



TEST REPORT	
ETSI EN 301 489-1 V2.2.3 (2019-11)	
ETSI EN 301 489-17 V3.3.1 (2024-09)	
EN 55032:2015+A11:2020/EN 55035:2017+A11:2020	
EN IEC 61000-3-2:2019+A1:2021/EN 61000-3-3:2013+A2:2021	
Report Reference No.....	HTT202509730E-1
Compiled by (position+printed name+signature)...	Heber He
Supervised by (position+printed name+signature)...	Bruce Zhu
Approved by (position+printed name+signature)...	Kevin Yang
Date of issue.....	Sep. 22, 2025
Testing Laboratory Name.....	Shenzhen HTT Technology Co., Ltd.
Address.....	1F, B Building, Huafeng International Robotics Industrial Park, Gushu, Xixiang Street, Bao'an District, Shenzhen
Applicant's name :	GuangDong Duiying Electronic Technology Co., Ltd.
Address.....	Room 919, Block 13, Tian' an Center,31 Ji Hua East Road, Guicheng Street, Nanhai District, Foshan City, China
Test specification	
Standard.....	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55032:2015+A11:2020/EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A1:2021/EN 61000-3-3:2013+A2:2021
Test item description.....	3D Hologram box
Trade Mark.....	DWINYA
Manufacturer.....	Shenzhen DWINYA Technology Co., Ltd. 218, Building C3, Area C, Fuhai International Science Park, Zhancheng Community, Fuhai Street, Bao 'an District, Shenzhen
Model/Type reference.....	DWY8601
Serial Model.....	DWY1601,DWY2201,DWY3201,DWY4301,DWY4901,DWY5501, DWY6501,DWY7501,DWY8501,DWY9801,DWY1602,DWY2202, DWY3202,DWY4302,DWY4902,DWY5502,DWY6502,DWY7502, DWY8502,DWY9802,NCHS8601
Ratings.....	AC 100-240V, 50/60Hz
Result.....	PASS

**TEST REPORT**

Test Report No. :	HTT202509730E-1	Sep. 22, 2025
		Date of issue

Equipment under Test : 3D Hologram box

Model Name : DWY8601

Serial Model : DWY1601,DWY2201,DWY3201,DWY4301,DWY4901,DWY5501,
DWY6501,DWY7501,DWY8501,DWY9801,DWY1602,DWY2202,
DWY3202,DWY4302,DWY4902,DWY5502,DWY6502,DWY7502,
DWY8502,DWY9802,NCHS8601

Trade Mark : DWINYA

Applicant : **GuangDong Duiying Electronic Technology Co., Ltd.**

Address : Room 919, Block 13, Tian' an Center,31 Ji Hua East Road,
Guicheng Street, Nanhai District, Foshan City, China

Manufacturer : **Shenzhen DWINYA Technology Co., Ltd.**

Address : 218, Building C3, Area C, Fuhai International Science Park,
Zhancheng Community, Fuhai Street, Bao 'an District, Shenzhen

Test Result	PASS
--------------------	-------------

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



Contents

1. TEST STANDARDS	4
2. SUMMARY	5
2.1. General Remarks	5
2.2. Product Description	5
2.3. DESCRIPTION OF TEST MODES	6
2.4. EUT configuration	6
2.5. Modifications	6
3. TEST ENVIRONMENT	7
3.1. Address of the test laboratory	7
3.2. Environmental conditions	7
3.3. Test Description	8
3.4. Statement of the measurement uncertainty	9
3.5. Equipments Used during the Test	9
4. TEST CONDITIONS AND RESULTS	11
4.1. EMISSION	11
4.1.1. Radiated Emission	11
4.1.2. Conducted Emission (AC Mains)	15
4.1.3. Harmonic Current Emission	18
4.1.4. Voltage Fluctuation and Flicker	19
4.2. IMMUNITY	20
4.2.1. Performance criteria	20
4.2.2. Electrostatic Discharge	22
4.2.3. RF Electromagnetic Field	24
4.2.4. Surges	25
4.2.5. RF- Common Mode 0.15MHz to 80MHz	26
4.2.6. Fast Transients Common Mode	27
4.2.7. Voltage Dips and Interruptions	28
5. TEST SET-UP PHOTOS OF THE EUT	29
6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT	30



1. 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 301 489-17 V3.3.1 (2024-09)–ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility

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+A1:2021 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+A2:2021 Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.



2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Sep. 16, 2025
Testing commenced on	:	Sep. 16, 2025
Testing concluded on	:	Sep. 22, 2025

2.2. Product Description

Product Name:	3D Hologram box
Model:	DWY8601
Serial Model:	DWY1601,DWY2201,DWY3201,DWY4301,DWY4901,DWY5501, DWY6501,DWY7501,DWY8501,DWY9801,DWY1602,DWY2202, DWY3202,DWY4302,DWY4902,DWY5502,DWY6502,DWY7502, DWY8502,DWY9802,NCHS8601
Trade Mark:	DWINYA
Power:	AC 100-240V, 50/60Hz
Operation frequency	WIFI: IEEE 802.11b:2412-2472MHz IEEE 802.11g:2412-2472MHz IEEE 802.11n HT20:2412-2472MHz
Modulation Type	WIFI: IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)



2.3. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Description
Mode 1	WIFI Mode
Mode 2	Normal Working Mode

Pre-scan above all test mode, found below test mode which it was worse case mode.

Test item	Test mode (Worse case mode)
EMI	Mode 1
EMS	Mode 1

2.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

○ /	M/N: /
	Manufacturer: /

2.5. Modifications

No modifications were implemented to meet testing criteria.



3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen HTT Technology Co., Ltd.

1F, B Building, Huafeng International Robotics Industrial Park, Gushu, Xixiang Street, Bao'an District, Shenzhen

3.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature	25°C
Relative Humidity	55 %
Air Pressure	989 hPa



3.3. Test Description

Emission Measurement		
Radiated Emission	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55032:2015+A11:2020	PASS
Conducted Emission(AC Mains)	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55032:2015+A11:2020	PASS
Harmonic Current Emissions	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN IEC 61000-3-2:2019+A1:2021	N/A
Voltage Fluctuations and Flicker	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 61000-3-3:2013+A2:2021	N/A
Immunity Measurement		
Electrostatic Discharge	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS
RF Electromagnetic Field	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS
Fast Transients Common Mode	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS
RF Common Mode 0,15 MHz to 80 MHz	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS
Voltage Dips and Interruptions	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS
Surges	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09) EN 55035:2017+A11:2020	PASS

Remark:1. N/A means “not applicable”.

2.The measurement uncertainty is not included in the test result.



3.4. Statement of the measurement uncertainty

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

Hereafter the best measurement capability for Shenzhen HTT Technology Co., Ltd. for Products Quality is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	3.45 dB	(1)
Radiated Emission	1~6GHz	3.54 dB	(1)
Conducted Disturbance	0.15~30MHz	2.66 dB	(1)
Harmonic current emission	/	0.634%	(1)
Voltage fluctuations & flicker	/	0.780%	(1)

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

3.5. Equipments Used during the Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	Shenzhen C.R.T technology co., LTD	9*6*6	HTT-E028	Aug. 10 2024	Aug. 09 2027
2	Control Room	Shenzhen C.R.T technology co., LTD	4.8*3.5*3.0	HTT-E030	Aug. 10 2024	Aug. 09 2027
3	EMI Test Receiver	Rohde&Schwar	ESCI7	HTT-E022	Apr. 22 2025	Apr. 21 2026
4	Spectrum Analyzer	ROHDE&SCHWARZ	FSV40-N	HTT-E050	Jun. 09 2025	Jun. 08 2026
5	Coaxial Cable	ZDecl	ZT26-NJ-NJ-0.6M	HTT-E018	Apr. 22 2025	Apr. 21 2026
6	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-2M	HTT-E019	Apr. 22 2025	Apr. 21 2026
7	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-0.6M	HTT-E020	Apr. 22 2025	Apr. 21 2026
8	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-8.5M	HTT-E021	Apr. 22 2025	Apr. 21 2026
9	Composite logarithmic antenna	Schwarzbeck	VULB 9168	HTT-E017	Apr. 19 2025	Apr. 18 2026
10	Horn Antenna	Schwarzbeck	BBHA9120D	HTT-E016	Apr. 19 2025	Apr. 18 2026
11	Loop Antenna	Zhinan	ZN30900C	HTT-E039	Apr. 19 2025	Apr. 18 2026
12	Horn Antenna	A.H. Systems, inc.	SAS-574	HTT-E040	Jun. 04 2025	Jun. 03 2026
13	low frequency Amplifier	Sonoma Instrument	310	HTT-E015	Apr. 22 2025	Apr. 21 2026
14	high-frequency Amplifier	HP	8449B	HTT-E014	Apr. 22 2025	Apr. 21 2026
15	Variable frequency power supply	Shenzhen Anbiao Instrument Co., Ltd	ANB-10VA	HTT-082	Apr. 22 2025	Apr. 21 2026
16	EMI Test Receiver	Rohde & Schwarz	ESCI3	HTT-E043	Apr. 22 2025	Apr. 21 2026
17	Artificial Mains	Rohde & Schwarz	ESH3-Z5	HTT-E006	Apr. 22 2025	Apr. 21 2026



18	Artificial Mains	Rohde & Schwarz	ENV-216	HTT-E038	Apr. 22 2025	Apr. 21 2026
19	Cable Line	Robinson	Z302S-NJ-BNCJ-1.5M	HTT-E001	Apr. 22 2025	Apr. 21 2026
20	Filter	ROHDE&SCHWARZ	ESH3-Z2	HTT-E045	May. 19 2025	May. 18 2026
21	Variable frequency power supply	Shenzhen Yanghong Electric Co., Ltd	YF-650 (5KVA)	HTT-E032	Apr. 22 2025	Apr. 21 2026
22	Control Room	Shenzhen C.R.T technology co., LTD	8*4*3.5	HTT-E029	Aug. 10 2024	Aug. 09 2027
23	DC power supply	Agilent	E3632A	HTT-E023	Apr. 22 2025	Apr. 21 2026
24	EMI Test Receiver	Agilent	N9020A	HTT-E024	Apr. 22 2025	Apr. 21 2026
25	Analog signal generator	Agilent	N5181A	HTT-E025	Apr. 22 2025	Apr. 21 2026
26	Vector signal generator	Agilent	N5182A	HTT-E026	Apr. 22 2025	Apr. 21 2026
27	RF Switch box	Keysight	Switchbox	HTT-E047	May. 19 2025	May. 18 2026
28	Temperature and humidity meter	Shenzhen Anbiao Instrument Co., Ltd	TH10R	HTT-074	Apr. 21 2025	Apr. 20 2026
29	Radiated Emission Test Software	Farad	EZ-EMC	N/A	N/A	N/A
30	Conducted Emission Test Software	Farad	EZ-EMC	N/A	N/A	N/A
31	RF Test Software	panshanrf	TST	N/A	N/A	N/A
32	Electric Power Analyzer	EVERFINE	HFM3000	Electric Power Analyzer	Apr. 21 2025	Apr. 20 2026
33	Harmonics&Flicker Testing Power Source	EVERFINE	HFS-4000	Harmonics& Flicker Testing Power Source	Apr. 21 2025	Apr. 20 2026
34	Software	EVERFINE	HFMSuite_V2.00.127	Software	Apr. 21 2025	Apr. 20 2026
35	ESD Tester	LIONCEL	ESD-202A	0180801	Apr. 22 2025	Apr. 21 2026
36	ESD Gun	LIONCEL	N/A	N/A	Apr. 22 2025	Apr. 21 2026
37	EFT Tester	LIONCEL	LSE-545CB	0180601	Apr. 22 2025	Apr. 21 2026
38	Specialized Isolated Voltage Regulator For Surge	EVERFINE	GT2502	P185365CM 5391123	Apr. 22 2025	Apr. 21 2026
39	Coupling Clamp	LIONCEL	EFTC	018071809	Apr. 22 2025	Apr. 21 2026
40	Surge Tester	LIONCEL	LSE-545CB	0180601	Apr. 22 2025	Apr. 21 2026
41	Specialized Isolated Voltage Regulator For Surge	EVERFINE	GT2502	P185365CM 5391123	Apr. 22 2025	Apr. 21 2026
42	Dips Tester	LIONCEL	VSD-1102	0181202	Apr. 22 2025	Apr. 21 2026
43	Voltage-Stabilized Source	LIONCEL	RGL-220	0180901	Apr. 22 2025	Apr. 21 2026
44	Voltage-Stabilized Source	LIONCEL	RGL-220	0180902	Apr. 22 2025	Apr. 21 2026

The calibration interval is 1 year.

4. TEST CONDITIONS AND RESULTS

4.1. EMISSION

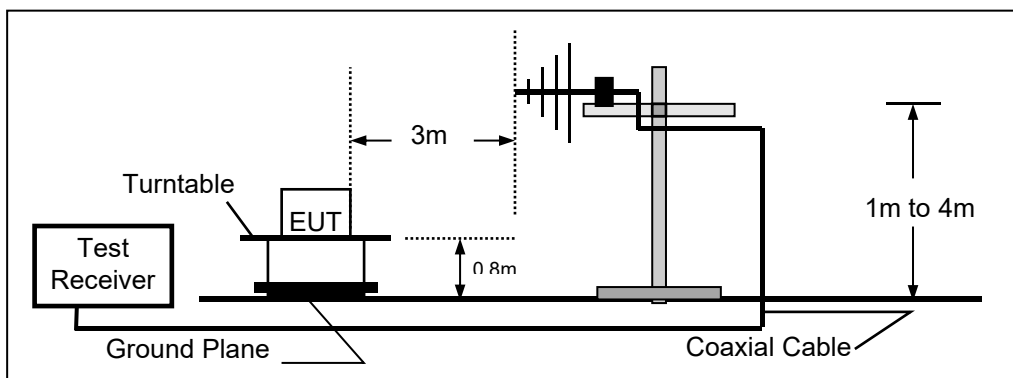
4.1.1. Radiated Emission

LIMIT

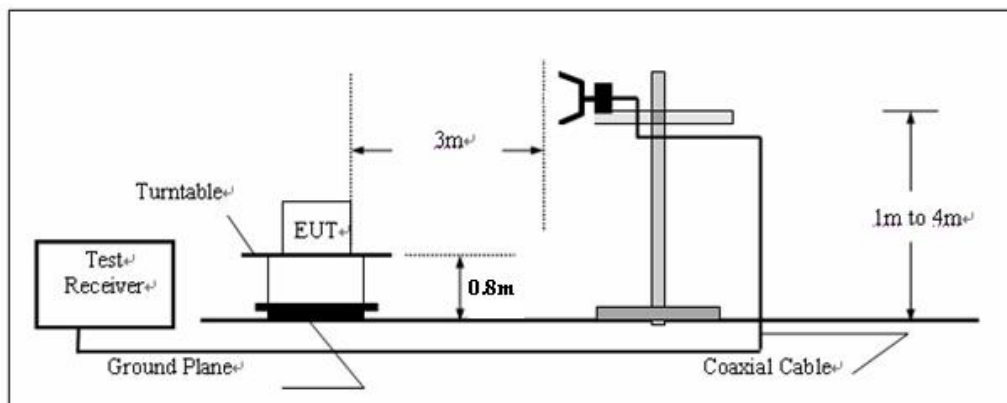
Please refer to ETSI EN301489-1 Clause 8.2.3, Table 4 and EN55032 Annex A, Table A.2,A.3, and Class B

TEST CONFIGURATION

- a) Radiated emission test set-up, frequency below 1000MHz:



- b) Radiated emission test set-up, frequency above 1000MHz



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.2.3 and EN55032 Annex A for the measurement methods

TEST RESULTS

Passed

Please refer to the below test data:



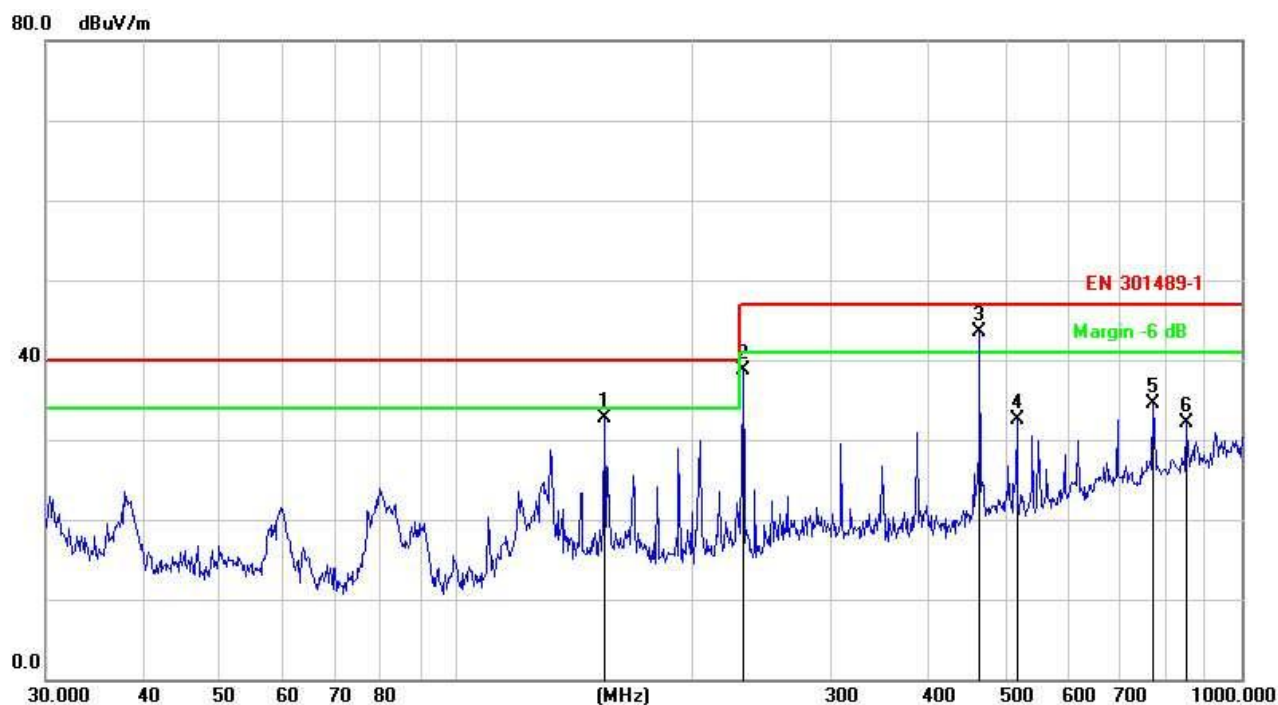
30-1000MHz

Test mode:

Mode 1

Polarization

Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
			dBuV	dB	dBuV/m	dB/m	dB	Detector
1		154.2786	42.77	-10.01	32.76	40.00	-7.24	peak
2		231.7178	51.53	-12.81	38.72	47.00	-8.28	peak
3	*	463.9696	49.43	-5.94	43.49	47.00	-3.51	peak
4		517.2480	37.52	-4.97	32.55	47.00	-14.45	peak
5		771.4486	35.53	-1.07	34.46	47.00	-12.54	peak
6		851.0353	31.71	0.40	32.11	47.00	-14.89	peak



Test mode:

Mode 1

Polarization

Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
			dBuV	dB	dBuV/m	dB/m	dB	Detector
1		119.8555	46.55	-12.68	33.87	40.00	-6.13	peak
2	!	154.2786	45.66	-10.01	35.65	40.00	-4.35	peak
3	*	231.7178	55.95	-12.81	43.14	47.00	-3.86	peak
4		308.9125	46.35	-9.68	36.67	47.00	-10.33	peak
5	!	463.9696	48.30	-5.94	42.36	47.00	-4.64	peak
6	!	618.5366	45.59	-3.12	42.47	47.00	-4.53	peak



1000-6000 MHz

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
V	1327.56	58.92	-17.52	41.40	70.00	28.60	peak
V	1327.75	55.76	-17.47	38.29	70.00	31.71	AVG
V	1573.92	63.42	-12.32	51.10	70.00	18.90	peak
V	1571.38	55.89	-12.23	43.66	50.00	6.34	AVG
V	3325.56	61.06	-10.52	50.54	74.00	23.46	peak
V	3325.52	53.41	-10.41	43.00	54.00	11.00	AVG
H	1349.49	66.98	-17.55	49.43	70.00	20.57	peak
H	1249.42	62.79	-17.47	45.32	50.00	4.68	AVG
H	3524.32	62.04	-12.63	49.41	70.00	20.59	peak
H	3524.42	48.53	-12.32	36.21	50.00	13.79	AVG
H	4026.56	61.97	-8.65	53.32	74.00	20.68	peak
H	4026.52	52.04	-8.78	43.26	54.00	10.74	AVG

Remark:

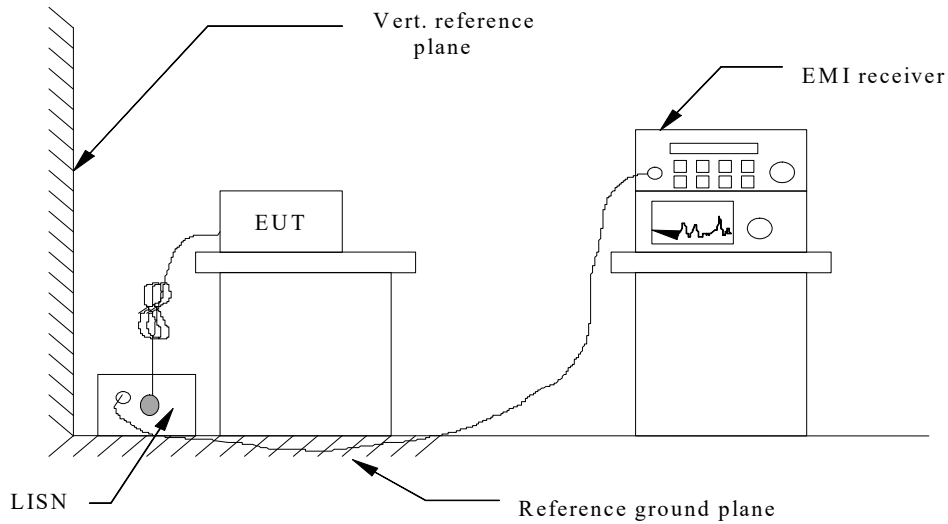
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit

4.1.2. Conducted Emission (AC Mains)

LIMIT

Please refer to ETSI EN301489-1 Clause 8.4.3, Table 8 and EN55032 Annex A, Table A.10, A.12

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.4.3 and EN55032 Annex A for the measurement methods.

TEST RESULTS

Passed

Please refer to the below test data:

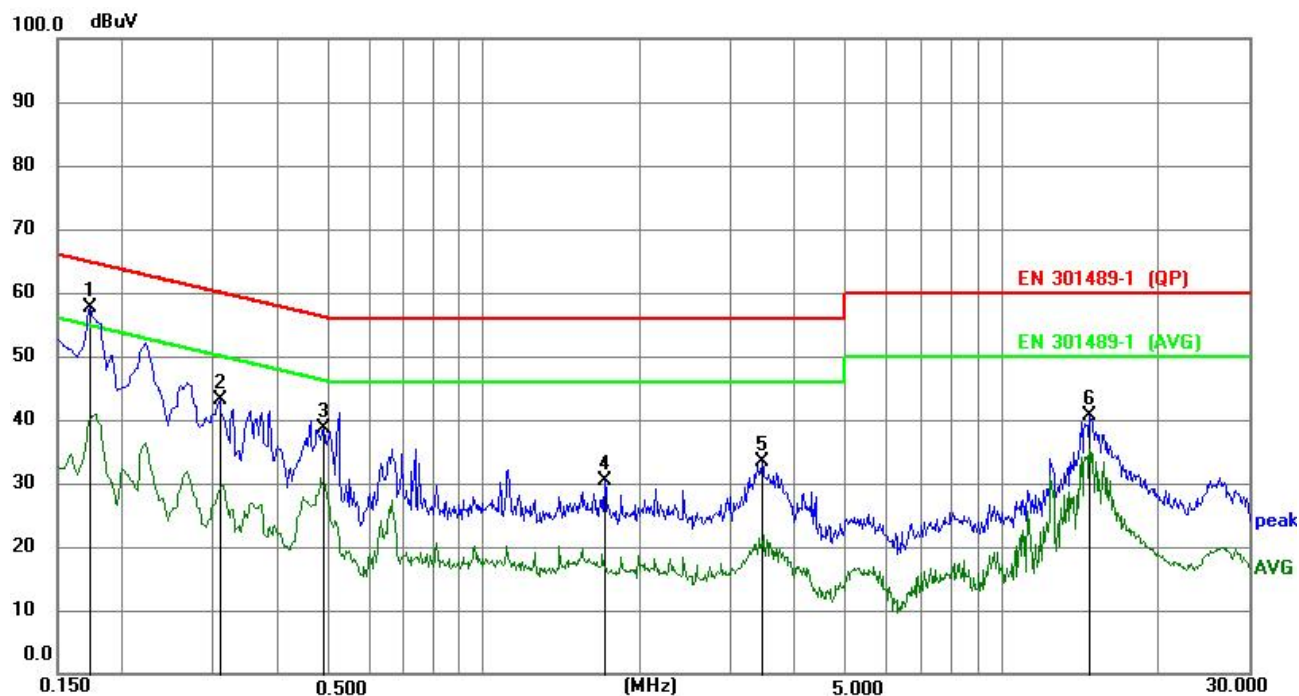


Test mode:

Mode 1

Polarization

L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1725	47.49	10.11	57.60	64.84	-7.24	peak
2		0.3074	33.15	10.06	43.21	60.04	-16.83	peak
3		0.4873	28.44	10.07	38.51	56.21	-17.70	peak
4		1.7160	20.28	10.14	30.42	56.00	-25.58	peak
5		3.4530	23.23	10.10	33.33	56.00	-22.67	peak
6		14.7840	29.82	10.70	40.52	60.00	-19.48	peak

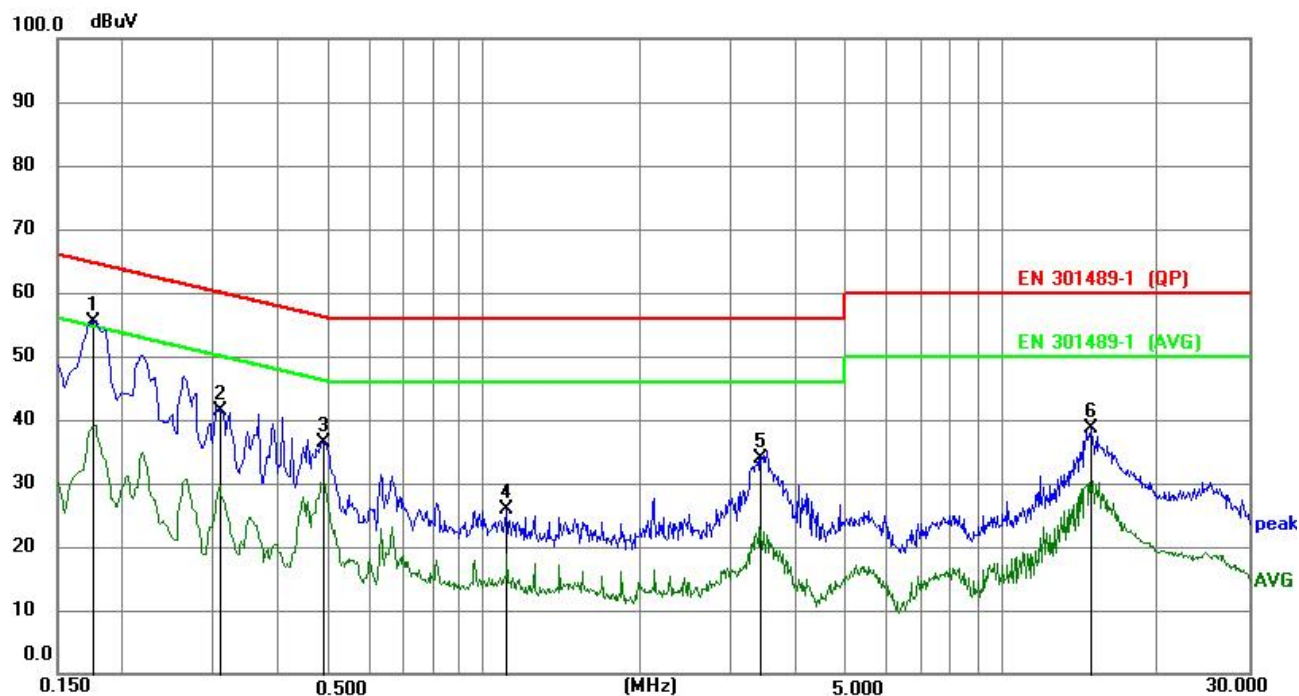


Test mode:

Mode 1

Polarization

N



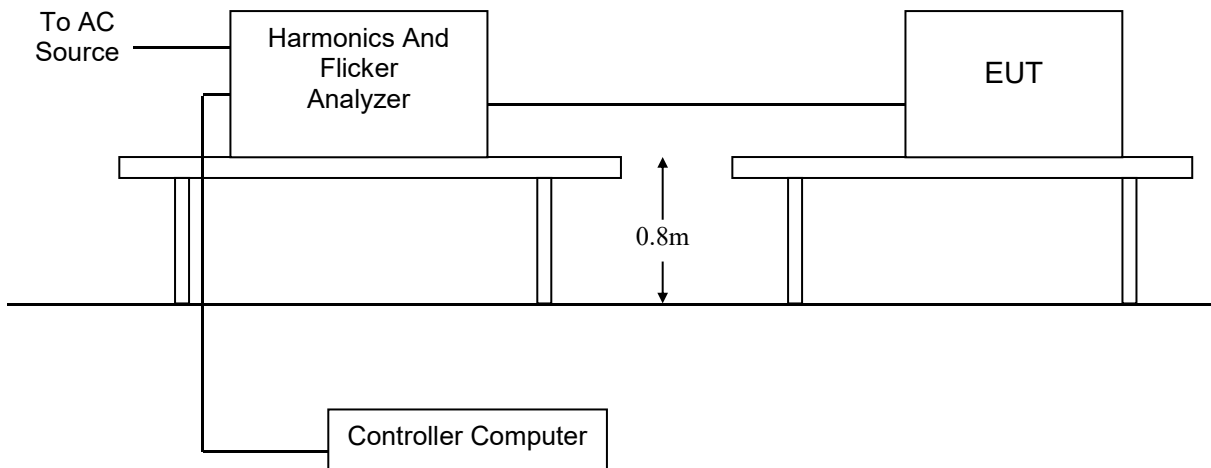
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
					dBuV	dBuV	dB	Detector
1	*	0.1758	45.39	10.05	55.44	64.68	-9.24	peak
2		0.3075	31.20	10.06	41.26	60.04	-18.78	peak
3		0.4875	26.23	10.04	36.27	56.21	-19.94	peak
4		1.1085	15.92	10.08	26.00	56.00	-30.00	peak
5		3.4215	23.82	10.10	33.92	56.00	-22.08	peak
6		14.8515	27.99	10.66	38.65	60.00	-21.35	peak

4.1.3. Harmonic Current Emission

LIMIT

Please refer to EN 61000-3-2

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-3-2 for the measurement methods.

TEST RESULTS

N/A

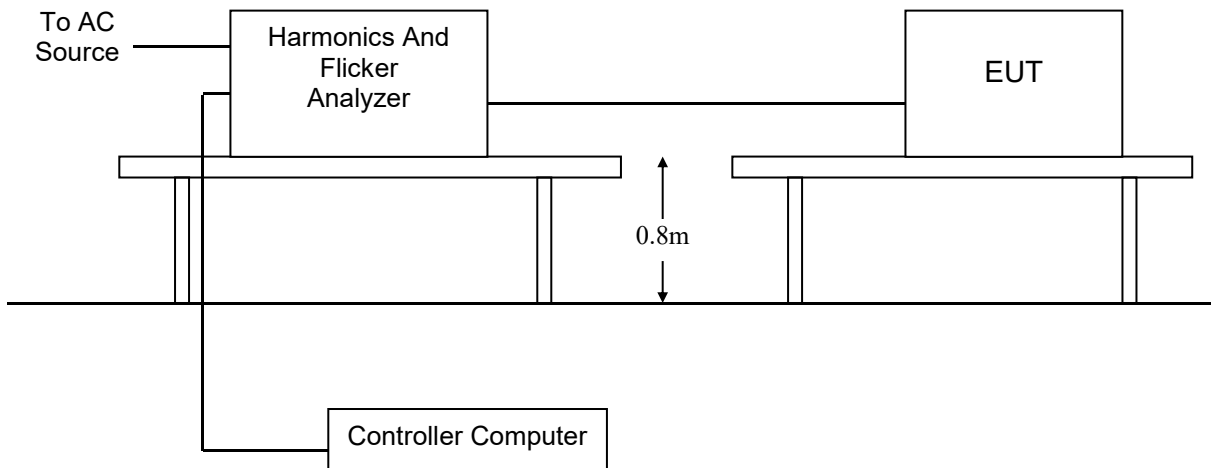
Note: The active input power of the EUT is less than 75W. No limits apply for equipment with an active input power up to and including 75W.

4.1.4. Voltage Fluctuation and Flicker

LIMIT

Please refer to EN 61000-3-3

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-3-3 for the measurement methods.

TEST RESULTS

N/A

The maximum input power of the EUT is less than 20W, which unlikely to produce significant voltage fluctuation. Therefore this test item is not applicable for the EUT.

See clause 6.1*** *** EN 61000-3-3:2013+A2:2021, clause 6.1:" ... Tests need not be made on equipment which is unlikely to produce significant voltage fluctuations or flicker. ...".

4.2. IMMUNITY

4.2.1. Performance criteria

■ ETSI EN301489-17

General performance criteria

- Performance criteria A for immunity tests with phenomena of a continuous nature;
- Performance criteria B for immunity tests with phenomena of a transient nature;
- Performance criteria C for immunity tests with power interruptions exceeding a certain time.

The equipment shall meet the minimum performance criteria as specified in the following.

Criteria	During test	After test
A	Shall operate as intended. (see note 1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 3). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.
B	May show loss of function (one or more). May show degradation of performance (see note 2). Shall be no unintentional transmissions	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3). Shall be no loss of stored data or user programmable functions.
C	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3)

NOTE 1:

Operate as intended during the test allows a level of degradation not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

NOTE 2:

Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance.

If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

NOTE 3:

No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some

cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

Performance criteria for Continuous phenomena applied to Transmitters (CT)

The performance criteria A shall apply.

Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an ACKnowledgement (ACK) or Not ACKnowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Transient phenomena applied to Transmitters (TT)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply.

Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Continuous phenomena applied to Receivers (CR)

The performance criteria A shall apply.

Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Transient phenomena applied to Receivers (TR)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration for which performance criteria C shall apply.

Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

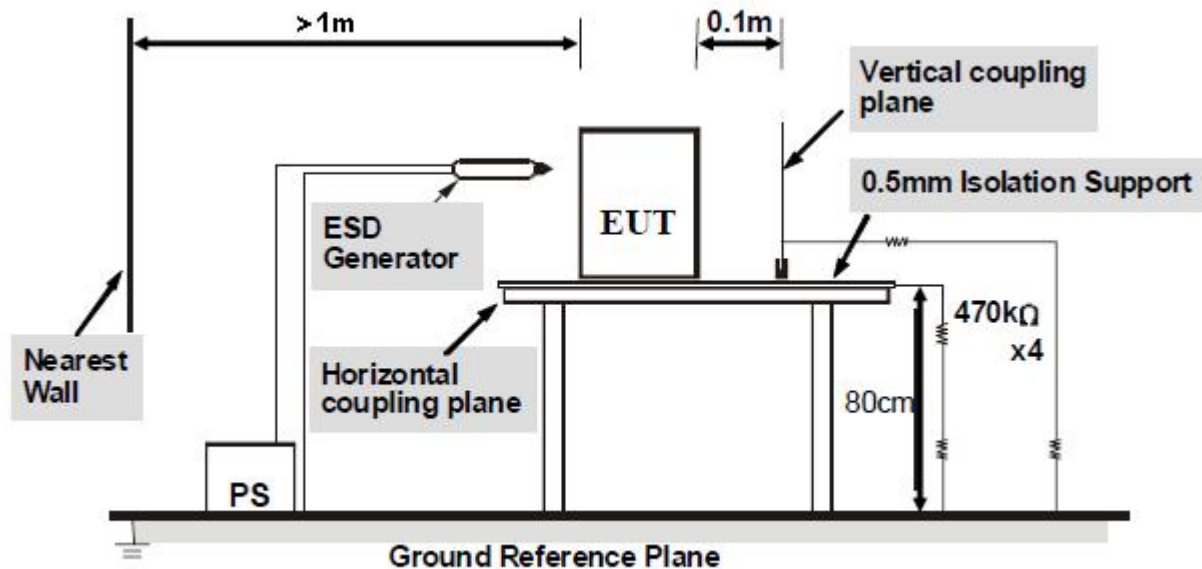
4.2.2. Electrostatic Discharge

LIMIT

SEVERITY LEVELS OF ELECTROSTATIC DISCHARGE

Test level: Contact Discharge at $\pm 2\text{KV}$, $\pm 4\text{KV}$ Air Discharge at $\pm 2\text{KV}$, $\pm 4\text{KV}$, $\pm 8\text{KV}$

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.3.2 , EN 55035 and EN 61000-4-2 for the measurement methods.

Contact Discharge:

The ESD generator is held perpendicular to the surface to which the discharge is applied and the tip of the discharge electrode touch the surface of EUT. Then turn the discharge switch. The generator is then re-triggered for a new single discharge and repeated at least 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Air Discharge:

Air discharge is used where contact discharge can't be applied. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated at least 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Indirect discharge for horizontal coupling plane:

At least 10 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT.

Indirect discharge for vertical coupling plane:

At least 10 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

**TEST MODE**

Please reference to the section 2.3

TEST RESULTS

Direct discharge				
Type of discharge	Discharge voltage (KV)	Observations Performance	Criteria Level	Result
Contact discharge	±2	No degradation in performance of the EUT was observed (A)	B	Pass
	±4		B	
Air discharge	±2	A	B	
	±4	A	B	
	±8	A	B	
Indirect discharge				
Type of discharge	Discharge voltage (KV)	Observations Performance	Criteria Level	Result
HCP (6 sides)	±2	A	B	Pass
	±4	A	B	
VCP (4 sides)	±2	A	B	
	±4	A	B	

Remark: The ancillary equipment's specification for an acceptable level of performance or degradation of performance during and/or after the ESD tests.

4.2.3. RF Electromagnetic Field

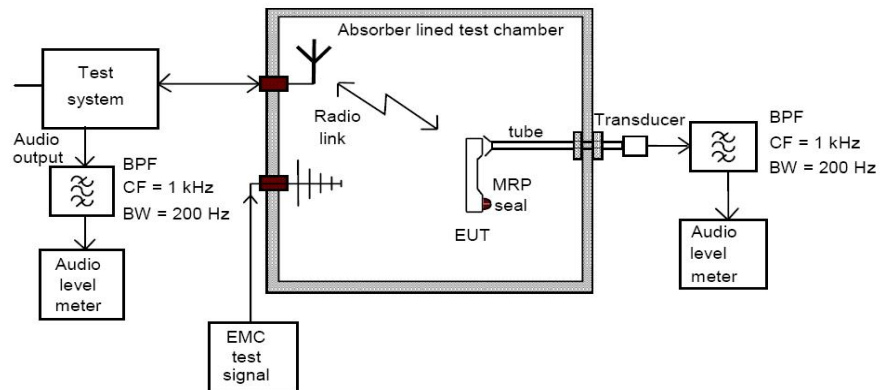
PERFORMANCE CRITERION

Criteria A

TEST LEVEL

3V/m (80%, 1kHz Amplitude Modulation)

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.2.2 and EN 61000-4-3 for the measurement methods.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

Frequency	Level	Modulation	Antenna Polarization	EUT Face	Observations (Performance Criterion)	Result
80MHz-6GHz	3 V/m	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=3seconds	V	Front	A	Pass
			H		A	Pass
			V	Rear	A	Pass
			H		A	Pass
			V	Left	A	Pass
			H		A	Pass
			V	Right	A	Pass
			H		A	Pass
			V	Top	A	Pass
			H		A	Pass
			V	Bottom	A	Pass
			H		A	Pass

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



4.2.4. Surges

PERFORMANCE CRITERION

Criteria B

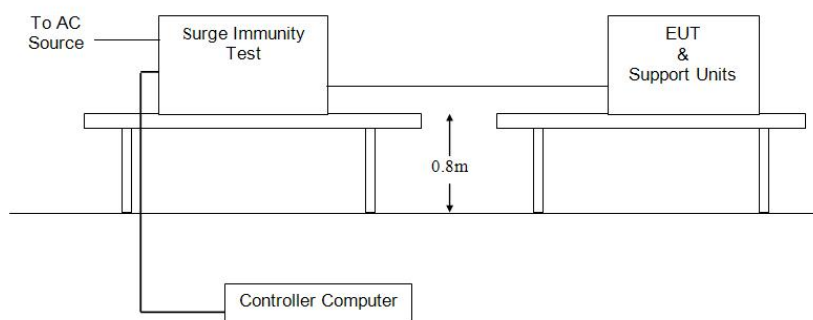
TEST LEVEL

1kV Line to Line: Differential mode

2kV Line to Ground: Common mode

(Voltage Waveform: 1.2/50 us; Current Waveform: 8/20 us)

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.8.2 and EN 61000-4-5 for the measurement methods.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

Location	Level(kV)	Pulse No	Surge Interval	Phase(deg)	Observations (Performance Criterion)	Result
L-N	± 1	5	60s	0°	A	Pass
				90°	A	Pass
				180°	A	Pass
				270°	A	Pass

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

4.2.5. RF- Common Mode 0.15MHz to 80MHz

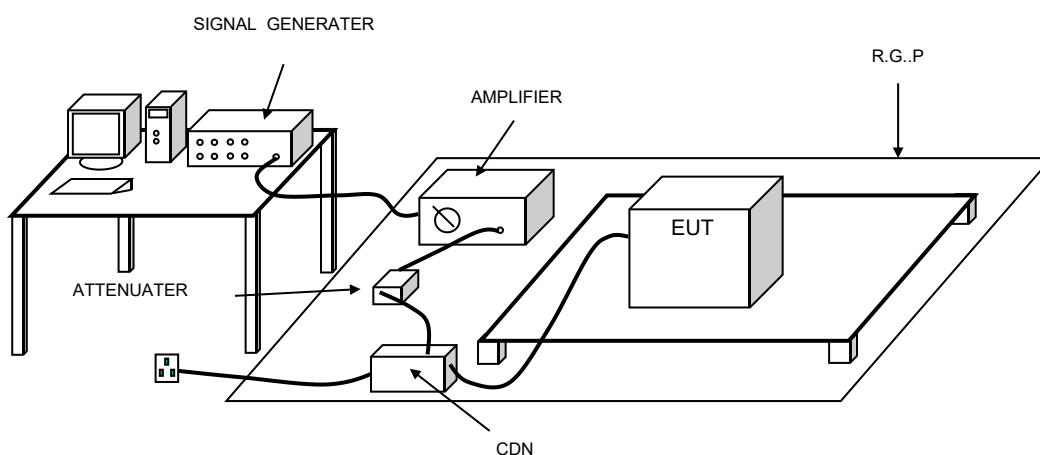
PERFORMANCE CRITERION

Criteria A

TEST LEVEL

3Vrms on AC main port (80%, 1kHz Amplitude Modulation)

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.5.2 and EN 61000-4-6 for the measurement methods.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

Frequency	Injected Position	Level	Modulation	Observations (Performance Criterion)	Result
150kHz to 80MHz	AC Mains	3Vrms	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=3seconds	A	Pass

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

4.2.6. Fast Transients Common Mode

PERFORMANCE CRITERION

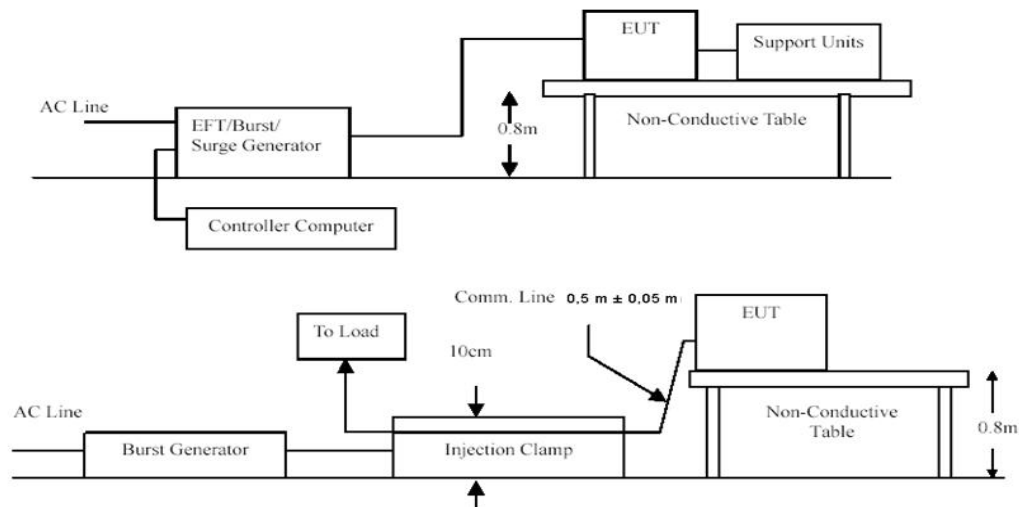
Criteria B

TEST LEVEL

1KV for AC main port

(Impulse Frequency: 5 kHz; Tr/Th: 5/50ns; Burst Duration: 15ms; Burst Period: 3Hz)

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.4.2 , EN55035 and EN 61000-4-4 for the measurement methods.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

Lead under Test	Level ($\pm$ kV)	Coupling Direct/Clamp	Observations (Performance Criterion)	Result
L	± 1	Direct	A	Pass
N	± 1	Direct	A	Pass
L-N	± 1	Direct	A	Pass

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

4.2.7. Voltage Dips and Interruptions

PERFORMANCE CRITERION

>95% VD, 0.5 period----Performance criterion: B

>95% VD, 1.0 period----Performance criterion: B

30% VD, 25 period----Performance criterion: C

>95% VI, 250 period----Performance criterion: C

TEST LEVEL

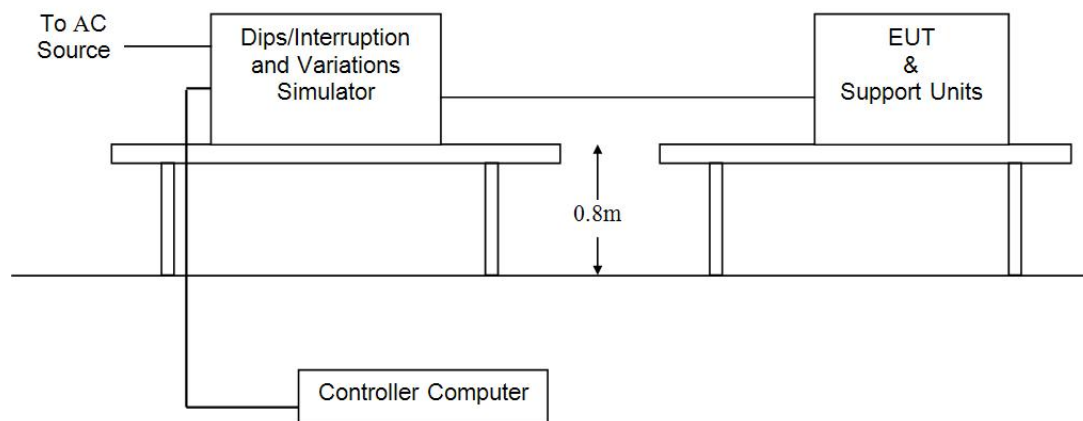
0% of VT(Supply Voltage) for 0.5 period

0% of VT(Supply Voltage) for 1.0 period

70% of VT(Supply Voltage) for 25 period

0% of VT(Supply Voltage) for 250 period

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.7.2 and EN 61000-4-11 for the measurement methods.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

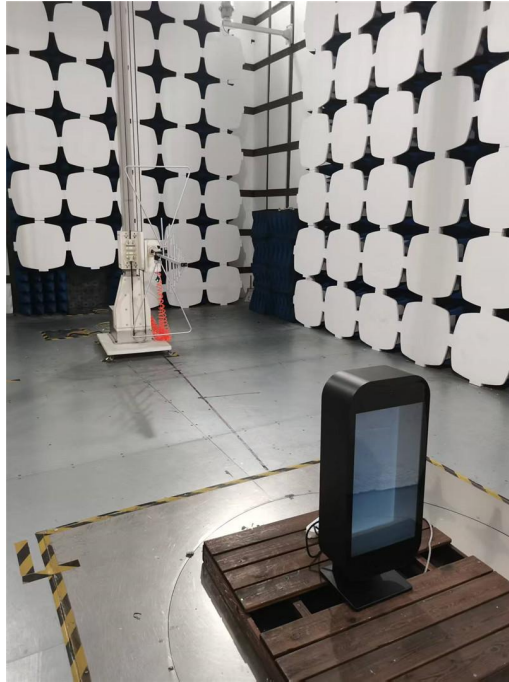
Test Level % UT	Duration (Periods)	Phase angle	No. of drop out	Time between dropout	Observations (Performance Criterion)	Result
0	0.5	0°, 90°, 180°, 270°	3	10s	A	Pass
0	1.0	0°, 90°, 180°, 270°	3	10s	A	Pass
70	25	0°, 90°, 180°, 270°	3	10s	A	Pass
0	250	0°, 90°, 180°, 270°	3	10s	B	Pass

Remark :

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

B: During the test, the power shut down, after the experiment, the function can automatically return to normal.

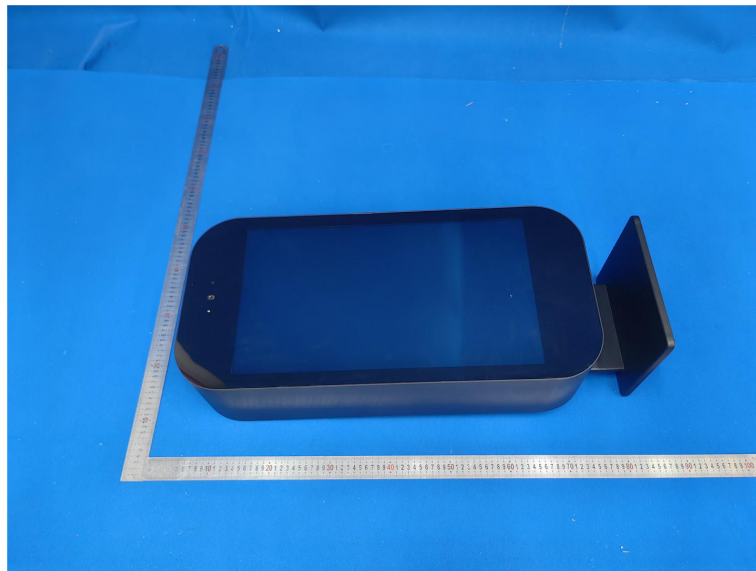
5. Test Set-up Photos of the EUT



6. External and Internal Photos of the EUT



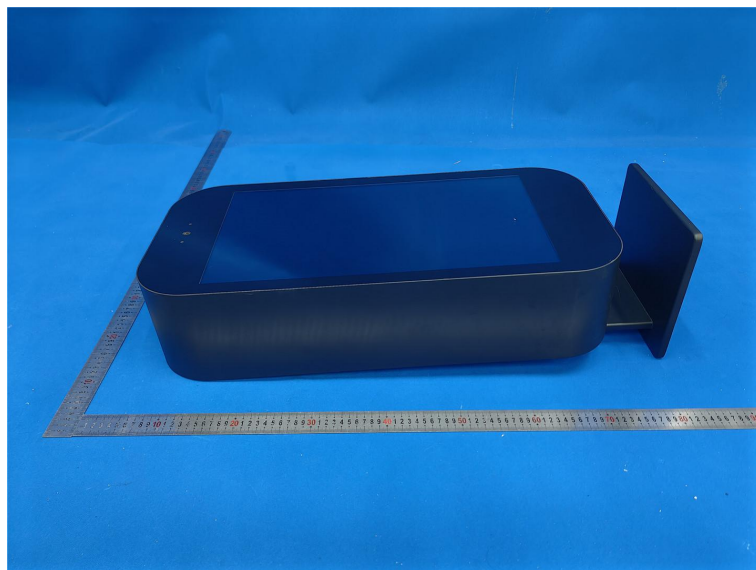
Overall view of the apparatus



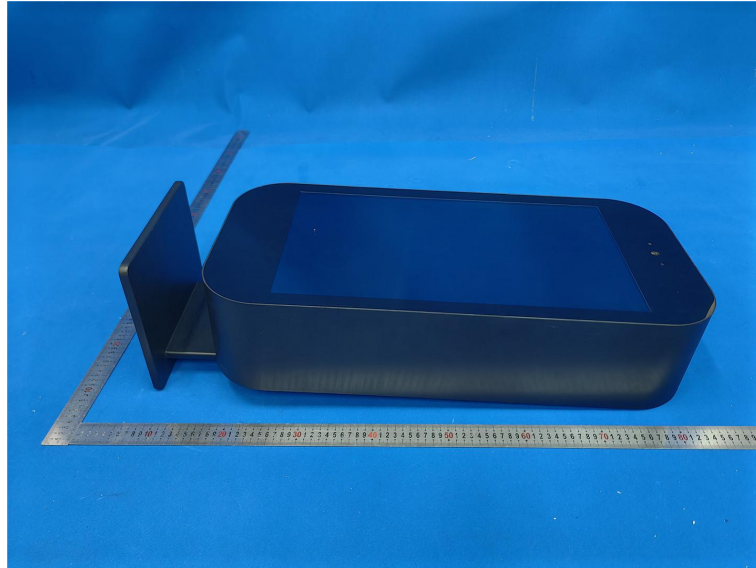
Overall view of the apparatus



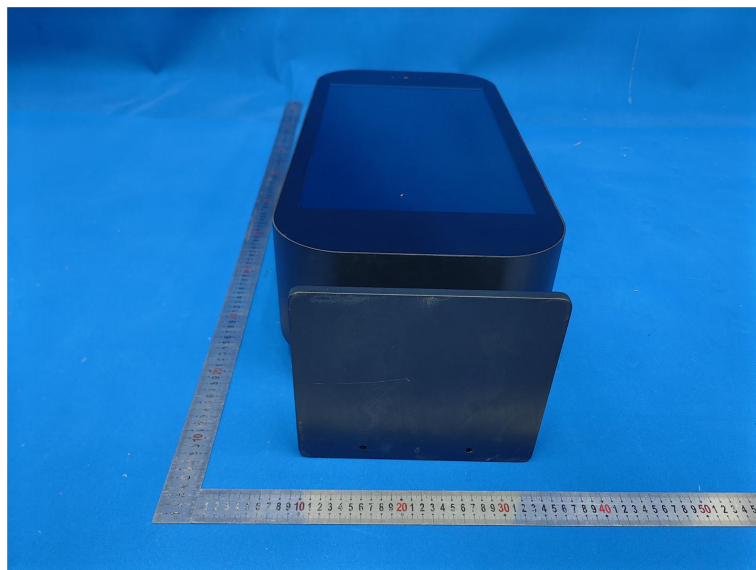
Overall view of the apparatus



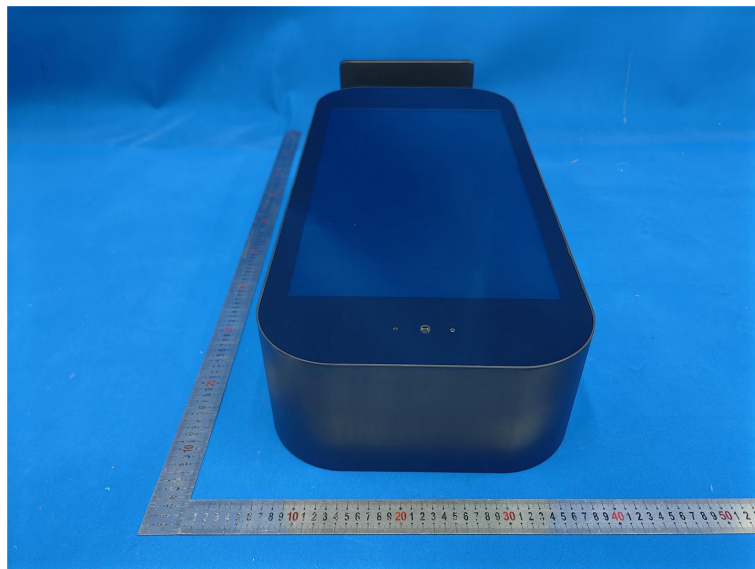
Overall view of the apparatus



Overall view of the apparatus



Overall view of the apparatus



Overall view of the apparatus



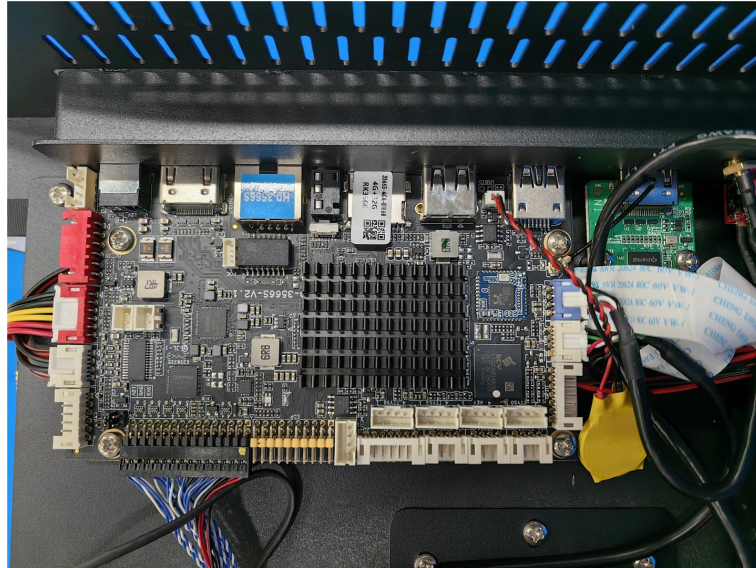
Overall view of the apparatus



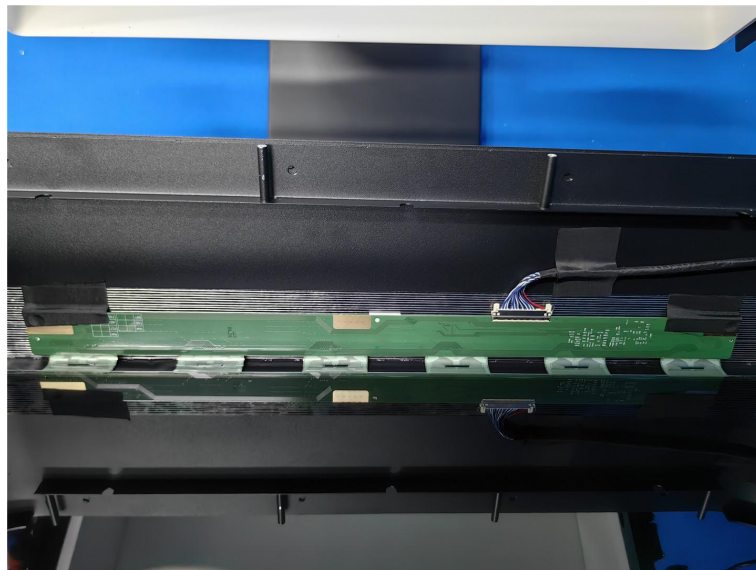
Overall view of the apparatus



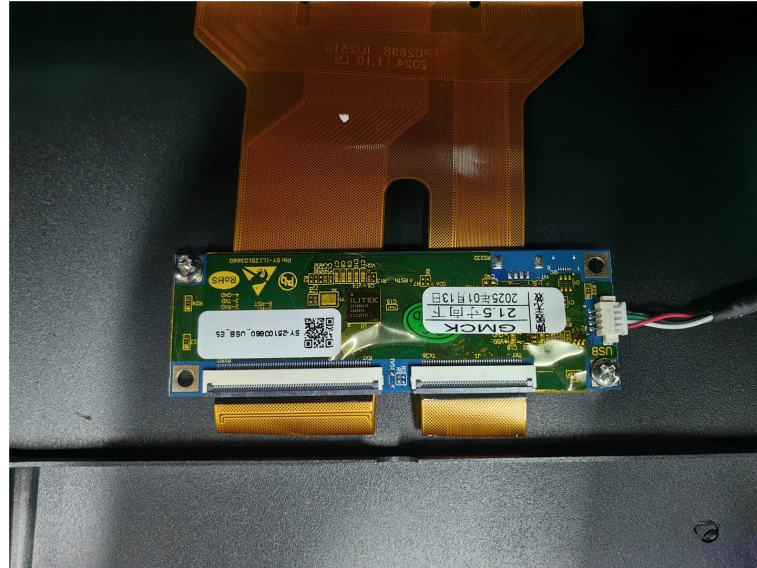
Internal view of the apparatus



Internal view of the apparatus



Internal view of the apparatus



Internal view of the apparatus

.....End of Report.....