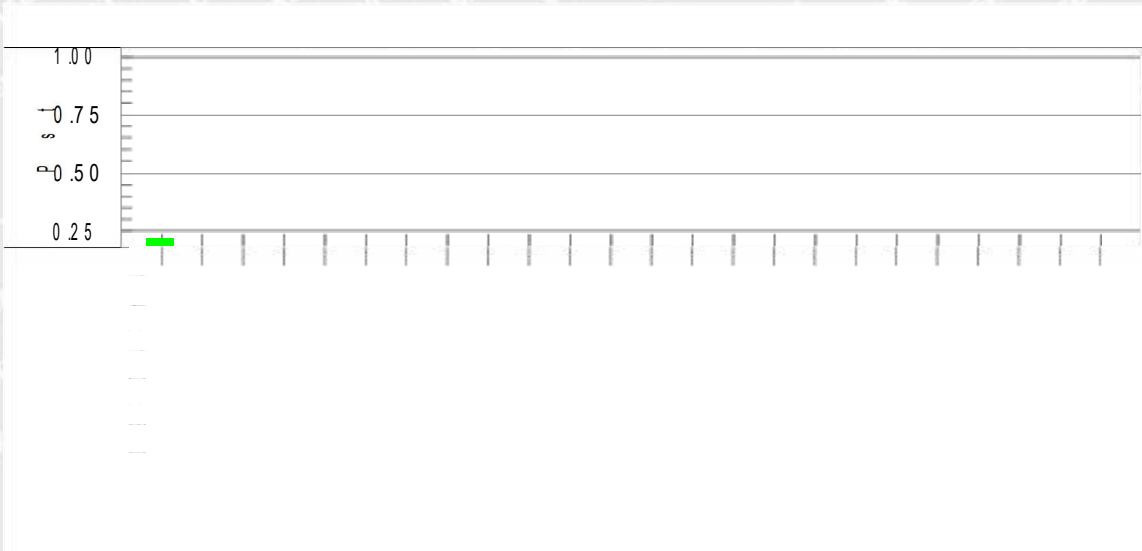
Flicker Test Summary per IEC61000-3-3:2013/AMD1:2017 (Run time)

Test Result: Pass

Status: Test Completed

Pst and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.86		
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):	0.224	Test limit:	1.000 Pass
Highest Plt (2 hr. period):	0.098	Test limit:	0.650 Pass



7. Electrostatic Discharges (ESD)

7.1 Test Procedure

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

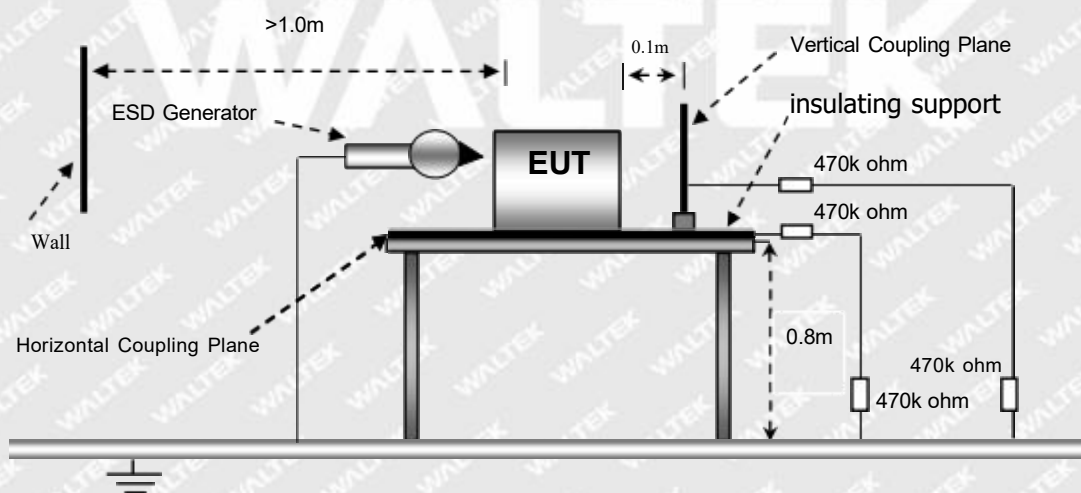
7.2 Test Performance

Performance Criterion: B

7.3 Environmental Conditions

Temperature:	20.5 °C
Relative Humidity:	47 %
ATM Pressure:	1012 mbar

7.4 Basic Test Setup Block Diagram





7.5 Electrostatic Discharge Immunity Test Data

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Voltage (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
New plastic shell	A	A	A	A	A	A	A	A	/	/
gap	A	A	A	A	A	A	A	A	/	/
input port	A	A	A	A	A	A	A	A	/	/
Output port	A	A	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Voltage (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
/	/	/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP & VCP)

EN 61000-4-2 Test Points	Test Voltage (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
HCP (6 Sides)	A	A	A	A	/	/	/	/	/	/
VCP (4 Sides)	A	A	A	A	/	/	/	/	/	/

Test Result: Pass



8. Continuous RF Electromagnetic Field Disturbances (RS)

8.1 Test Procedure

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

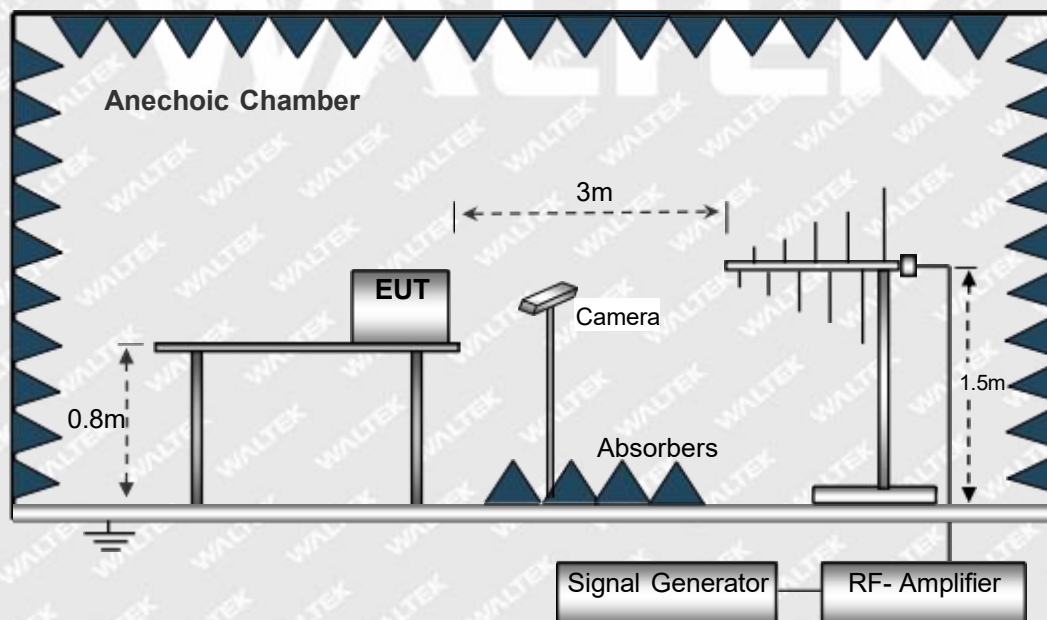
8.2 Test Performance

Performance Criterion: A

8.3 Environmental Conditions

Temperature:	23.0 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

8.4 Basic Test Setup Block Diagram





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

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

Spot frequencies (MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
1800	3	A	A	A	A	A	A	A	A
2600	3	A	A	A	A	A	A	A	A
3500	3	A	A	A	A	A	A	A	A
5000	3	A	A	A	A	A	A	A	A

Test Result: Pass



9. Electrical Fast Transients (EFT)

9.1 Test Procedure

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

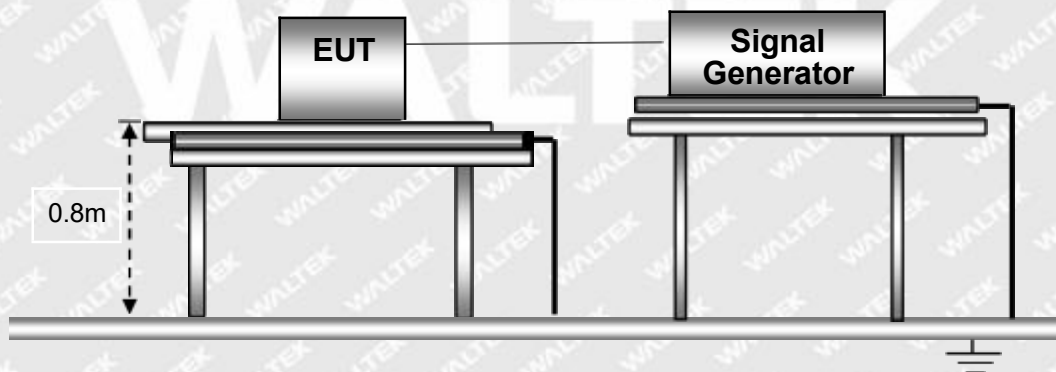
9.2 Test Performance

Performance Criterion: B

9.3 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	51 %
ATM Pressure:	1011 mbar

9.4 Basic Test Setup Block Diagram





9.5 Electrical Fast Transients Test Data

EN 61000-4-4 Test Points		Test Voltage (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply Power Port of EUT	L1	/	/	A	A	/	/	/	/
	L2	/	/	A	A	/	/	/	/
	PE	/	/	/	/	/	/	/	/
	L1+L2	/	/	A	A	/	/	/	/
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports	RJ45	/	/	/	/	/	/	/	/

Test Result: Pass

WALTEK



10. Surges

10.1 Test Procedure

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

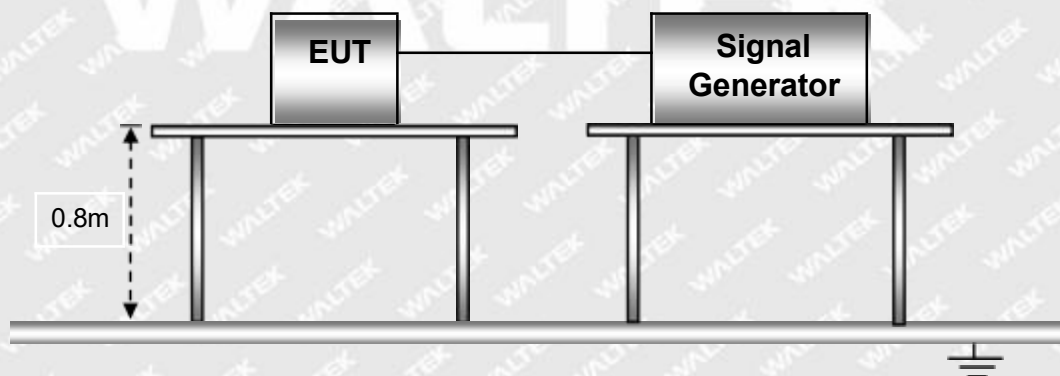
10.2 Test Performance

Performance Criterion: B

10.3 Environmental Conditions

Temperature:	24 °C
Relative Humidity:	51 %
ATM Pressure:	1013 mbar

10.4 Basic Test Setup Block Diagram





10.5 Surge Test Data

AC Port

Test Voltage (kV)	Poll	Path	Pass	Fail
0.5kV	±	L-N	/	/
1kV	±	L-N	A	/
2kV	±	L-PE, N-PE	/	/
4kV	±	L-N, L-PE, N-PE	/	/

Test Result: Pass

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11. Continuous Induced RF Disturbances (C/S)

11.1 Test Procedure

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

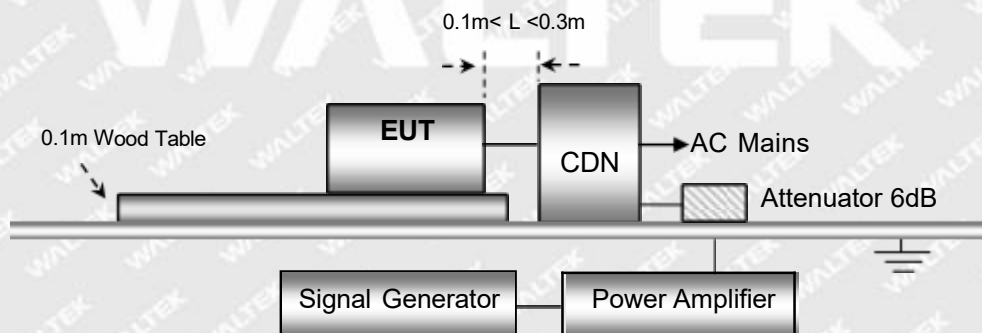
11.2 Test Performance

Performance Criterion: A

11.3 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	53 %
ATM Pressure:	1013 mbar

11.4 Basic Test Setup Block Diagram





11.5 Continuous Conducted Disturbances Test Data

Sweep frequency range: 0.15MHz to 10MHz 3V; 10MHz to 30MHz 3V to 1V; 30MHz to 80MHz 1V

Frequency step: 1% of fundamental

Dwell time: 1 second

AC Port

Frequency MHz	Injected Position	Voltage level (e.m.f.)	Observations (Performance Criterion)	Result
0.15-10	AC Mains	3V	A	Pass
10-30	AC Mains	3-1V	A	Pass
30-80	AC Mains	1V	A	Pass

Test Result: Pass

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12. Power-Frequency Magnetic Fields (PFMF)

12.1 Test Procedure

Test is conducted under the description of EN 61000-4-8.

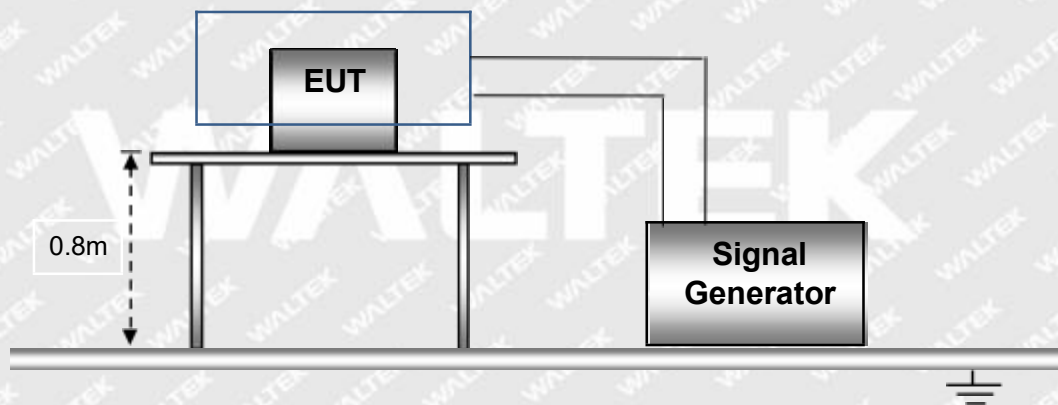
12.2 Test Performance

Performance Criterion: A

12.3 Environmental Conditions

Temperature:	23.0 °C
Relative Humidity:	52 %
ATM Pressure:	1013 mbar

12.4 Basic Test Setup Block Diagram



**12.5 Power-Frequency Magnetic Field Test Data**

Level	Magnetic Field Strength (r.m.s) A/m	Frequency Hz	Induction Coil Position	Pass	Fail
1	1	50	X, Y, Z	A	/
2	3	50	X, Y, Z	/	/
3	10	50	X, Y, Z	/	/
X	Special	/	/	/	/

Test Result: Pass

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13. Voltage Dips and Interruptions

13.1 Test Procedure

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

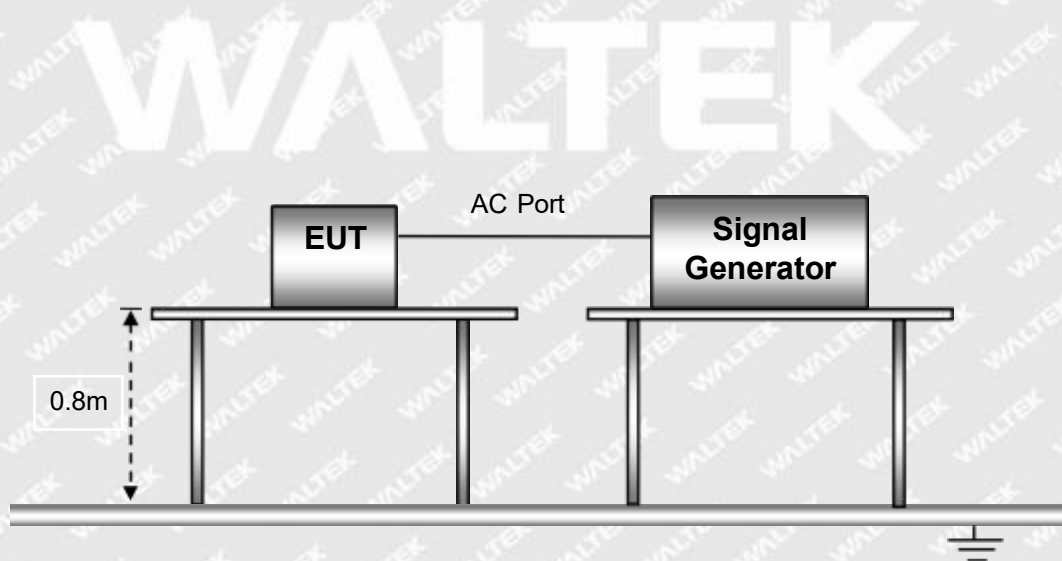
13.2 Test Performance

Performance Criterion: B/C

13.3 Environmental Conditions

Temperature:	22.5 °C
Relative Humidity:	51 %
ATM Pressure:	1012 mbar

13.4 Basic Test Setup Block Diagram





13.5 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	B	/
2	30%	500ms	0/90/180/270	3	B	/
3	100%	5000ms	0/90/180/270	3	B	/

Test Result: Pass

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EXHIBIT 1 - PRODUCT LABELING

Proposed CE Label Format

PDLC Smart Film Smart Glass Transformer	
Model: FB-03-20-60V	
Brand: Filmbase, 	 
Importer Name: XXX	
Importer Address: XXX	
Shenzhen Yuguang New Material Co., Ltd	
31F, 3A Building, Smart Park, Baolong, Longgang, Shenzhen, China	
Factory: Building 2#, Huaqiang Industry Park, Baolong, Longgang, Shenzhen, China	

Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT. The „CE“ marking must be affixed to the EUT or to its data plate. Where this is not possible or not warranted on account of the nature of the apparatus, it must be affixed to the packaging, if any, and to the accompanying documents. The „CE“ marking is allowed less than 5 mm but must clear. If the „CE“ marking is reduced or enlarged the proportions given in the above graduated drawing must be respected. The Importer name, address and Manufacturer name and address should indicate on marking label or packaging or in a document accompanying.

Proposed Label Location on EUT

CE Label Location





EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1



EUT View 2

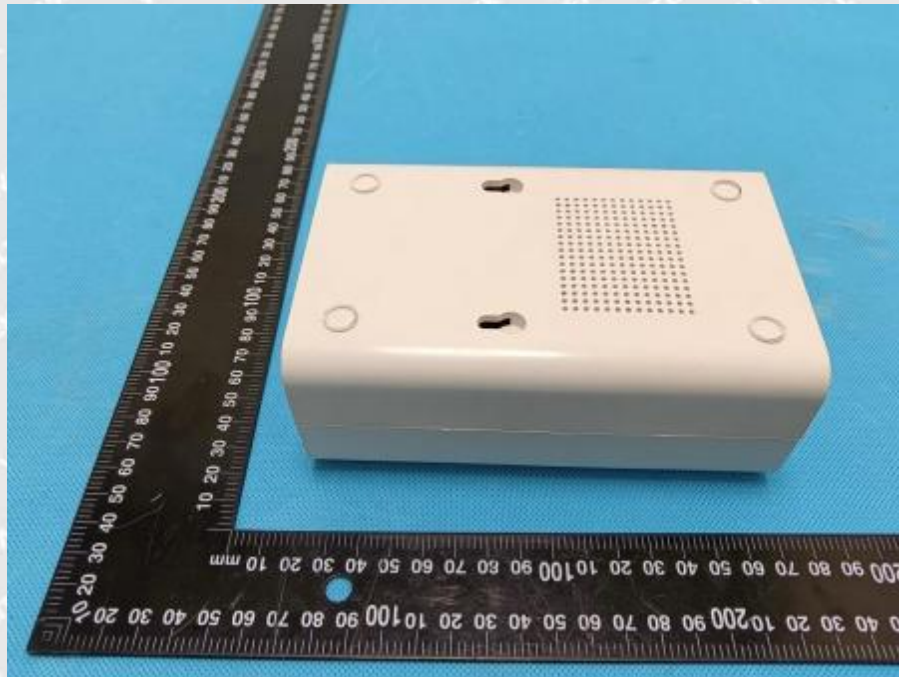




EUT View 3



EUT View 4





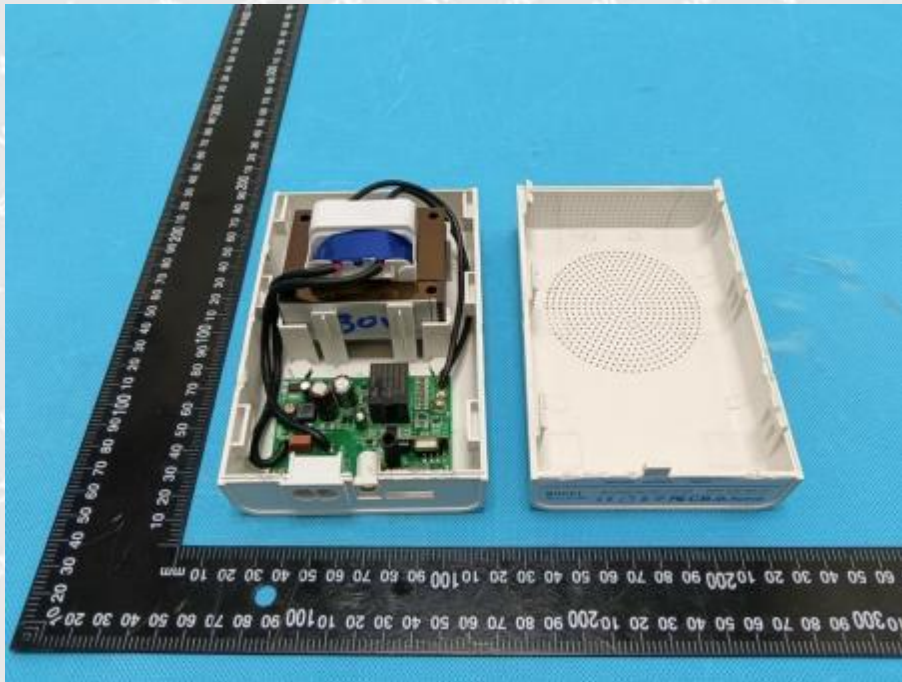
EUT View 5



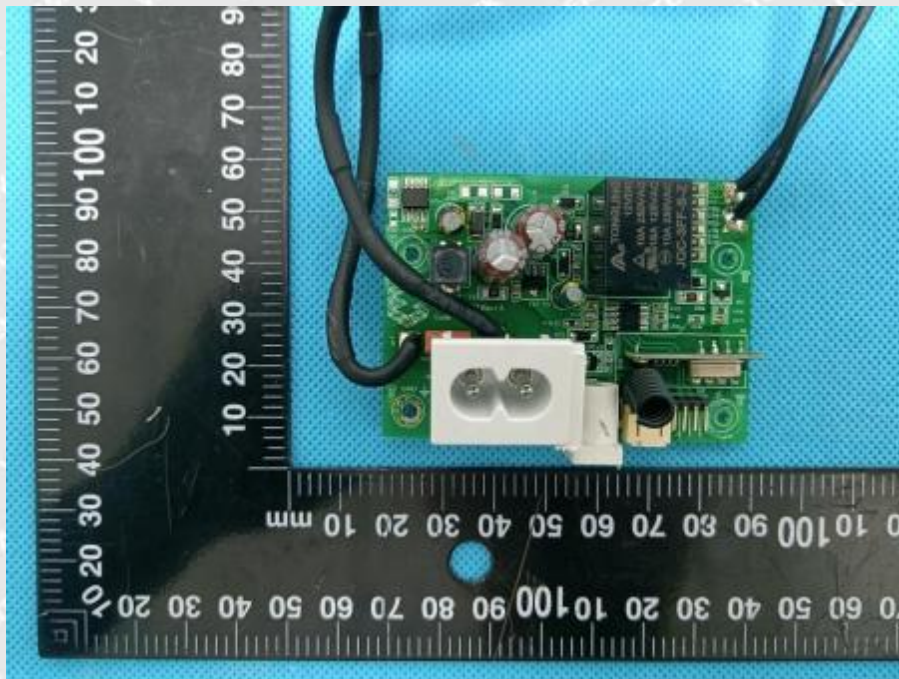
WALTEK



EUT Housing and Board View 1

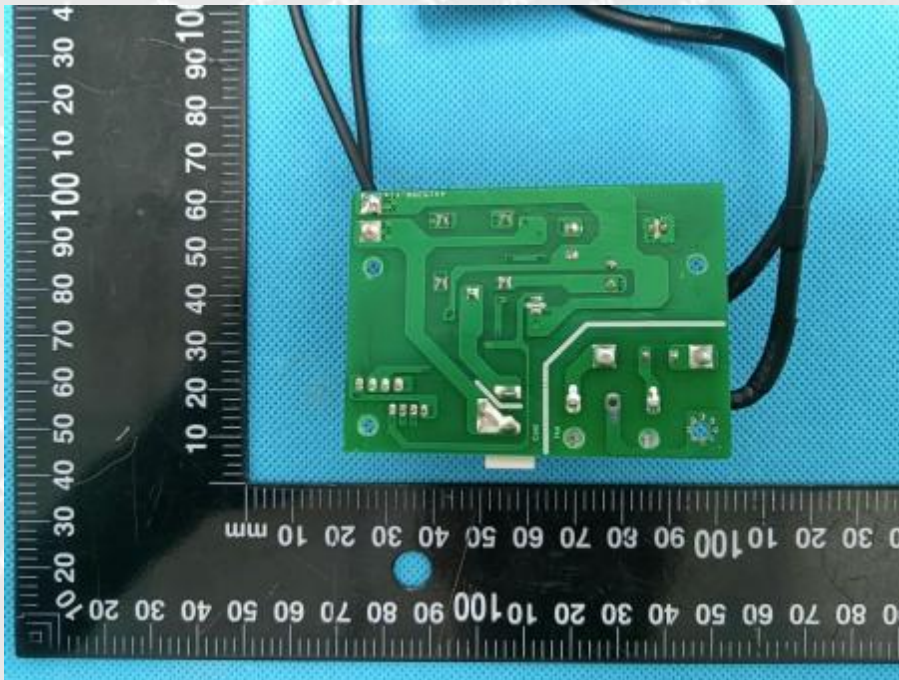


Solder Board-Component View





Solder Board-Component View 3



Solder Board-Component View 4

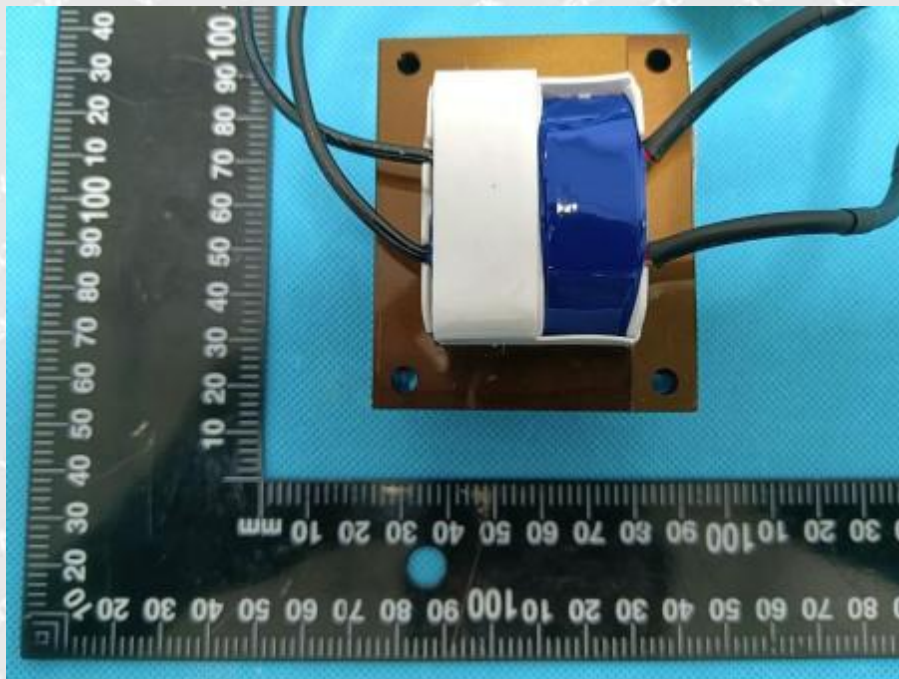




EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



Radiation Emission Test View





Harmonic/Flicker Test View

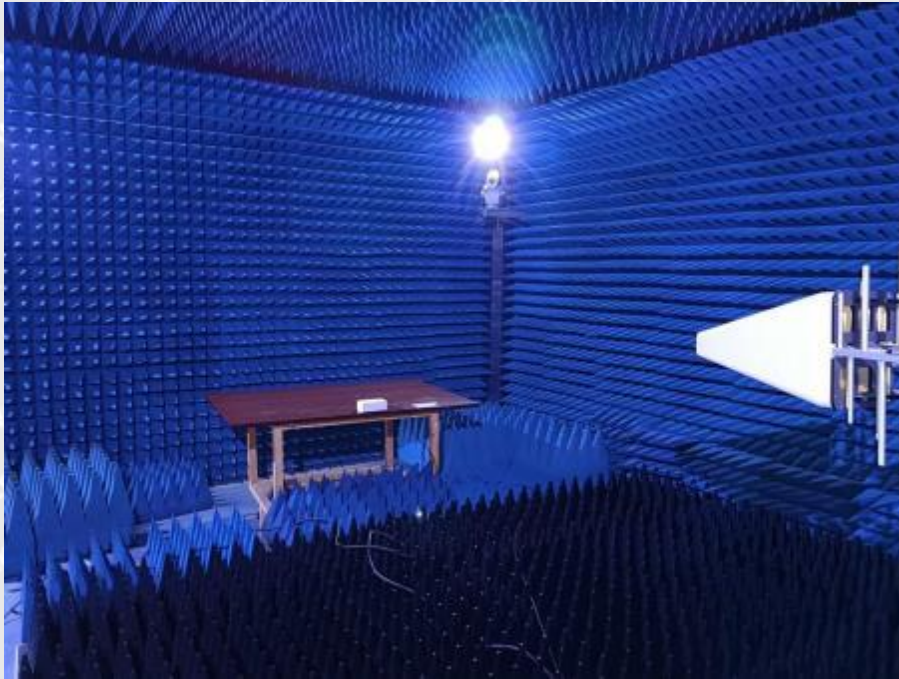


EN 61000-4-2 Test View

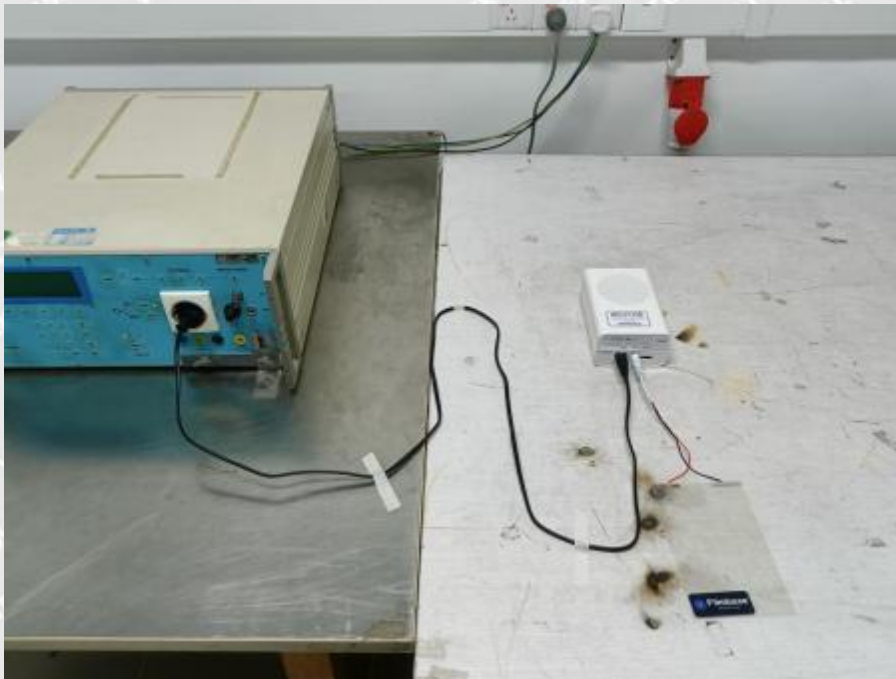




EN 61000-4-3 Test View



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





EN 61000-4-6 Test View



EN 61000-4-8 Test View



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