



CTC Laboratories, Inc.

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TEST REPORT

Report No. : **CTC20222108E07**

Applicant : **Fanvil Technology Co., LTD.**

Address : 10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China

Manufacturer..... : Fanvil Technology Co., LTD.

Address..... : 10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China

Product Name : **IP Phone**

Trade Mark : 

Model/Type reference..... : X301G

Listed Model(s)..... : X303, X301P, X301, X303G, X303P

Standard : **EN 55032: 2015 + A11: 2020 + A1: 2020** **EN 55035: 2017 + A11: 2020**
EN 55024: 2010 + A1: 2015 **EN IEC 61000-3-2: 2019 + A1: 2021**
EN 61000-3-3: 2013 + A1: 2019 **BS EN 55032: 2015 + A11: 2020**
BS EN 55035: 2017 + A11: 2020 **BS EN 55024: 2010 + A1: 2015**
BS EN IEC 61000-3-2: 2019 + A1: 2021 **BS EN 61000-3-3: 2013 + A1: 2019**

Date of receipt of test sample... : Nov. 24, 2022

Date of testing..... : Nov. 25, 2022 ~ Dec. 13, 2022

Date of issue..... : Dec. 14, 2022

Result..... : **PASS**

Compiled by:

(Printed name+signature)

Terry Su

Terry Su

Supervised by:

(Printed name+signature)

Eric Zhang

Eric Zhang

Approved by:

(Printed name+signature)

Totti Zhao

Totti Zhao

Testing Laboratory Name..... : **CTC Laboratories, Inc.**

Address : 2/F., Building 1 and 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Longhua District, Shenzhen, Guangdong, China

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

[EN 55032: 2015 + A11: 2020 + A1: 2020](#)—Electromagnetic compatibility of multimedia equipment—Emission Requirements

[EN 55035: 2017 + A11: 2020](#)—Electromagnetic compatibility of multimedia equipment—Immunity requirements

[EN 55024: 2010 + A1: 2015](#)—Information technology equipment - Immunity characteristics - Limits and methods of measurement

[EN IEC 61000-3-2: 2019 + A1: 2021](#)—Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 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

[BS EN 55032: 2015 + A11: 2020](#)—Electromagnetic compatibility of multimedia equipment—Emission Requirements

[BS EN 55035: 2017 + A11: 2020](#)—Electromagnetic compatibility of multimedia equipment—Immunity requirements

[BS EN 55024: 2010 + A1: 2015](#)—Information technology equipment. Immunity characteristics. Limits and methods of measurement

[BS EN IEC 61000-3-2: 2019 + A1: 2021](#)—Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

[BS 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

1.2. Report version

Revised No.	Date of issue	Description
01	Dec. 14, 2022	Original





1.3. Test Description

Emission			
Test Item	Standard requirement	Result	Test Engineer
Radiated Emission	EN 55032: 2015 + A11: 2020 + A1: 2020	Pass	Amy Zhao
Conducted Emission (AC Mains)	EN 55032: 2015 + A11: 2020 + A1: 2020	Pass	Lance Lan
Conducted Emission (Signal Mains)	EN 55032: 2015 + A11: 2020 + A1: 2020	Pass	Lance Lan
Harmonic Current Emissions	EN IEC 61000-3-2: 2019 + A1: 2021	N/A	N/A
Voltage Fluctuations and Flicker	EN 61000-3-3: 2013 + A1: 2019	Pass	Terry Su
Immunity			
Test Item	Standard requirement (EN 55024: 2010+A1: 2015/ EN 55035: 2017 + A11: 2020)	Result	Test Engineer
Electrostatic Discharge	EN 61000-4-2: 2009	Pass	Terry Su
Radio Frequency Electromagnetic Field	EN IEC 61000-4-3: 2020	Pass	Terry Su
Electrical Fast Transient / Burst	EN 61000-4-4: 2012	Pass	Terry Su
Surges	EN 61000-4-5: 2014 + A1: 2017	Pass	Terry Su
Injected Current	EN 61000-4-6: 2014 + AC:2015	Pass	Terry Su
Voltage Dips and Interruptions	EN IEC 61000-4-11: 2020	Pass	Terry Su

Note: "N/A" is applicable.

The measurement uncertainty is not included in the test result.





1.4. Test Facility

CTC Laboratories, Inc.

Add: 2/F., Building 1 and 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Longhua District, Shenzhen, Guangdong, China

Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017.

1.5. 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 TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the CTC Laboratories, Inc. quality system 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.

Below is the best measurement capability for CTC Laboratories, Inc.



Test	Measurement Frequency Range	U (dB)	Note
Conducted Emission	9kHz ~ 30MHz	3.08	Main Power Port
Conducted Emission	150kHz ~ 30MHz	4.26	Telecommunication
Radiated Emission	30MHz ~ 1000MHz	4.51	3m chamber 2
Radiated Emission	30MHz ~ 1000MHz	4.5	3m chamber 3
Radiated Emission	1GHz ~ 6GHz	5.7	3m chamber 3

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

1.6. Environmental conditions

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

Normal Temperature:	25°C
Relative Humidity	55 %
Air Pressure	101kPa





2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Fanvil Technology Co., LTD.
Address:	10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China
Manufacturer:	Fanvil Technology Co., LTD.
Address:	10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China

2.2. General Description of EUT

Product Name:	IP Phone
Trade Mark:	
Model/Type reference:	X301G
Listed Model(s):	X303, X301P, X301, X303G, X303P
Model Different:	All these models are identical in the same PCB, layout and electrical circuit, The difference is that: Color screens: X303G, X303P, X303 Black and white screens: X301G, X301P, X301 Screens size 240*320: X303G, X303P, X303 Screens size 128*48: X301G, X301P, X301 Ethernet 1Gbps rate: X303G, X301G Ethernet 100Mbps rate: X303P, X303, X301P, X301
Power supply:	5Vdc/0.6A from AC/DC Adapter 48Vdc/0.3A from POE
Adapter 1 Model:	TPA-97H050060VW01 Input: 100-240V~ 50/60Hz 0.15A Output: 5Vdc/0.6A
Adapter 2 Model:	TPA-185B050060BW01 Input: 100-240V~ 50/60Hz 0.2A Output: 5Vdc/0.6A
Hardware version:	/
Software version:	/



2.3. Accessory Equipment information

Equipment Information			
Name	Model	S/N	Manufacturer
IP Phone	X7	JGB28B000005	Fanvil
POE Supply	IGW500-100-P	---	MAIPU
Router	E8820 V3	---	ZTE
Headset	HT202	JCF0900738	Fanvil
Notebook	ThinkBook 14G3 ACL	MP246QDR	Lenovo
Notebook	T460s	---	Lenovo
Cable Information			
Name	Shielded Type	Ferrite Core	Length
Lan Cable	Without	Without	1M





2.4. Description of Test Modes

Test mode	Ping Lan + IP Communicate	AC/DC Adapter	POE Supply
1	■	■	
2	■		■

Note: ■ is operation mode.

Pre-scan above all test mode, found below test mode which it was worse case mode, so only show the test data for worse case mode on the test report.

Test item	Test mode (Worse case mode)
Radiated Emission	1
Conducted Emission(AC Mains)	1
Conducted Emission(Signal Mains)	1
Harmonic Current Emissions	1
Voltage Fluctuations and Flicker	1
Radio Frequency Electromagnetic Field	1
Electrostatic Discharge	1
Electrical Fast Transient / Burst	1
Injected Current	1
Voltage Dips and Interruptions	1
Surges	1

Note: "N/A" is applicable.





2.5. Measurement Instruments List

Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 23, 2022
2	LISN	R&S	ENV216	101113	Dec. 23, 2022
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 23, 2022
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 23, 2022
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 23, 2022
6	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Radiated Emission (3m chamber 2)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-1013	Jan. 12, 2023
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 23, 2022
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 23, 2022
4	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 15, 2023
5	Pre-Amplifier	SONOMA	310	186194	Dec. 23, 2022
6	Low Noise Pre-Amplifier	EMCI	EMC051835	980075	Dec. 23, 2022
7	Test Receiver	R&S	ESCI7	100967	Dec. 23, 2022
8	3m chamber 2	Frankonia	EE025	/	Oct. 23, 2024
9	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Radiated Emission (3m chamber 3)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-759	Mar. 30, 2023
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 23, 2022
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 23, 2022
4	Broadband Premplifier	SCHWARZBECK	BBV9743B	259	Dec. 23, 2022
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 23, 2022
6	3m chamber 3	YIHENG	EE106	/	Sep. 09, 2023
7	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Harmonic Current Emissions & Voltage Fluctuations and Flicker					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Universal Power Analyzer	Voltech	PM6000	200006700723	Dec. 23, 2022
2	Programmable AC Power Source	Mtoni	PHF1530	MTPS001	Dec. 23, 2022
3	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022



Electrostatic Discharge					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	ESD Simulator	EM TEST	DITO	V1113109156	Dec. 23, 2022
2	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Fast Transients Common Mode					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Electrical fast transient generator	3ctest	EFT-4003G	EC0471140	Dec. 23, 2022
2	Coupling/Decoupling Clamp	3ctest	EFTC	EC0441141	Dec. 23, 2022
3	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

RF Electromagnetic Field					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	High Gain Log-Periodic Antenna	R&S	HL046E	100037	Dec. 23, 2022
2	Stacked Log.-Per. Antenna	Schwarzbeck	STLP 9149	9149-658	Dec. 23, 2022
3	Power Amplifier	BONN ELEKTRONIK	BLWA0830-160/100/40D	76788	Dec. 23, 2022
4	Power Amplifier	Micotop	MPA-3-6G-50	MPA1706258	Dec. 23, 2022
5	PSG Analog Signal Generator	Agilent	E8257D	MY46521908	Dec. 23, 2022
7	DUAL DIRECTIONAL COUPLER	AR	DC7144A	0317128	Dec. 23, 2022
8	TRANSMITTING AERIAL	AR	AT4002A	0321644	Dec. 23, 2022
9	Audio Analyzer	Rohde & Schwarz	UPL	SB3439	Dec. 23, 2022
10	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Surges					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Surge generator	3ctest	SG-5006G	EC5581149	Dec. 23, 2022
2	Surge CDN	3ctest	SGN-20G	EC5551128	Dec. 23, 2022
3	Network Surge Generator	3ctest	CWS 600T	ES0311603	Dec. 23, 2022
4	Network Surge CDN	3ctest	CDN 405T8A1	ES2731605	Dec. 23, 2022
5	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022



RF Common Mode					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	C/S Generator	SCHLODER	CDG 6000	126A1266	Dec. 23, 2022
2	Coupling/Decoupling Network	SCHLODER	CDN M2+3	A2210258	Dec. 23, 2022
3	Coupling/Decoupling Network	TESEQ GmbH	CDN T8-10	45011	Dec. 23, 2022
4	6dB Attenuator	N/A	100W/6dB	N/A	Dec. 23, 2022
5	UNIVERSAL RADIO COMMUNICATION	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022
5	DUAL DIRECTIONAL COUPLER	AR	DC7144A	0317128	Dec. 23, 2022
6	TRANSMITTING AERIAL	AR	AT4002A	0321644	Dec. 23, 2022
7	Audio Analyzer	Rohde & Schwarz	UPL	SB3439	Dec. 23, 2022
8	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Voltage dips, short interruptions and voltage variations					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Voltage dips and up generator	3ctest	VDG-1105G	EC0171116	Dec. 23, 2022
2	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 23, 2022

Note: The Cal. Interval was one year.



3. EMC EMISSION TEST

3.1. Radiated Emission

LIMIT

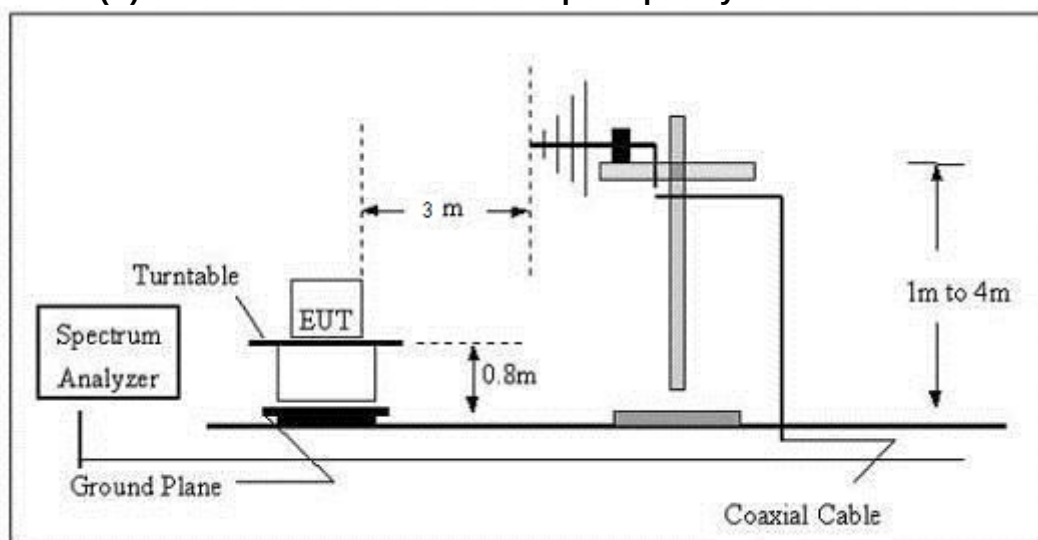
Please refer to CENELEC EN 55032 Annex A Table A.4 & A.5

Frequency range (MHz)	Quasi-peak limits dB μ V/m@3m	Quasi-peak limits dB μ V/m@10m
30~230	40	30
230~1000	47	37

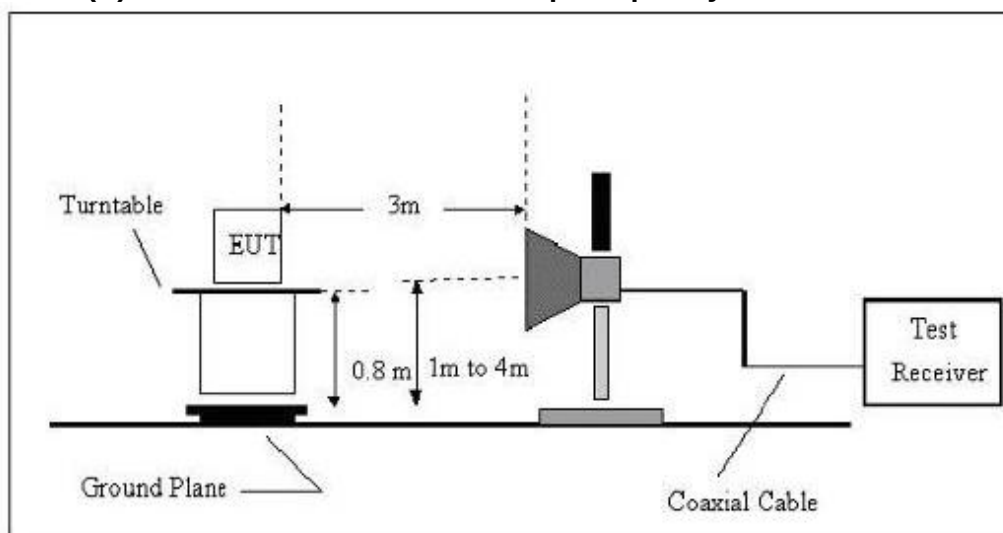
Frequency range (GHz)	Average limits dB μ V/m@3m	Peak limits dB μ V/m@3m
1 ~ 6	54	74

TEST CONFIGURATION

(A) Radiated Emission Test Set-Up Frequency below 1 GHz



(B) Radiated Emission Test Set-Up Frequency above 1GHz



TEST PROCEDURE

Please refer to CENELEC EN 55032 Clause 6.3 for the measurement methods

TEST MODE

Please refer to the Clause 2.4

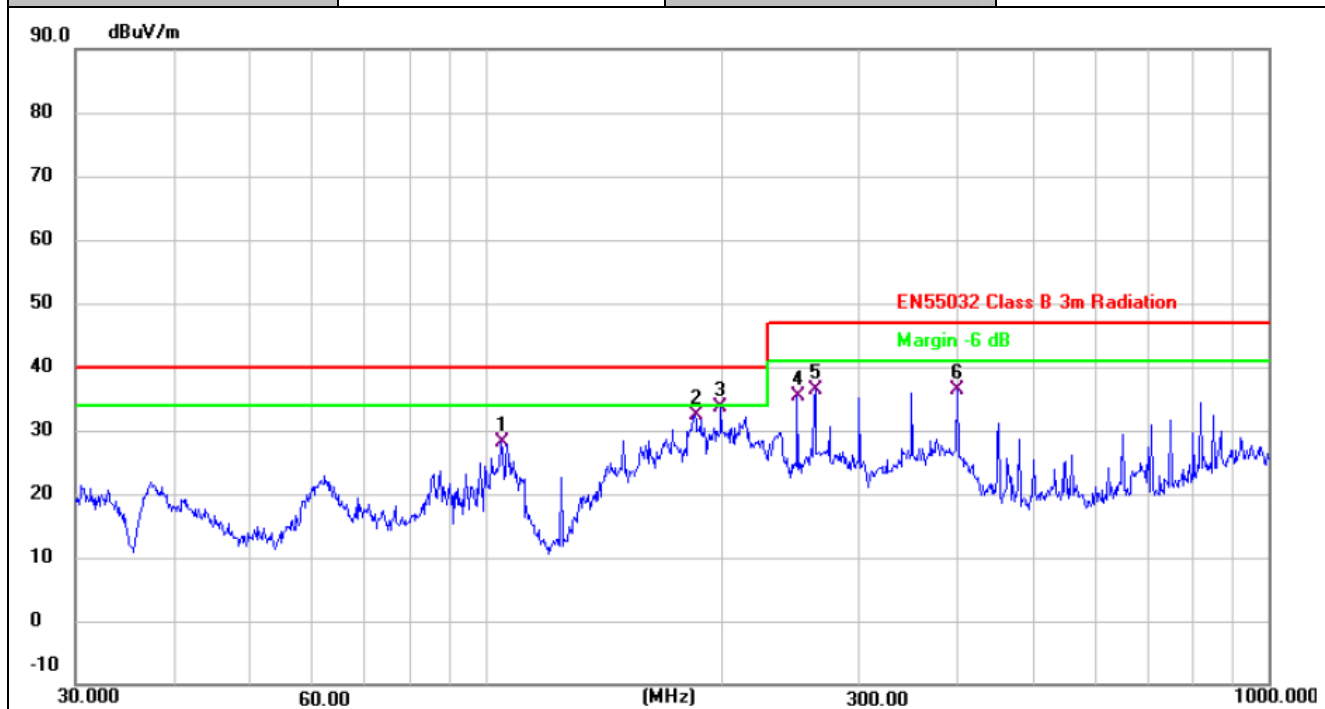
TEST RESULTS





(1) Below 1G

Test mode	1	Polarization	Horizontal
Test Model	X301G	Adapter Model	TPA-97H050060VW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	104.9032	48.77	-20.52	28.25	40.00	-11.75	QP
2	185.1378	51.50	-19.18	32.32	40.00	-7.68	QP
3 *	199.9855	53.96	-20.42	33.54	40.00	-6.46	QP
4	250.3011	54.04	-18.58	35.46	47.00	-11.54	QP
5	263.8190	54.61	-18.21	36.40	47.00	-10.60	QP
6	400.4318	51.25	-14.83	36.42	47.00	-10.58	QP

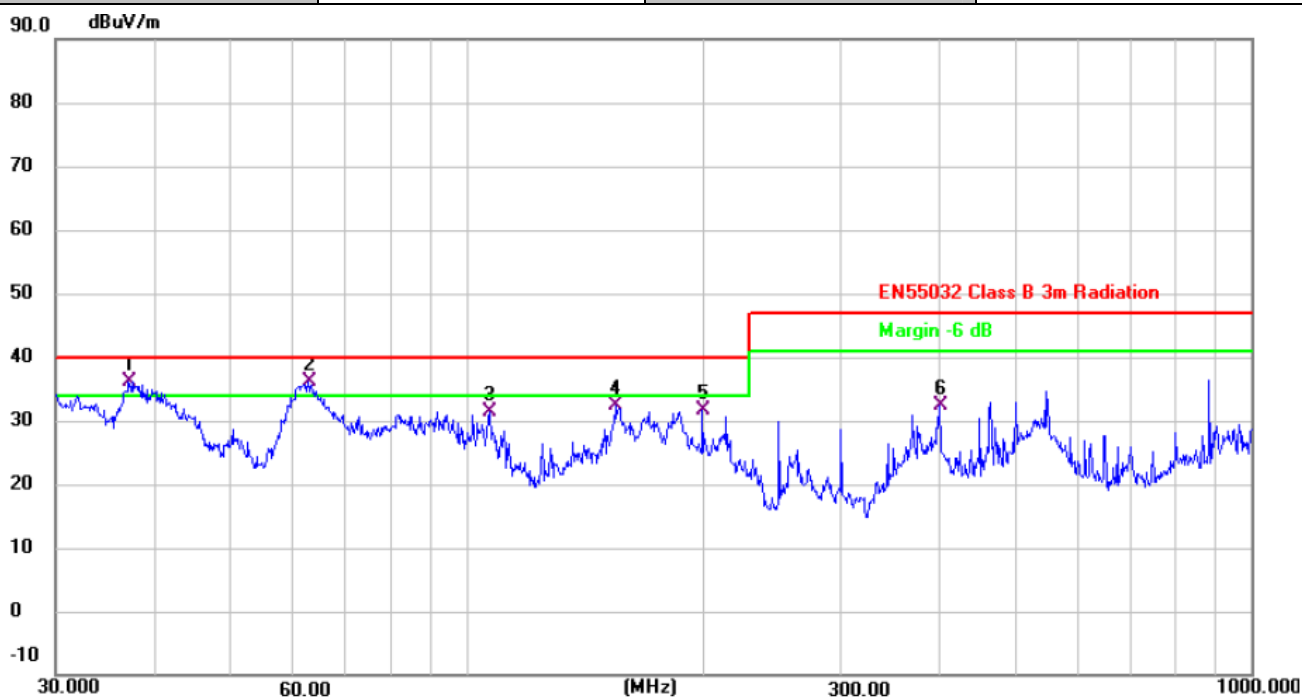
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Vertical
Test Model	X301G	Adapter Model	TPA-97H050060VW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	37.1550	53.96	-17.76	36.20	40.00	-3.80	QP
2 !	62.8708	55.27	-19.13	36.14	40.00	-3.86	QP
3	107.1337	51.76	-20.38	31.38	40.00	-8.62	QP
4	154.8204	49.09	-16.69	32.40	40.00	-7.60	QP
5	199.9856	52.07	-20.42	31.65	40.00	-8.35	QP
6	400.4319	47.11	-14.83	32.28	47.00	-14.72	QP

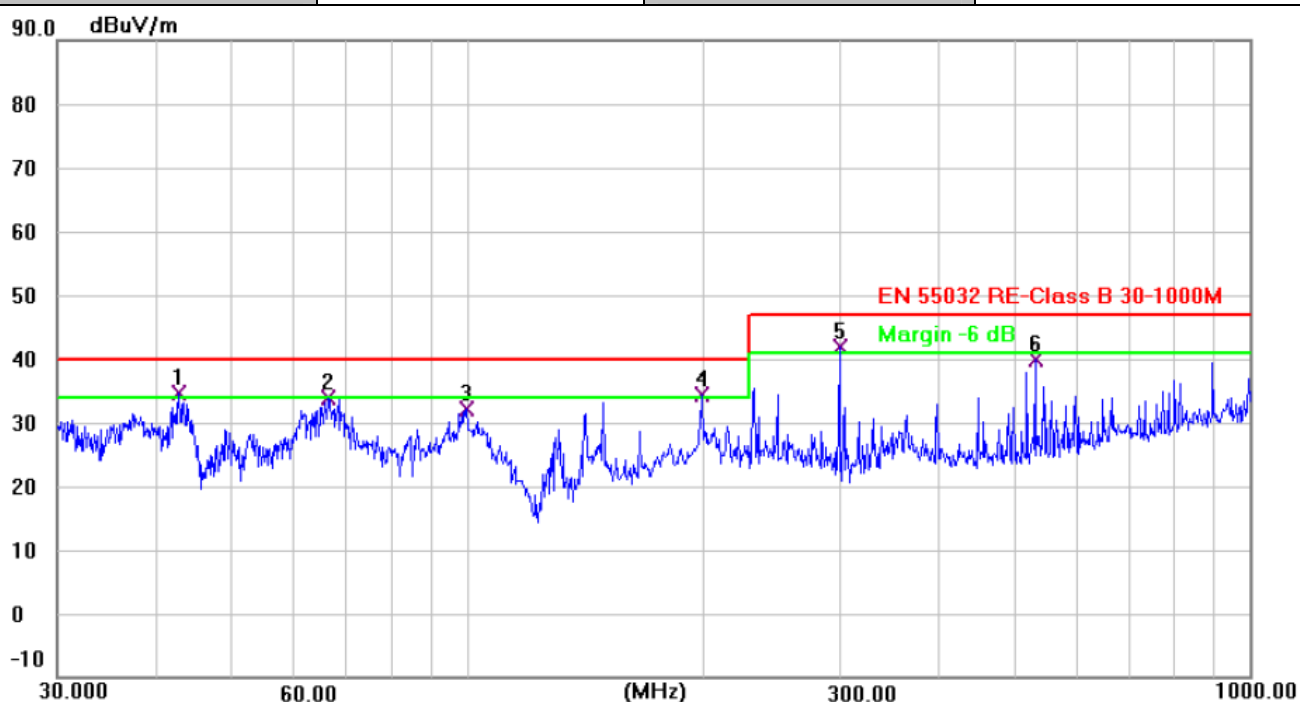
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Horizontal
Test Model	X301G	Adapter Model	TPA-185B050060BW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	42.8997	48.89	-14.34	34.55	40.00	-5.45	QP
2	66.4989	51.37	-17.58	33.79	40.00	-6.21	QP
3	99.8777	48.50	-16.39	32.11	40.00	-7.89	QP
4 !	199.9855	50.55	-16.07	34.48	40.00	-5.52	QP
5 *	299.3158	55.52	-13.55	41.97	47.00	-5.03	QP
6	531.9634	48.27	-8.39	39.88	47.00	-7.12	QP

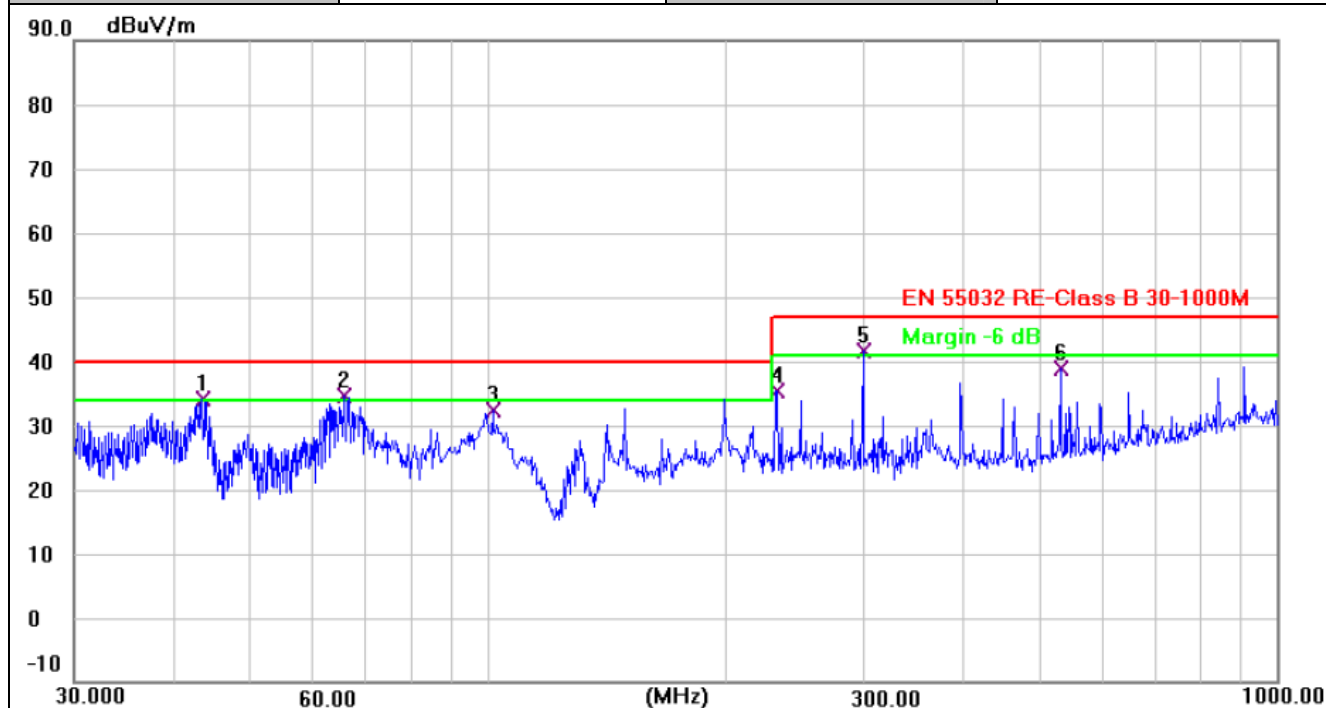
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Vertical
Test Model	X301G	Adapter Model	TPA-185B050060BW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	43.5057	48.33	-14.26	34.07	40.00	-5.93	QP
2 *	65.8030	52.13	-17.40	34.73	40.00	-5.27	QP
3	101.6443	48.70	-16.38	32.32	40.00	-7.68	QP
4	232.5318	50.60	-15.13	35.47	47.00	-11.53	QP
5 !	299.3158	55.20	-13.55	41.65	47.00	-5.35	QP
6	531.9634	47.28	-8.39	38.89	47.00	-8.11	QP

Remark:

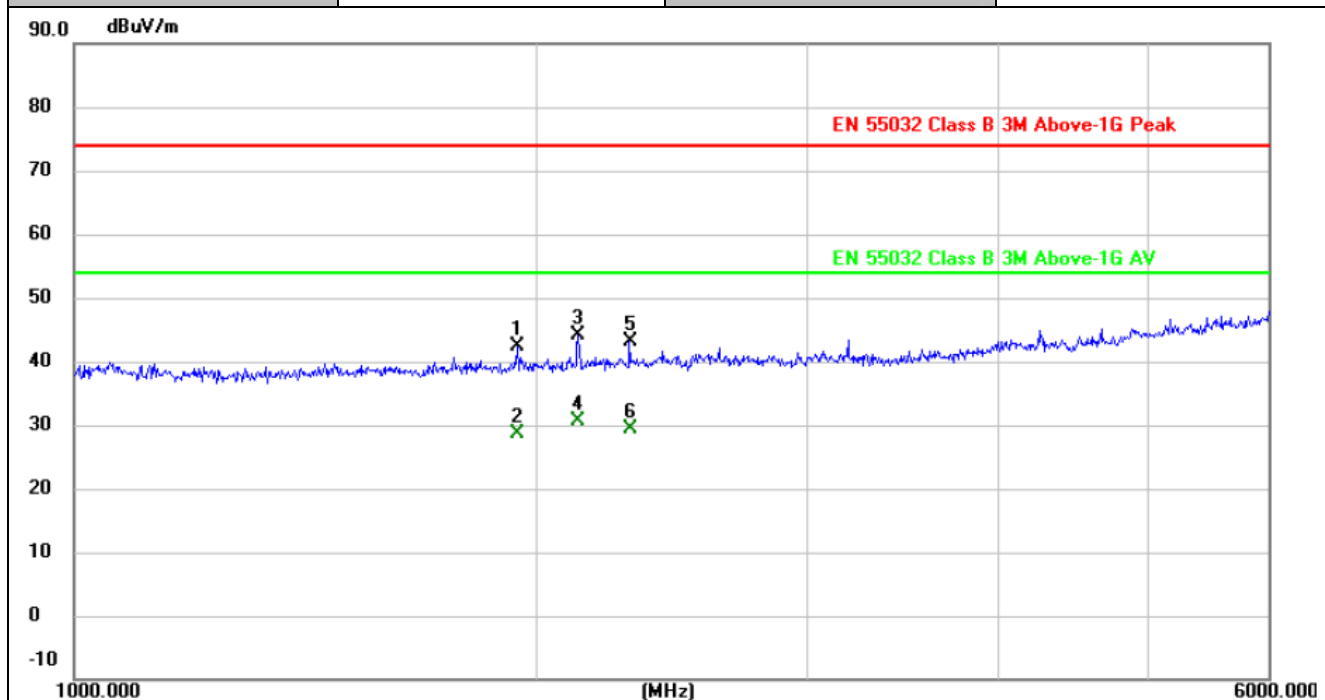
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



(2) Above 1G

Test mode	1	Polarization	Horizontal
Test Model	X301G	Adapter Model	TPA-97H050060VW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1943.990	52.19	-9.79	42.40	74.00	-31.60	peak
2	1943.990	38.36	-9.79	28.57	54.00	-25.43	AVG
3	2130.001	52.92	-8.85	44.07	74.00	-29.93	peak
4 *	2130.001	39.42	-8.85	30.57	54.00	-23.43	AVG
5	2300.596	51.23	-8.11	43.12	74.00	-30.88	peak
6	2300.596	37.56	-8.11	29.45	54.00	-24.55	AVG

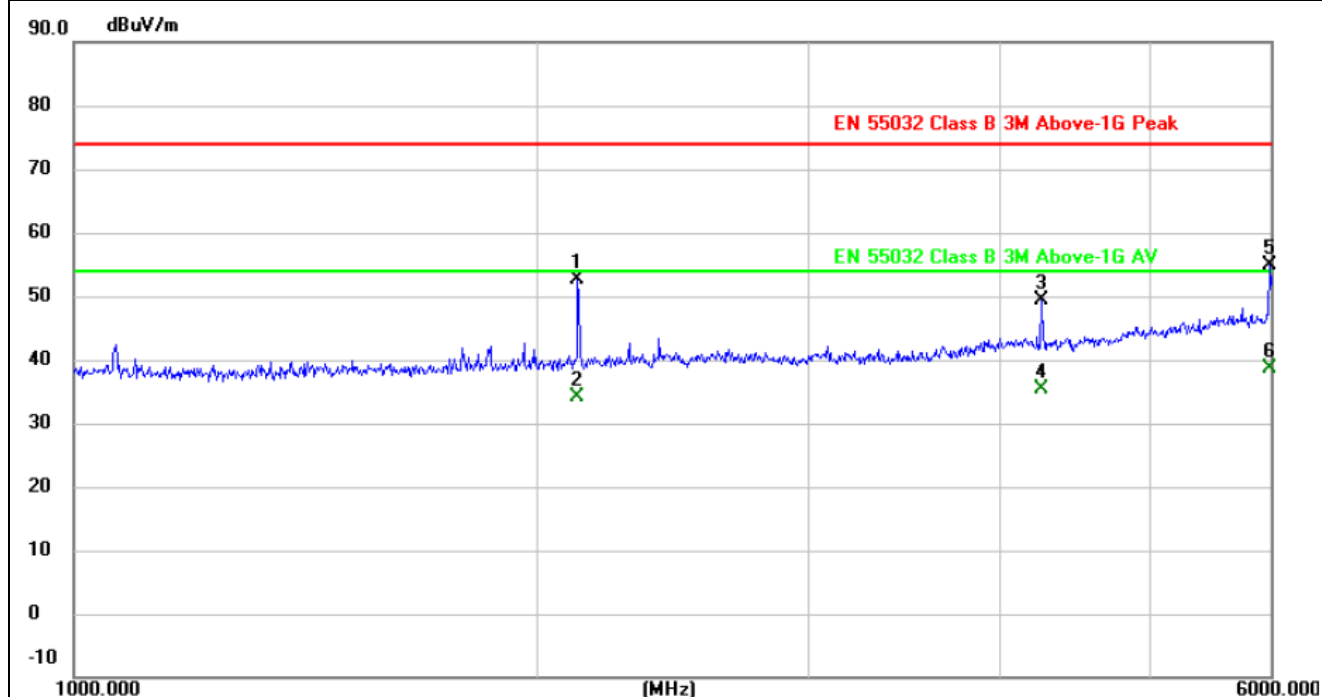
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Vertical
Test Model	X301G	Adapter Model	TPA-97H050060VW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2126.188	61.59	-8.85	52.74	74.00	-21.26	peak
2	2126.188	43.06	-8.85	34.21	54.00	-19.79	AVG
3	4253.498	53.37	-4.07	49.30	74.00	-24.70	peak
4	4253.498	39.42	-4.07	35.35	54.00	-18.65	AVG
5	5989.259	53.87	1.07	54.94	74.00	-19.06	peak
6 *	5989.259	37.47	1.07	38.54	54.00	-15.46	AVG

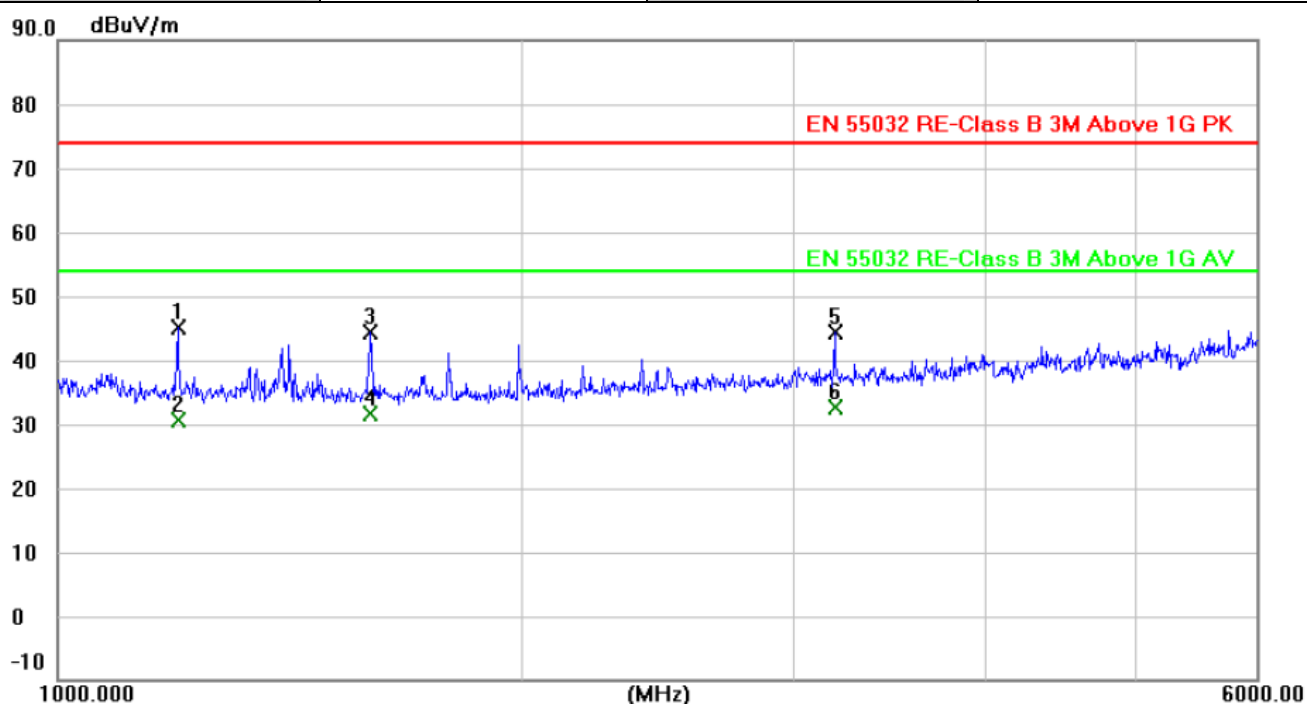
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Horizontal
Test Model	X301G	Adapter Model	TPA-185B050060BW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1196.231	52.84	-7.82	45.02	74.00	-28.98	peak
2	1196.231	38.34	-7.82	30.52	54.00	-23.48	AVG
3	1596.237	51.33	-6.83	44.50	74.00	-29.50	peak
4	1596.237	38.58	-6.83	31.75	54.00	-22.25	AVG
5	3193.317	46.23	-1.81	44.42	74.00	-29.58	peak
6 *	3193.317	34.38	-1.81	32.57	54.00	-21.43	AVG

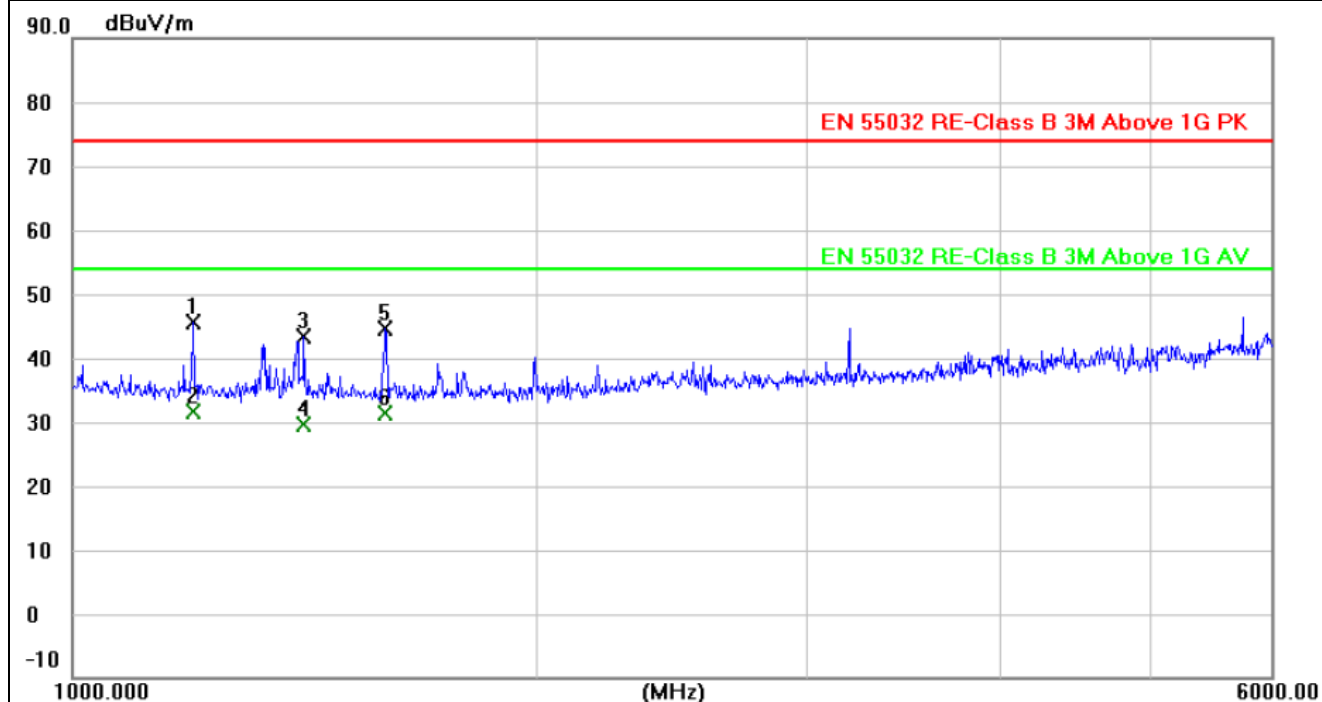
Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Test mode	1	Polarization	Vertical
Test Model	X301G	Adapter Model	TPA-185B050060BW01



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1198.376	53.39	-7.82	45.57	74.00	-28.43	peak
2 *	1198.376	39.40	-7.82	31.58	54.00	-22.42	AVG
3	1413.133	50.33	-6.85	43.48	74.00	-30.52	peak
4	1413.133	36.52	-6.85	29.67	54.00	-24.33	AVG
5	1596.237	51.44	-6.83	44.61	74.00	-29.39	peak
6	1596.237	38.10	-6.83	31.27	54.00	-22.73	AVG

Remark:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value

3.2. Conducted Emission (AC Mains)

LIMIT

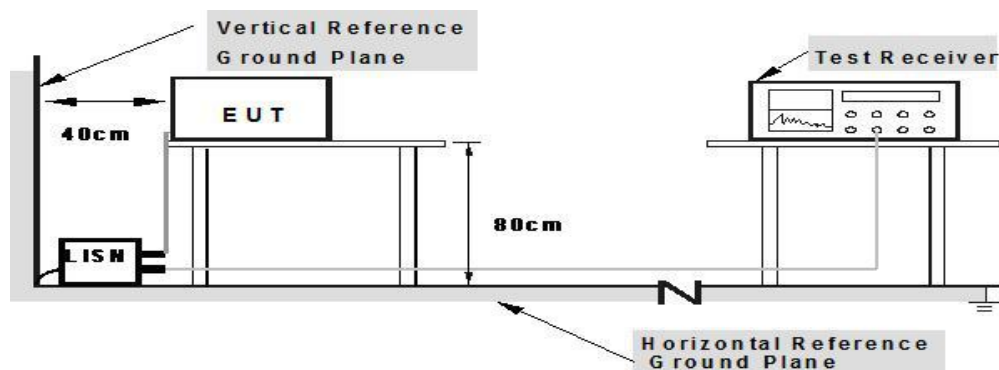
Please refer to CENELEC EN 55032 Annex A3 Table A.10

Frequency range MHz	Limits dB(μ V)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

NOTE 1 The lower limit shall apply at the transition frequencies.

NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

TEST CONFIGURATION



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

TEST PROCEDURE

Please refer to CENELEC EN 55032 Annex A3 Table A.8

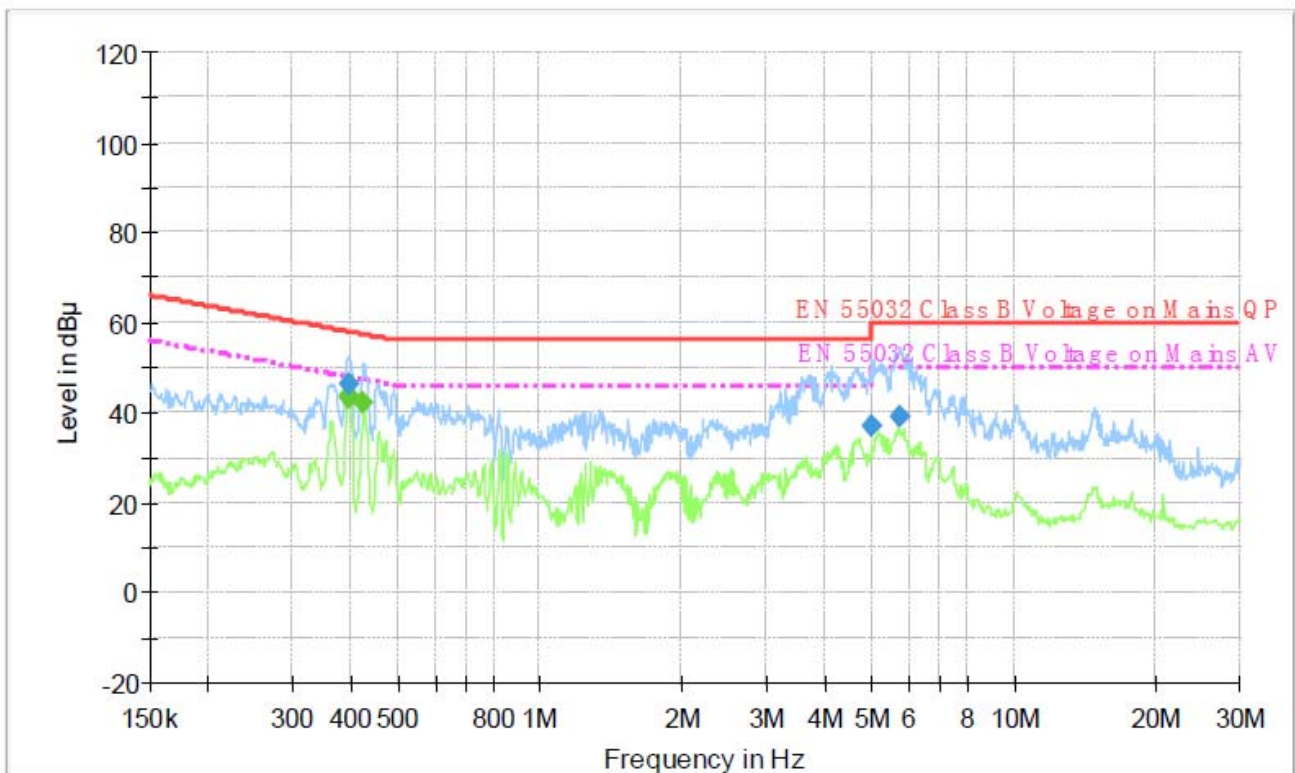
TEST MODE

Please refer to the Clause 2.4

TEST RESULTS



Test mode	1	Terminal	Line
Test Model	X301G	Adapter Model	TPA-97H050060VW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.395720	46.1	1000.00	9.000	On	L1	10.0	11.8	57.9	
4.992190	37.2	1000.00	9.000	On	L1	10.0	18.8	56.0	
5.717910	38.9	1000.00	9.000	On	L1	10.0	21.1	60.0	

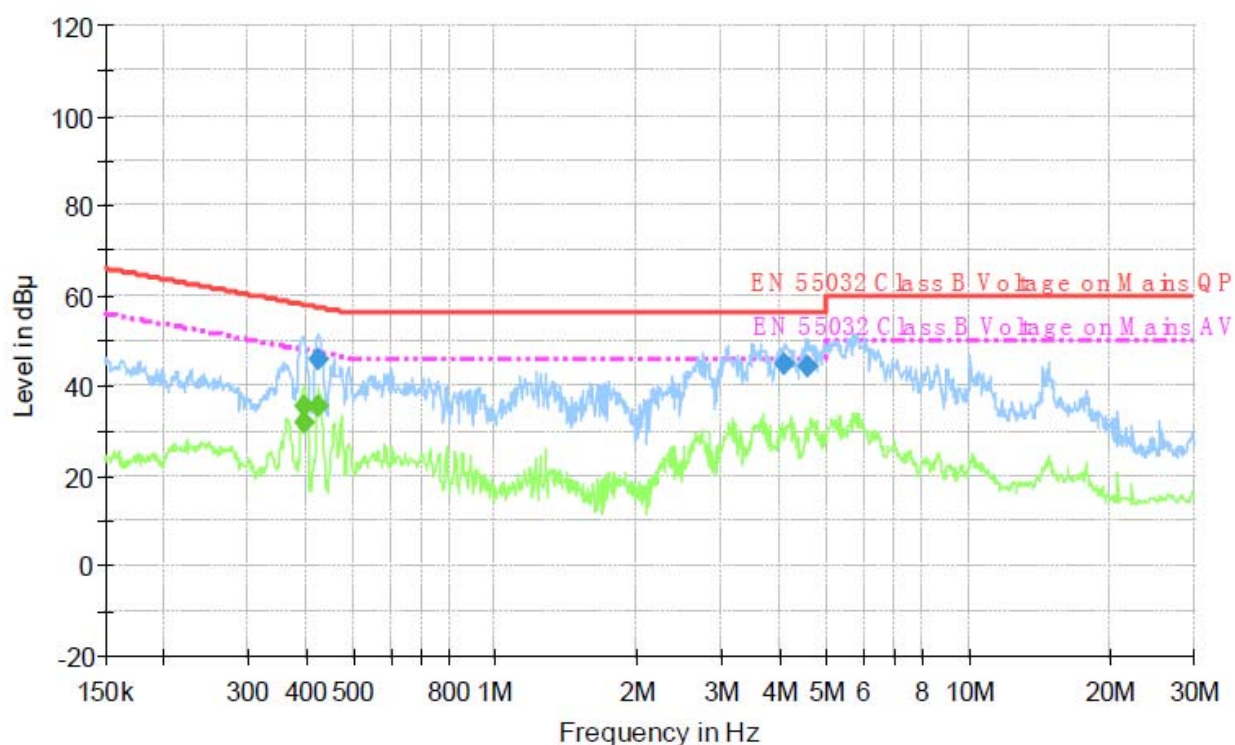
Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.395720	43.5	1000.00	9.000	On	L1	10.0	4.4	47.9	
0.397300	43.9	1000.00	9.000	On	L1	10.0	4.0	47.9	
0.425200	42.2	1000.00	9.000	On	L1	10.0	5.1	47.3	

Emission Level= Read Level+ Correct Factor



Test mode	1	Terminal	Neutral
Test Model	X301G	Adapter Model	TPA-97H050060VW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.421820	45.9	1000.00	9.000	On	N	9.7	11.5	57.4	
4.088890	44.6	1000.00	9.000	On	N	9.7	11.4	56.0	
4.590750	44.4	1000.00	9.000	On	N	9.7	11.6	56.0	

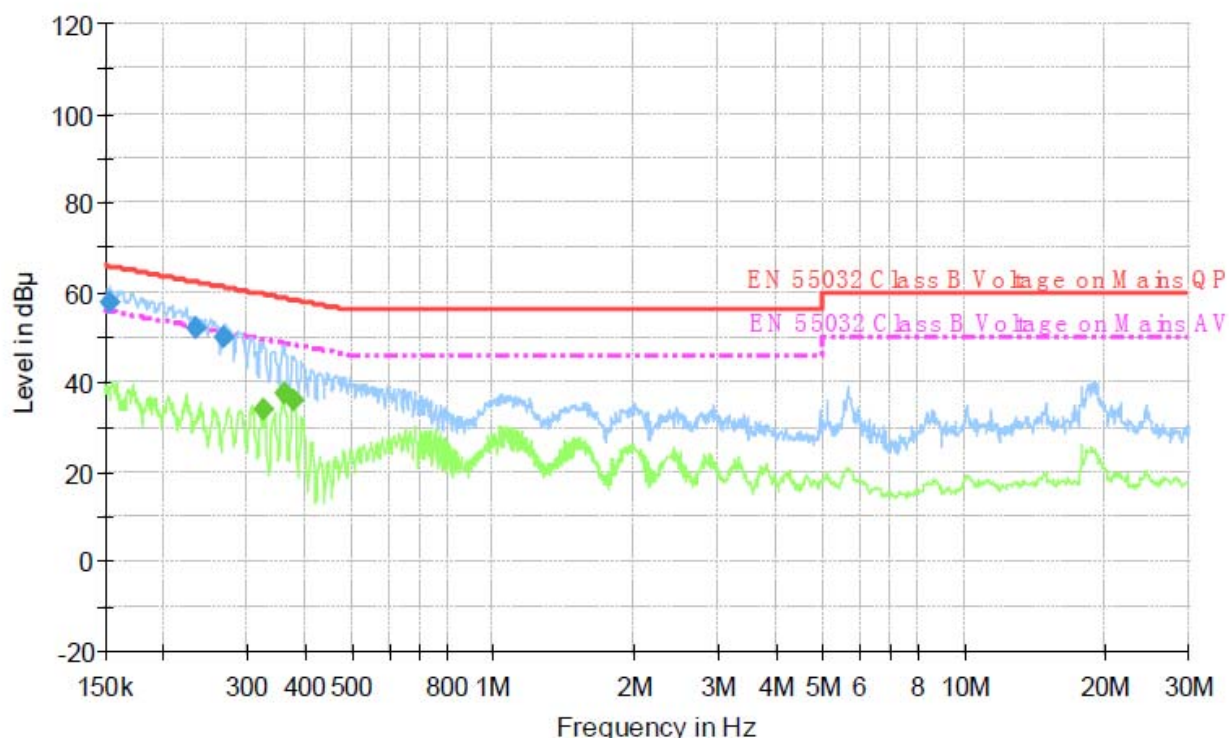
Final Measurement Detector 2

Frequency (MHz)	Average (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.395720	32.1	1000.00	9.000	On	N	9.7	15.8	47.9	
0.397300	35.4	1000.00	9.000	On	N	9.7	12.5	47.9	
0.423500	35.6	1000.00	9.000	On	N	9.7	11.8	47.4	

Emission Level= Read Level+ Correct Factor



Test mode	1	Terminal	Line
Test Model	X301G	Adapter Model	TPA-185B050060BW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.153640	57.6	1000.00	9.000	On	L1	9.7	8.2	65.8	
0.232700	52.2	1000.00	9.000	On	L1	9.7	10.2	62.4	
0.268670	49.8	1000.00	9.000	On	L1	9.7	11.4	61.2	

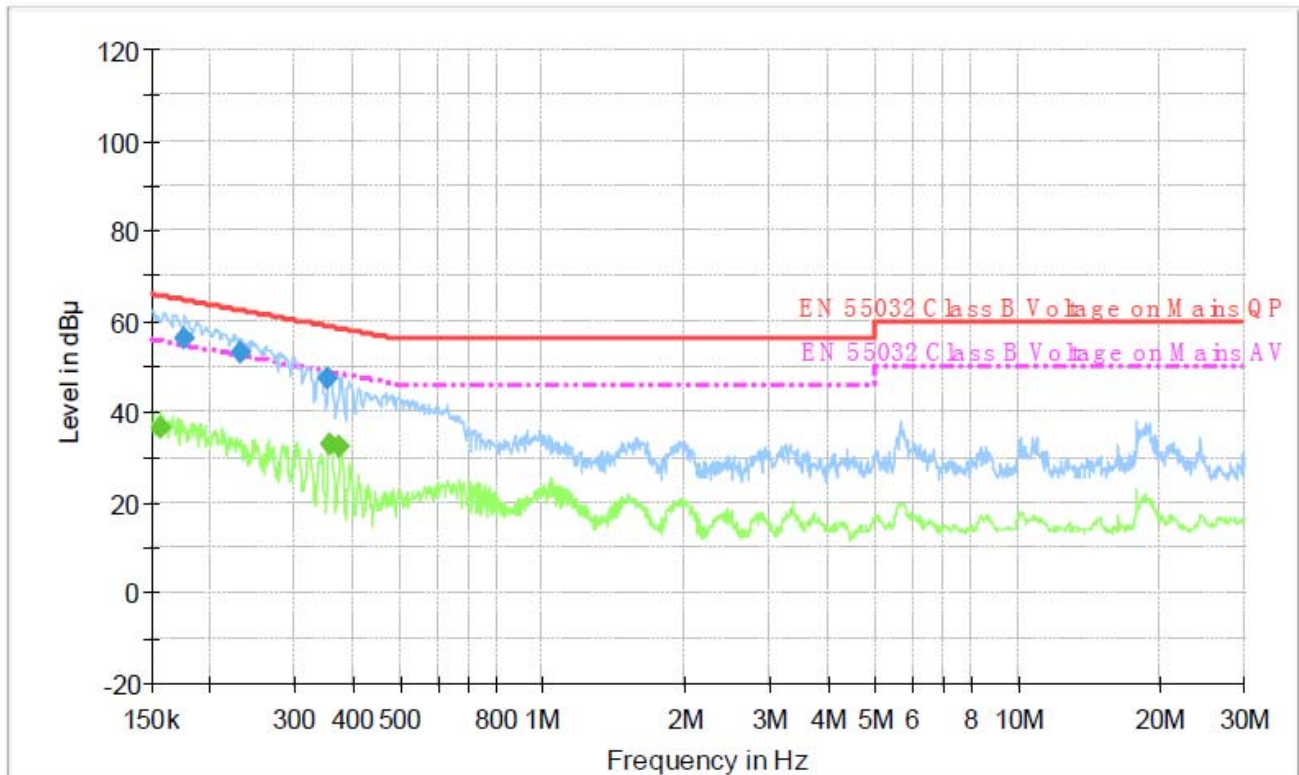
Final Measurement Detector 2

Frequency (MHz)	Average (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.324110	33.8	1000.00	9.000	On	L1	9.7	15.8	49.6	
0.359560	37.3	1000.00	9.000	On	L1	9.7	11.4	48.7	
0.377210	36.1	1000.00	9.000	On	L1	9.7	12.2	48.3	

Emission Level= Read Level+ Correct Factor



Test mode	1	Terminal	Neutral
Test Model	X301G	Adapter Model	TPA-185B050060BW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.176670	56.3	1000.00	9.000	On	N	10.0	8.3	64.6	
0.231770	52.9	1000.00	9.000	On	N	10.0	9.5	62.4	
0.353870	47.3	1000.00	9.000	On	N	10.0	11.6	58.9	

Final Measurement Detector 2

Frequency (MHz)	Average (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.156730	36.4	1000.00	9.000	On	N	10.0	19.2	55.6	
0.356700	32.7	1000.00	9.000	On	N	10.0	16.1	48.8	
0.374210	32.3	1000.00	9.000	On	N	10.0	16.1	48.4	

Emission Level= Read Level+ Correct Factor

3.3. Conducted Emission (Signal Mains)

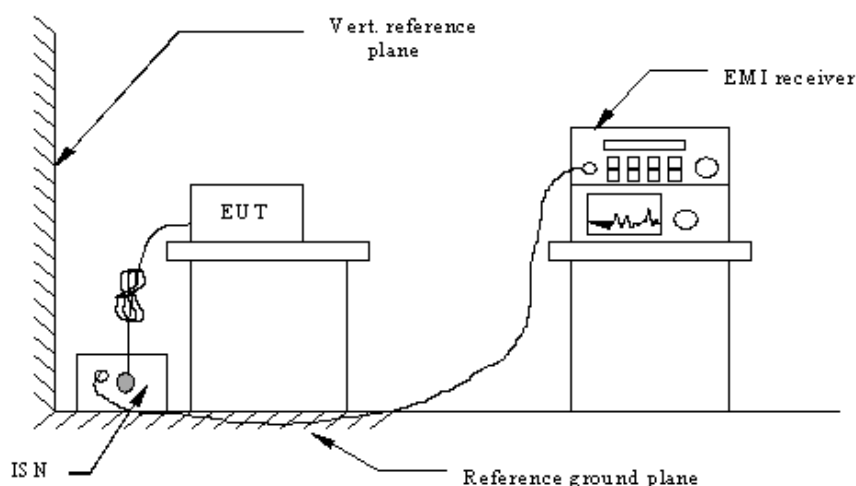
LIMIT

Please refer to CENELEC EN 55032 Annex A Table A.12

Frequency range (MHz)	Voltage Limits dB(μ V)		Current limits dB(μ A)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 ~ 0.5	84 ~ 74	74 ~ 64	40 ~ 30	30 ~ 20
0.5 ~ 30	74	64	30	20

Note: if “150 Ω to 50 Ω adaptor” applied, correction factor of 9.5dB should be added to the test data.

TEST CONFIGURATION



TEST PROCEDURE

Please refer to CENELEC EN 55032 section C4

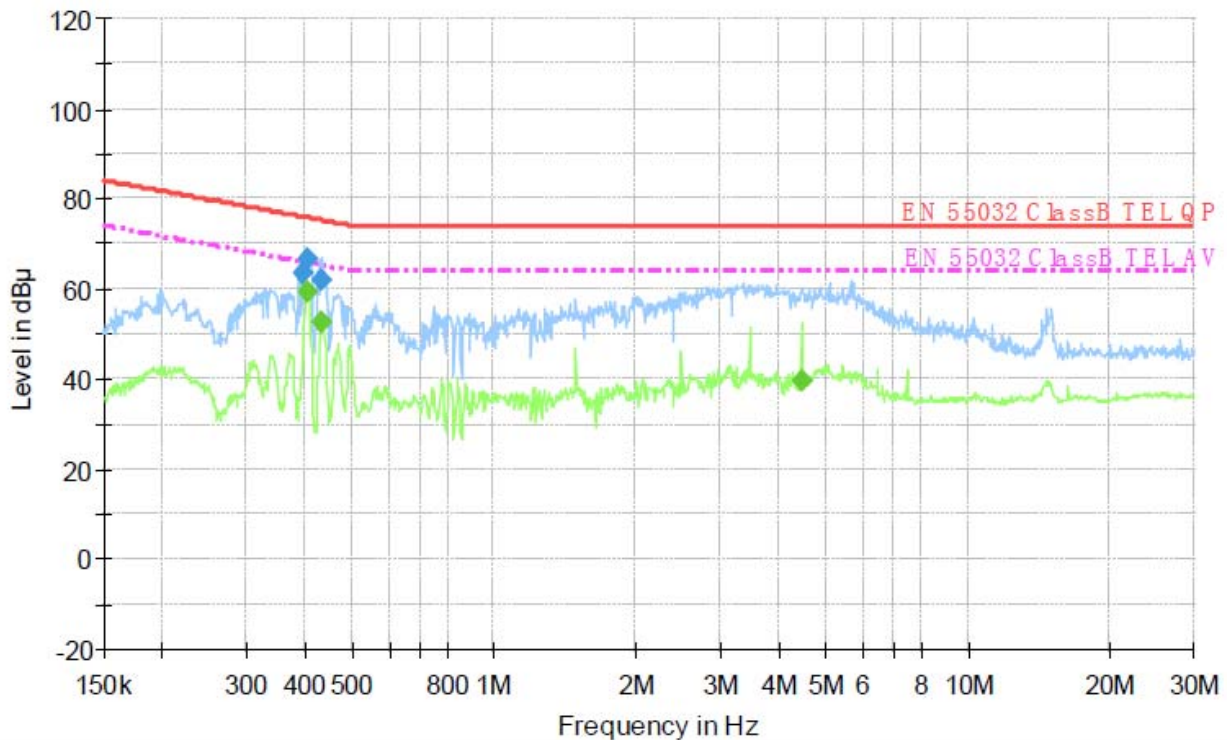
TEST MODE

Please refer to the Clause 2.4

TEST RESULTS



Test mode	1	Terminal	Lan
Test Model	X301G	Adapter Model	TPA-97H050060VW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.395720	63.4	1000.00	9.000	On	N	10.0	12.5	75.9	
0.405310	66.5	1000.00	9.000	On	N	10.0	9.2	75.7	
0.433770	62.1	1000.00	9.000	On	N	10.0	13.1	75.2	

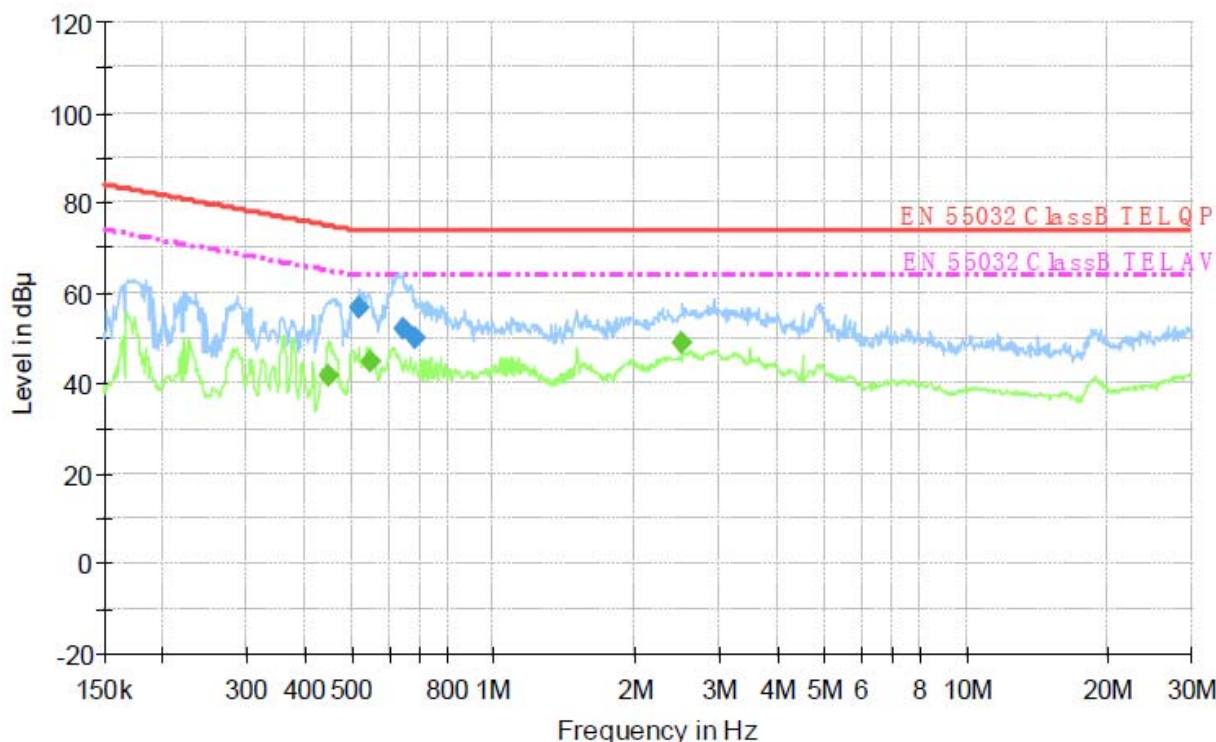
Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.403690	59.5	1000.00	9.000	On	N	10.0	6.4	65.8	
0.433770	52.8	1000.00	9.000	On	N	10.0	12.4	65.2	
4.464240	39.8	1000.00	9.000	On	N	10.0	24.2	64.0	

Emission Level= Read Level+ Correct Factor



Test mode	1	Terminal	Lan
Test Model	X301G	Adapter Model	TPA-185B050060BW01



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.521210	56.6	1000.00	9.000	On	LAN	10.0	17.4	74.0	
0.641450	52.2	1000.00	9.000	On	LAN	10.0	21.8	74.0	
0.683760	49.8	1000.00	9.000	On	LAN	10.0	24.2	74.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBu V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBu V)	Comment
0.449640	41.6	1000.00	9.000	On	LAN	10.0	23.3	64.9	
0.546780	45.0	1000.00	9.000	On	LAN	10.0	19.0	64.0	
2.502410	49.1	1000.00	9.000	On	LAN	10.0	14.9	64.0	

Emission Level= Read Level+ Correct Factor



3.4. Harmonic Current Emission

LIMIT

EN61000-3-2 Clause 7

➤ **Class A equipment**

Harmonic order n	Maximum permissible harmonic current A
Odd harmonics	
3	2,30
5	1,14
7	0,77
9	0,40
11	0,33
13	0,21
$15 \leq n \leq 39$	$0,15 \frac{15}{n}$
Even harmonics	
2	1,08
4	0,43
6	0,30
$8 \leq n \leq 40$	$0,23 \frac{8}{n}$

➤ **Class B equipment**

not exceed the values given in Class A limit multiplied by a factor of 1, 5

➤ **Class C equipment**

Active input power >25 W

Harmonic order n	Maximum permissible harmonic current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	$30 \cdot \lambda^*$
5	10
7	7
9	5
$11 \leq n \leq 39$ (odd harmonics only)	3
* λ is the circuit power factor	

Active input power ≤ 25 W

Harmonic order n	Maximum permissible harmonic current per watt mA/W	Maximum permissible harmonic current A
3	3,4	2,30
5	1,9	1,14
7	1,0	0,77
9	0,5	0,40
11	0,35	0,33
$13 \leq n \leq 39$ (odd harmonics only)	$\frac{3,85}{n}$	See Table 1

or the third harmonic current, expressed as a percentage of the fundamental current, shall not exceed 86 % and the fifth harmonic current shall not exceed 61 %. Also, the waveform of the input current shall be such that it reaches the 5 % current threshold before or at 60°, has its peak value before or at 65° and does not fall below the 5 % current threshold before 90°, referenced to any zero crossing of the fundamental supply voltage. The current threshold is 5 % of the highest

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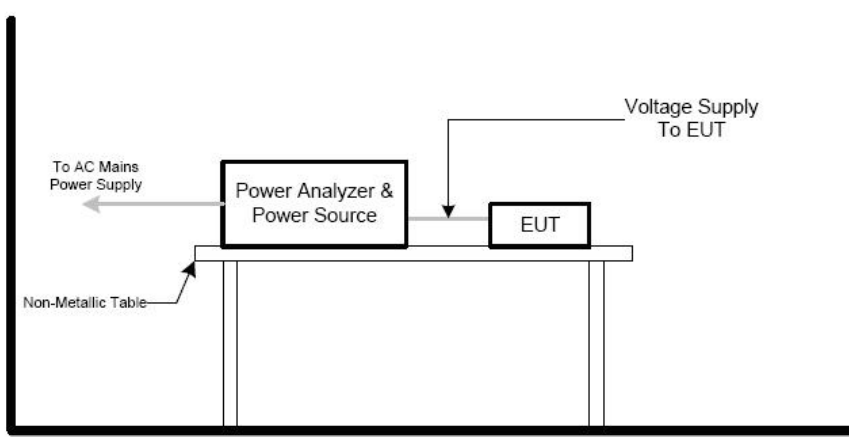


absolute peak value that occurs in the measurement window, and the phase angle measurements are made on the cycle that includes this absolute peak value

➤ **Class D equipment**

Harmonic order n	Maximum permissible harmonic current per watt mA/W	Maximum permissible harmonic current A
3	3,4	2,30
5	1,9	1,14
7	1,0	0,77
9	0,5	0,40
11	0,35	0,33
$13 \leq n \leq 39$ (odd harmonics only)	$\frac{3,85}{n}$	See Table 1

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN61000-3-2 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

TEST RESULTS

Note: The power of the EUT is less than 75W, So this test item is not applicable.

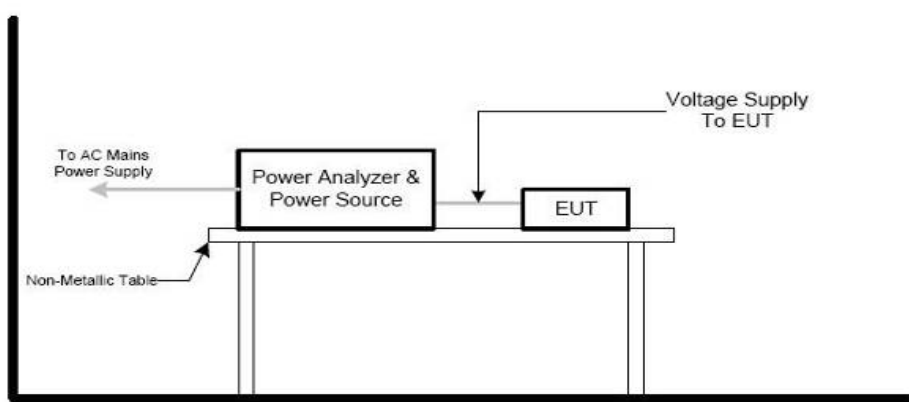
3.5. Voltage Fluctuation and Flicker

LIMIT

Please refer to EN61000-3-3

Tests	Limits		Descriptions
	IEC555-3	IEC/EN 61000-3-3	
Pst	≤ 1.0 , $T_p = 10$ min.	≤ 1.0 , $T_p = 10$ min.	Short Term Flicker Indicator
Plt	N/A	≤ 0.65 , $T_p = 2$ hr.	Long Term Flicker Indicator
dc	$\leq 3\%$	$\leq 3.3\%$	Relative Steady-State V-Chang
dmax	$\leq 4\%$	$\leq 4\%$	Maximum Relative V-change
d (t)	N/A	$\leq 3.3\%$ for > 500 ms	Relative V-change characteristic

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN61000-3-3 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

**TEST RESULTS**

Test mode	1	Test Model	X301G	
Adapter Model		TPA-97H050060VW01		
Voltech IEC61000-3 Windows Software 1.27.13		Test Date: 17 Nov 2022 09:29		
Type of Test:	Flickermeter Test - Table (EN61000-3-3)			
Power Analyzer:	Voltech PM6000 SN: 200006700723 Firmware Version: v1.22.07RC6			
Channel(s):	1. SN: 090015502565, 28 Adjusted Date: 2 AUG 2013. 2. SN: 090015500533, 28 Adjusted Date: 19 MAR 2010.			
	3. SN: 090015502345, 28 Adjusted Date: 21 JUN 2012. 4. SN:None Adjusted Date:None			
	5. SN:None Adjusted Date:None 6. SN:None Adjusted Date:None			
Shunt(s):	1. SN: 091024303183, 4 Adjusted Date: 8 AUG 2013. 2. SN: 091024302146, 4 Adjusted Date: 22 JUN 2012.			
	3. SN: 091024302144, 4 Adjusted Date: 22 JUN 2012. 4. SN:None Adjusted Date:None			
	5. SN:None Adjusted Date:None 6. SN:None Adjusted Date:None			
AC Source:	Mains / Manual Source			
Overall Result:	Notes:			
PASS	Measurement method - Voltage			
	Pst	dc (%)	dmax (%)	Tmax(> 3.3%)(ms)
Limit	1.000	3.300	4.000	500
Reading 1	0.326	0.000	0.650	0





Test mode	1	Test Model	X301G	
Adapter Model		TPA-185B050060BW01		
Voltech IEC61000-3 Windows Software 1.27.13		Test Date: 17 Nov 2022 13:31		
Type of Test:	Flickermeter Test - Table (EN61000-3-3)			
Power Analyzer:	Voltech PM6000 SN: 200006700723 Firmware Version: v1.22.07RC6			
Channel(s):	1. SN: 090015502565, 28 Adjusted Date: 2 AUG 2013. 2. SN: 090015500533, 28 Adjusted Date: 19 MAR 2010. 3. SN: 090015502345, 28 Adjusted Date: 21 JUN 2012. 4. SN:None Adjusted Date:None 5. SN:None Adjusted Date:None 6. SN:None Adjusted Date:None			
Shunt(s):	1. SN: 091024303183, 4 Adjusted Date: 8 AUG 2013. 2. SN: 091024302146, 4 Adjusted Date: 22 JUN 2012. 3. SN: 091024302144, 4 Adjusted Date: 22 JUN 2012. 4. SN:None Adjusted Date:None 5. SN:None Adjusted Date:None 6. SN:None Adjusted Date:None			
AC Source:	Mains / Manual Source			
Overall Result:	Notes:			
PASS	Measurement method - Voltage			
	Pst	dc (%)	dmax (%)	Tmax(> 3.3%)(ms)
Limit	1.000	3.300	4.000	500
Reading 1	0.304	0.000	0.522	0





4. EMS IMMUNITY TEST

Performance criteria

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. May show degradation of performance (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 2). 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 1). No unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2). 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 2).

NOTE 1:

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 2:

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.

4.1. Electrostatic Discharge

PERFORMANCE CRITERION

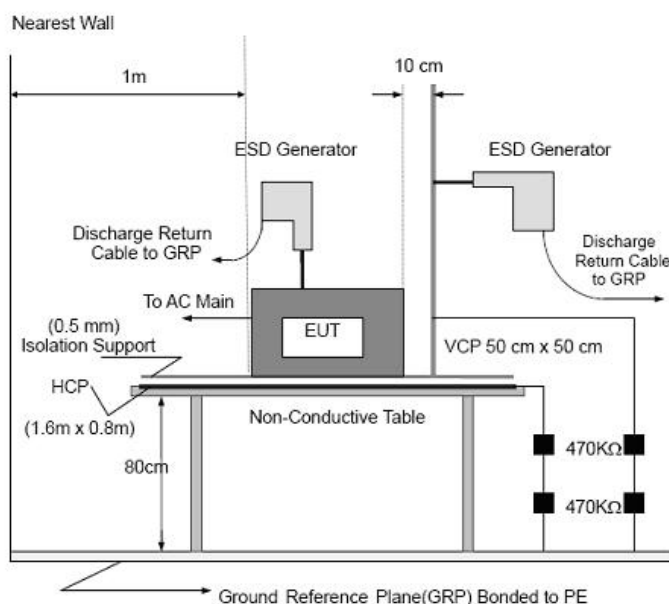
Standard	Criterion
EN 50024/EN 55035/EN 61000-4-2	Criteria B

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 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 refer to the Clause 2.4

TEST RESULTS

Test mode		1				
Temperature	25°C	Humidity	49%	Atmospheric pressure		101KPa
Test Points	Test Voltage	Kind	Times	Perform Criteria	Results	Test Result
HCP	☐ ±2 kV ; ☒ ±4 kV ☐ ±6 kV ; ☐ ±8 kV ☐ ±10 kV ; ☐ ±15 kV	☐ Air ☒ Contact	☒ ±10 ☐ ±25	B	A	☒ Pass ☐ Fail
VCP	☐ ±2 kV ; ☒ ±4 kV ☐ ±6 kV ; ☐ ±8 kV ☐ ±10 kV ; ☐ ±15 kV	☐ Air ☒ Contact	☒ ±10 ☐ ±25	B	A	☒ Pass ☐ Fail
Contact Discharge	☐ ±2 kV ; ☒ ±4 kV ☐ ±6 kV ; ☐ ±8 kV ☐ ±10 kV ; ☐ ±15 kV	☐ Air ☒ Contact	☒ ±10 ☐ ±25	B	/	☒ Pass ☐ Fail
Air Discharge	☐ ±2 kV ; ☐ ±4 kV ☐ ±6 kV ; ☒ ±8 kV ☐ ±10 kV ; ☐ ±15 kV	☒ Air ☐ Contact	☒ ±10 ☐ ±25	B	A	☒ Pass ☐ Fail
* Comment:						
☒ No degradation was found						
☐ Phenomenon Description						

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



Description of Discharge Point

Contact discharge-Yellow, Air discharge-Red





4.2. Radio Frequency Electromagnetic Field

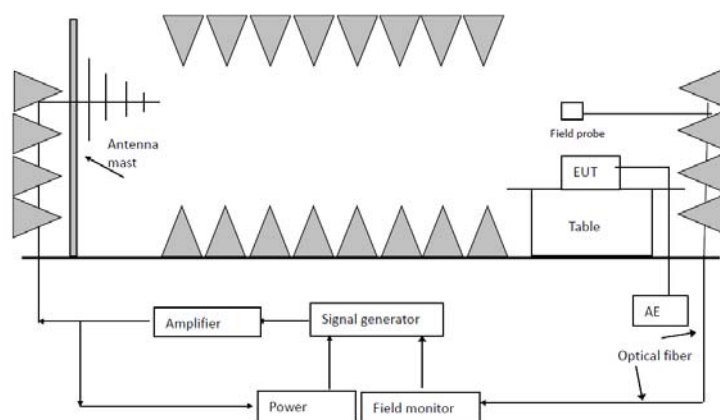
PERFORMANCE CRITERION

Standard	Criterion
EN 50024/EN 55035/EN 61000-4-3	Criteria A

TEST LEVEL

Condition of Test	Remark
Fielded strength	3V/m
Radiated signal	Modulated
Scanning frequency	80-1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz
Sweep time of radiated	0.0015 Decade/s
Dwell time	1 Sec.

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-4-3 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4



**TEST RESULTS**

Test mode		1			
Temperature	24°C	Humidity	50%	Atmospheric pressure	101kPa
EUT Position	Frequency range: 80-1000 MHz 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz Level: ☒ 3V/m ☐ 10V/m		Perform Criteria	Test Result	
	Horizontal (Results)				
Front	A		A	☒ Pass ☐ Fail	
Right	A		A	☒ Pass ☐ Fail	
Back	A		A	☒ Pass ☐ Fail	
Left	A		A	☒ Pass ☐ Fail	
*Comment:					
☒ No degradation was found					
☐ Phenomenon Description					



4.3. Fast Transients Common Mode

PERFORMANCE CRITERION

Standard	Criterion
EN 50024/EN 55035/EN 61000-4-4	Criteria B

TEST LEVEL

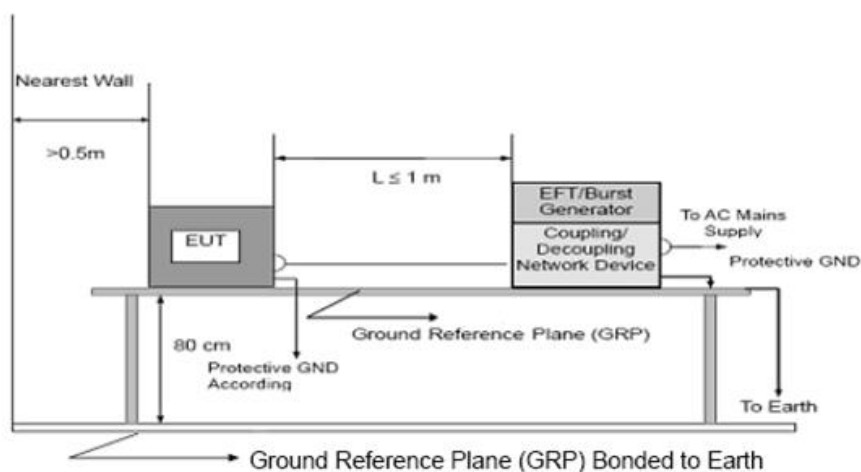
Level: 1KV for AC port, 0.5KV for signal port

Impulse Frequency: 5 kHz;

Tr/Td: 5/50ns;

Burst Duration: 15ms; Burst Period: 300ms

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-4-4 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

**TEST RESULTS**

Test mode		1			
Temperature	24℃	Humidity	50%	Atmospheric pressure	101KPa
Test Ports		Test Voltage	Duration time	Result	Test Result
AC power port		☐ ±0.5KV ☒ ±1KV ☐ ±2KV	☒ 120s ☐	A	☒ Pass ☐ Fail
Signal port		☒ ±0.5KV ☐ ±1KV ☐ ±2KV	☒ 120s ☐	A	☒ Pass ☐ Fail
* Comment:					
☒ No degradation was found					
☐ Phenomenon Description					

4.4. Surge

PERFORMANCE CRITERION

Standard	Criterion
EN 50024/EN 55035/EN 61000-4-5	Criteria B

TEST LEVEL

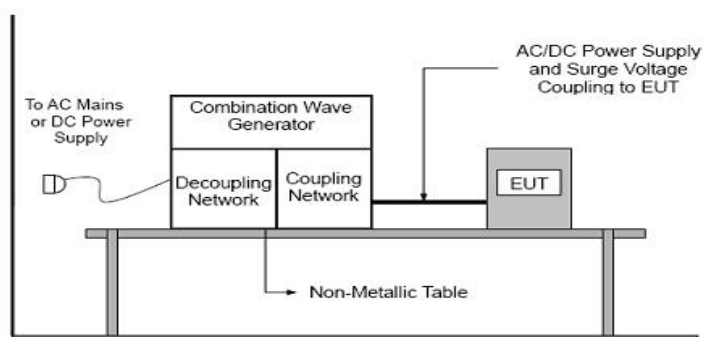
Level: 1kV for line to line, 2kV for line to ground, 1kV for signal line

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

Pulse quantity: 5, interval time: 60 seconds

Phase: 0°, 90°, 180°, 270°

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-4-5 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

**TEST RESULTS**

Test mode		1							
Temperature		24℃	Humidity		48%		Atmospheric pressure	101KPa	
Test Ports		Test Voltage	Resistor	Surge Wave	Times	Phase	Interval time	Phenomenon	Test Result
AC Power port	L-N	☒ ±1 KV ☐ ±2 KV ☐ ±4 KV ☐ ± KV	☒ 2Ω ☐ 12Ω ☐	☒ 1.2/50us ☐ 10/700us ☐	☒ ±5 ☐	☒ 0° ☒ 90° ☒ 180° ☒ 270°	☒ 60s ☐	A	☒ Pass ☐ Fail
Signal port	Line-Line	☒ ±0.5KV ☐ ±1 KV ☐ ±2 KV ☐	☒ 200/8+15Ω ☐	☐ 1.2/50us ☒ 10/700us ☐	☒ ±5 ☐	/	☒ 60s ☐	A	☒ Pass ☐ Fail
Signal port	Line-PE	☐ ±0.5KV ☒ ±1 KV ☐ ±2 KV ☐	☒ 200/8+15Ω ☐	☐ 1.2/50us ☒ 10/700us ☐	☒ ±5 ☐	/	☒ 60s ☐	A	☒ Pass ☐ Fail
* Comment:									
☒ No degradation was found									
☐ Phenomenon Description									



4.5. Radio frequency common mode

PERFORMANCE CRITERION

Standard	Criterion
EN 50024/EN 55035/EN 61000-4-6	Criteria A

TEST LEVEL

Test frequency range: 150 kHz~80MHz

Level: 0.15MHz~10MHz 3V r.m.s

10MHz~30MHz 3V to 1V r.m.s

30MHz~80MHz 1V r.m.s

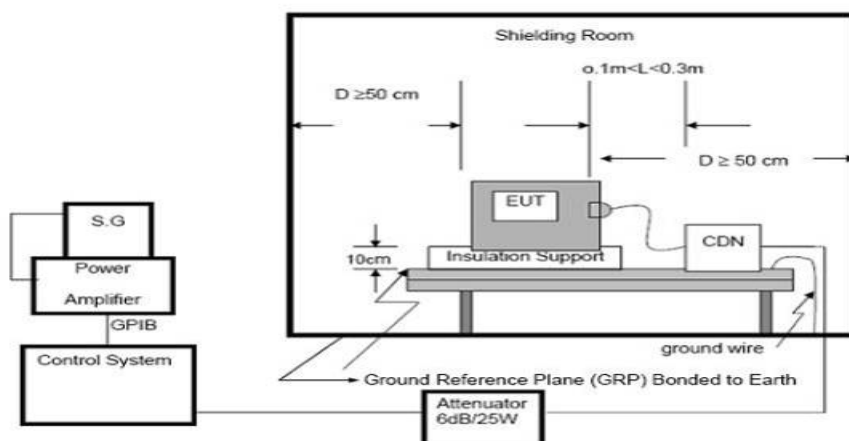
Modulation type: Amplitude Modulation, 80% depth

Modulated signal: 1 KHz sinusoidal audio signal

Frequency increment step: 1%

Dwell time: 3 seconds

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-4-6 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

**TEST RESULTS**

Test mode		1			
Temperature	24℃	Humidity	48%	Atmospheric pressure	101KPa
Test Ports		Frequency range	Test level (Vrms)	Phenomenon	Test Result
AC power port	☒ 0.15MHz~10MHz	☐ 1V	A	☒ Pass ☐ Fail	
	☐ 10MHz~30MHz	☒ 3V			
	☐ 30MHz~80MHz	☐			
	☐ 0.15MHz~10MHz	☐ 1V	A	☒ Pass ☐ Fail	
	☒ 10MHz~30MHz	☐ 3V			
	☐ 30MHz~80MHz	☒ 3V-1V			
	☐ 0.15MHz~10MHz	☒ 1V	A	☒ Pass ☐ Fail	
	☐ 10MHz~30MHz	☐ 3V			
	☒ 30MHz~80MHz	☐			
Signal port	☒ 0.15MHz~80MHz	☐ 1V	A	☒ Pass ☐ Fail	
	☐ 0.15MHz~230MHz	☒ 3V			
		☐			
*Comment:					
☒ No degradation was found					
☐ Phenomenon Description					





4.6. Voltage dips and interruptions

PERFORMANCE CRITERION

Standard	Criterion
EN 50024/EN 55035/EN 61000-4-11	Criteria B for voltage dip Criteria C for voltage interruption

TEST LEVEL

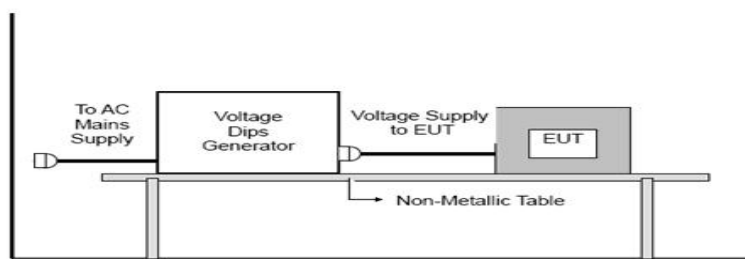
0% of VT (Supply Voltage) for 0.5 period

70% of VT (Supply Voltage) for 25 period

0% of VT (Supply Voltage) for 250 period

Dip quantity: 3, interval time: 10 seconds

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN 61000-4-11 for the measurement methods.

TEST MODE

Please refer to the Clause 2.4

TEST RESULTS

Test mode		1				
Temperature	24°C	Humidity	48%	Atmospheric pressure		101KPa
Voltage Reduction		Cycle	Duration	Perform Criteria	Results	Test Result
Voltage dips	Reduction <u>70</u> %	25	0.5	B	A	☒ Pass ☐ Fail
	Reduction <u>0</u> %	0.5	0.01	B	A	☒ Pass ☐ Fail
Voltage interruption	Reduction <u>0</u> %	250	5	C	C ⁽¹⁾	☒ Pass ☐ Fail
* Comment: ☐ No degradation was found ☒ Phenomenon Description ⁽¹⁾ During the test, Shut down, After the end of the test, Need to manually restore normal work.						

5. EUT TEST PHOTOS

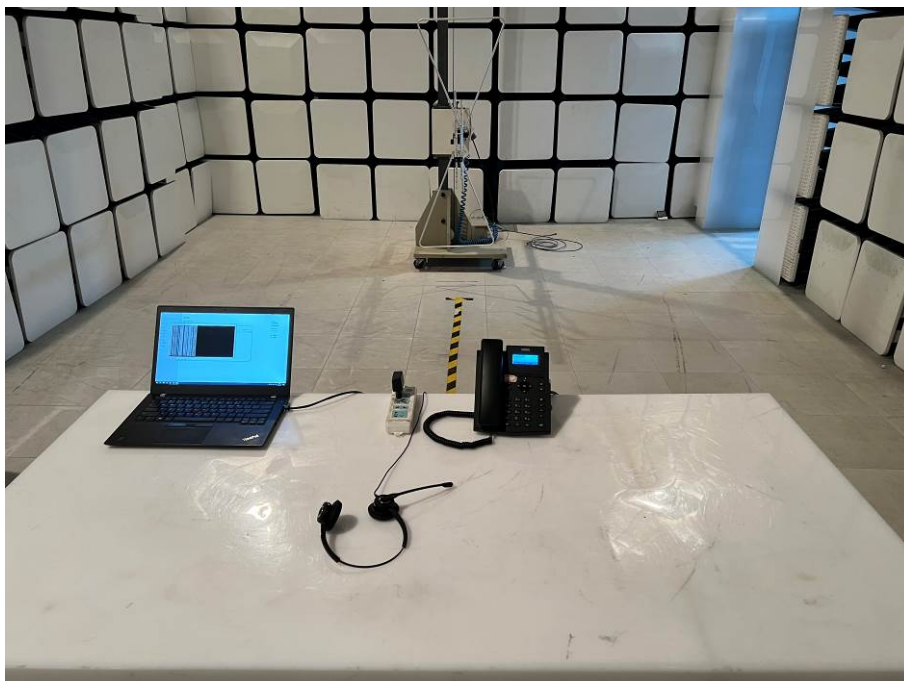
Conducted Emission (AC Mains)



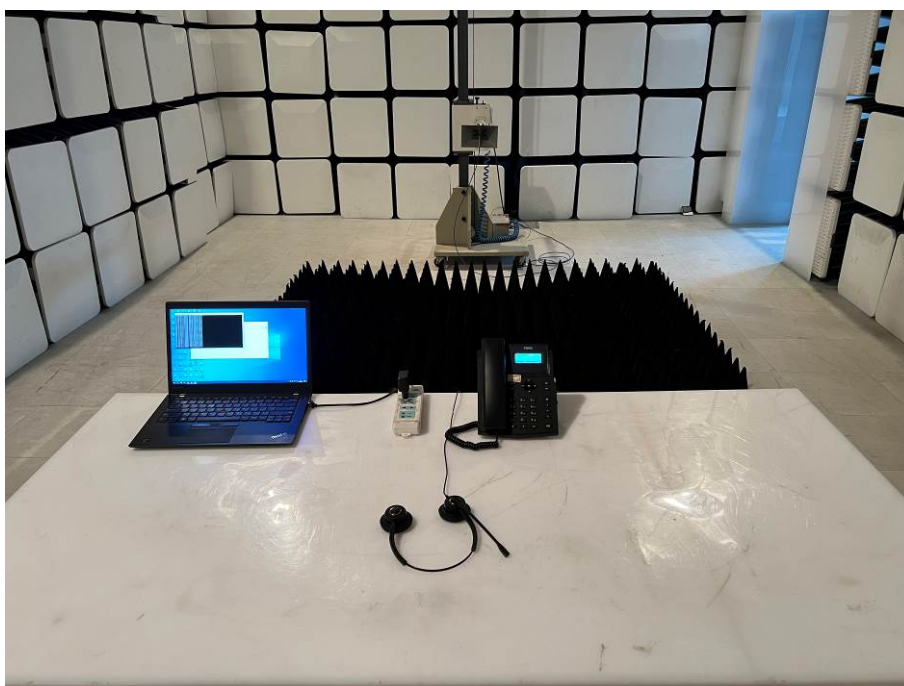
Conducted Emission (Signal Mains)



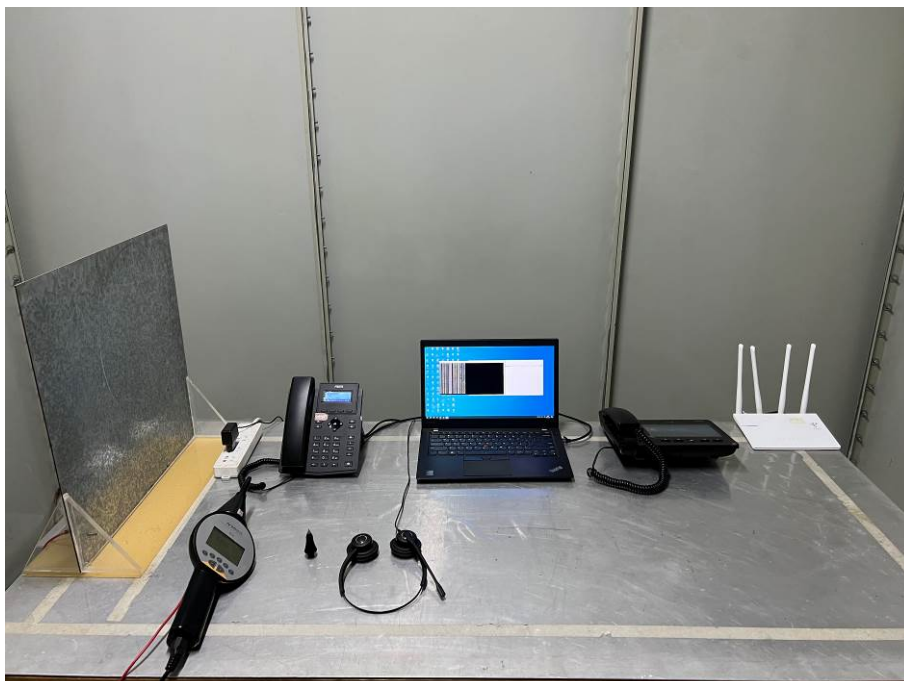
Radiated Measurement (30MHz~1000MHz)



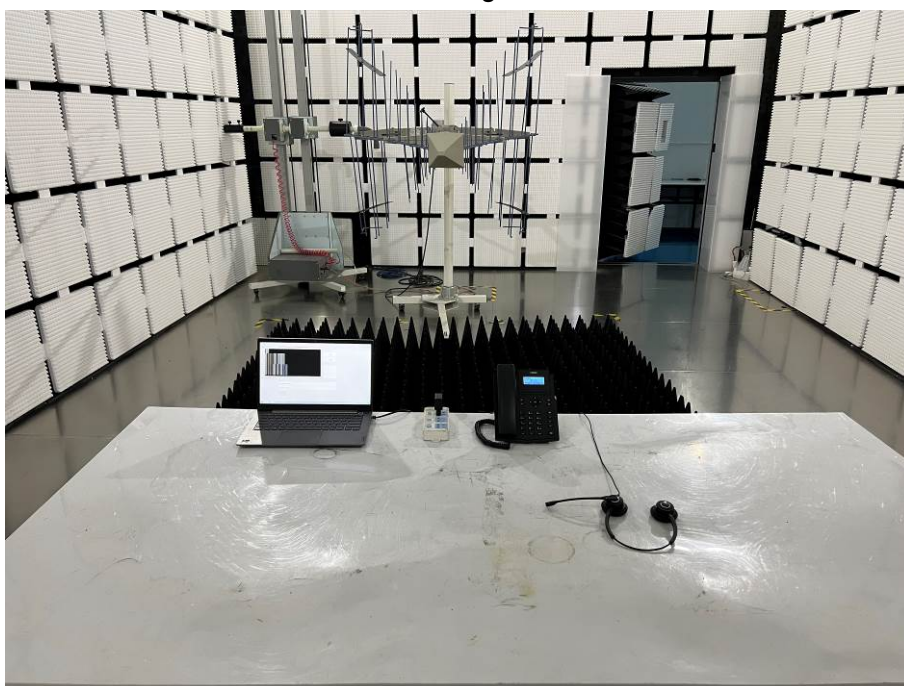
Radiated Measurement (1000~6000MHz)



Electrostatic Discharge



RF electromagnetic field



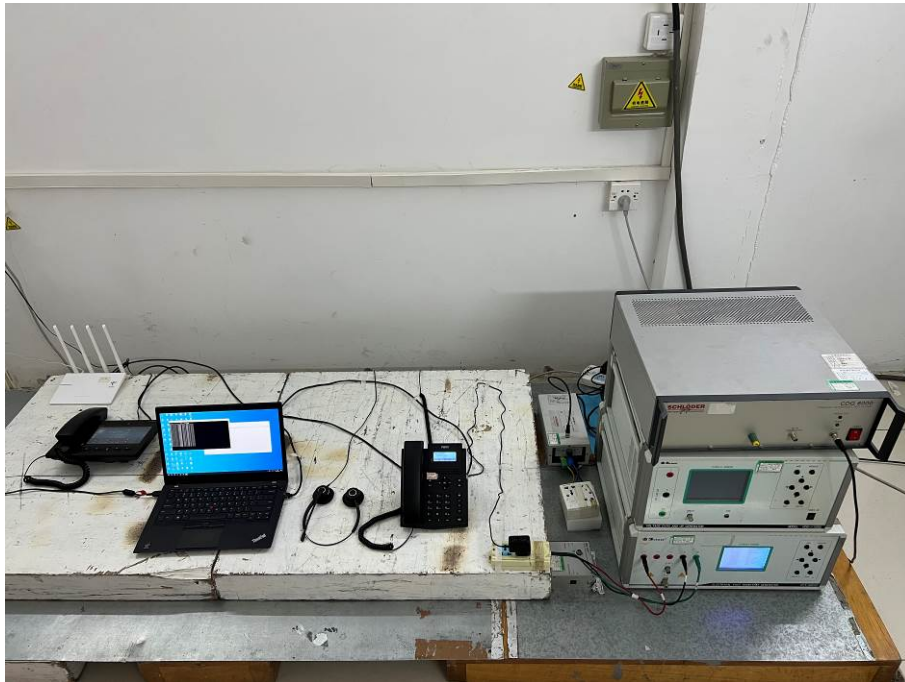
Injected Current (AC Mains)



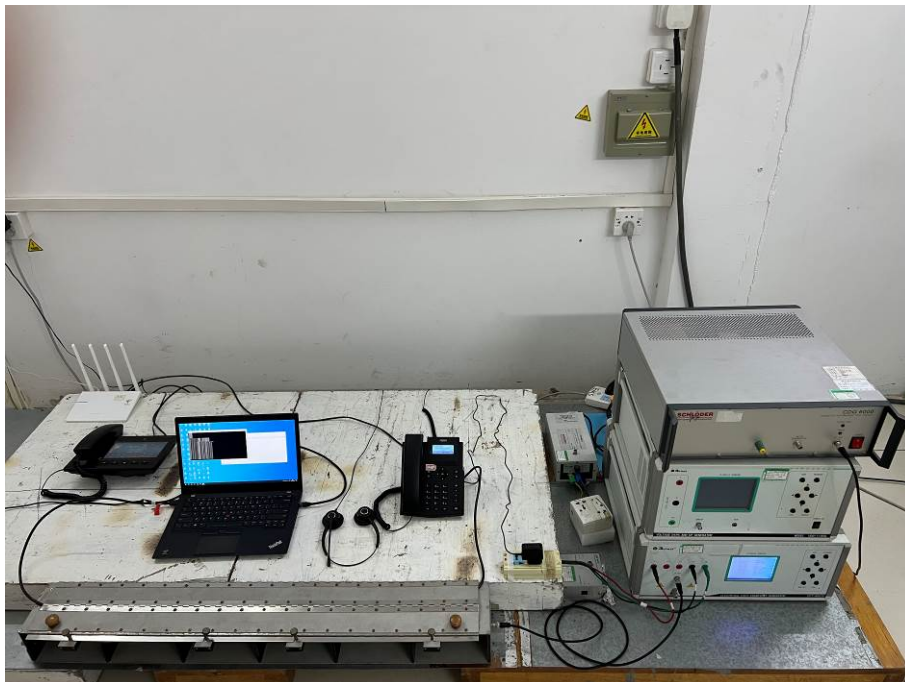
Injected Current (Signal Mains)



Electric Fast Transients (AC Mains)



Electric Fast Transients (Signal Mains)



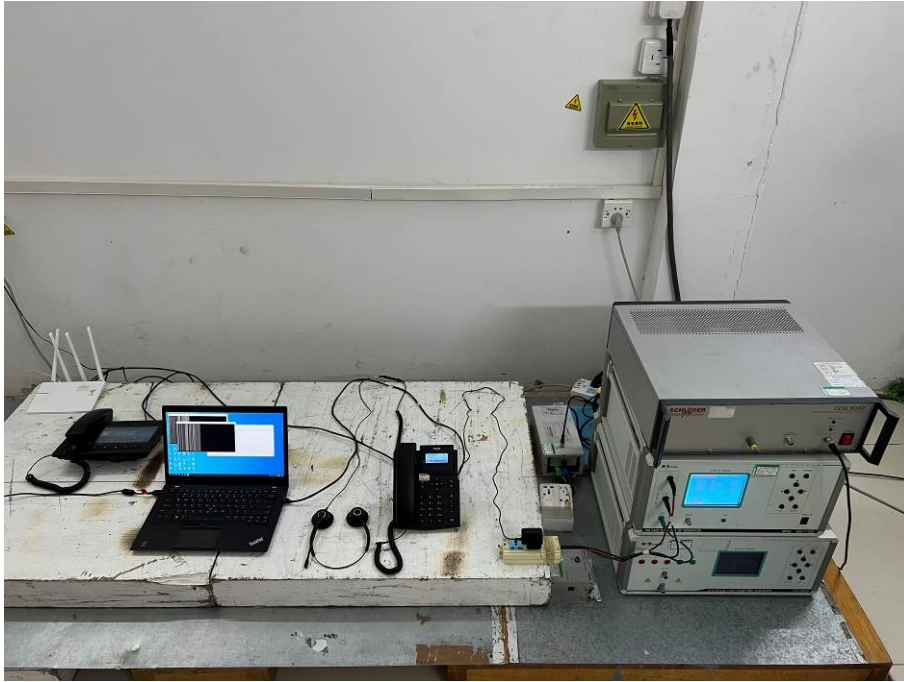
Surges (AC Mains)



Surges (Signal Mains)



Volt. Interruptions/Volt. Dips

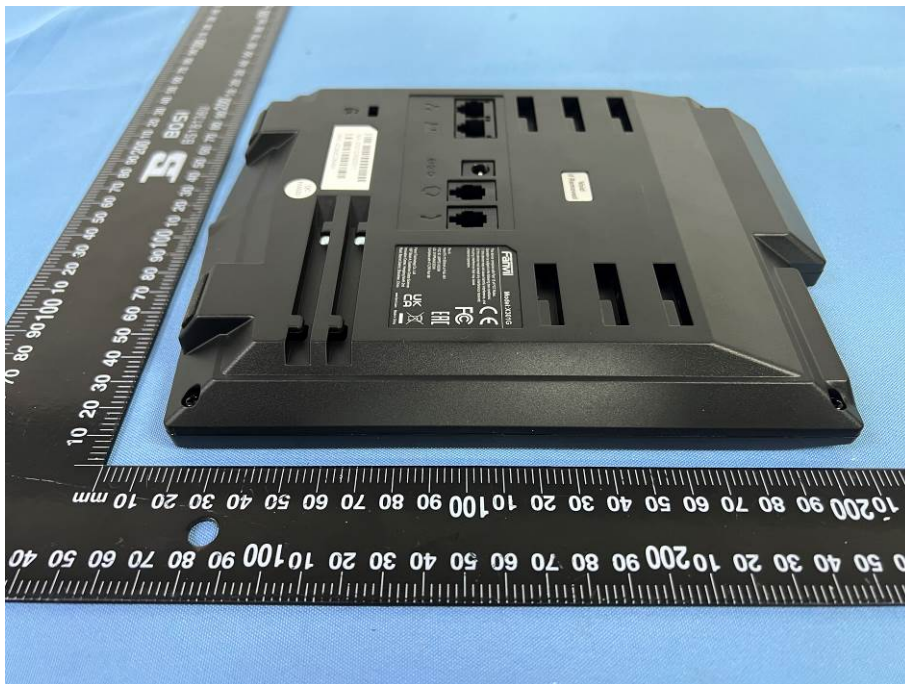
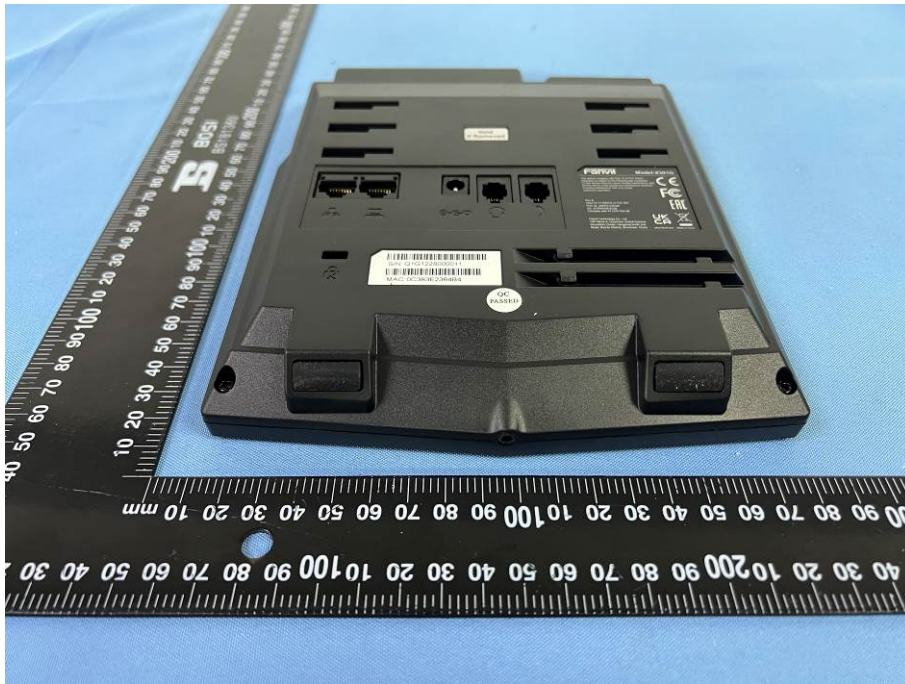


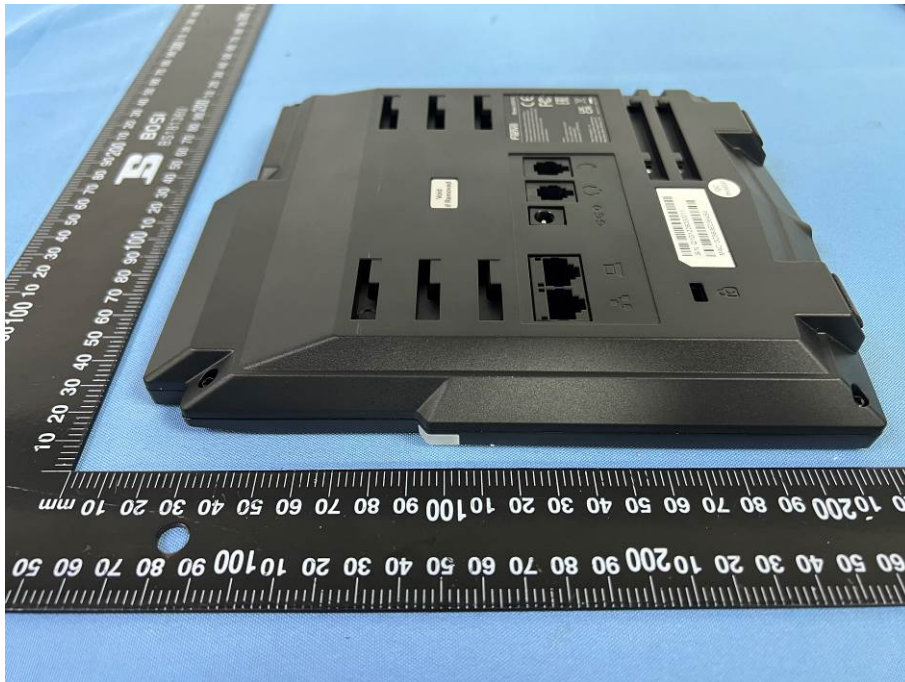
6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

External Photographs



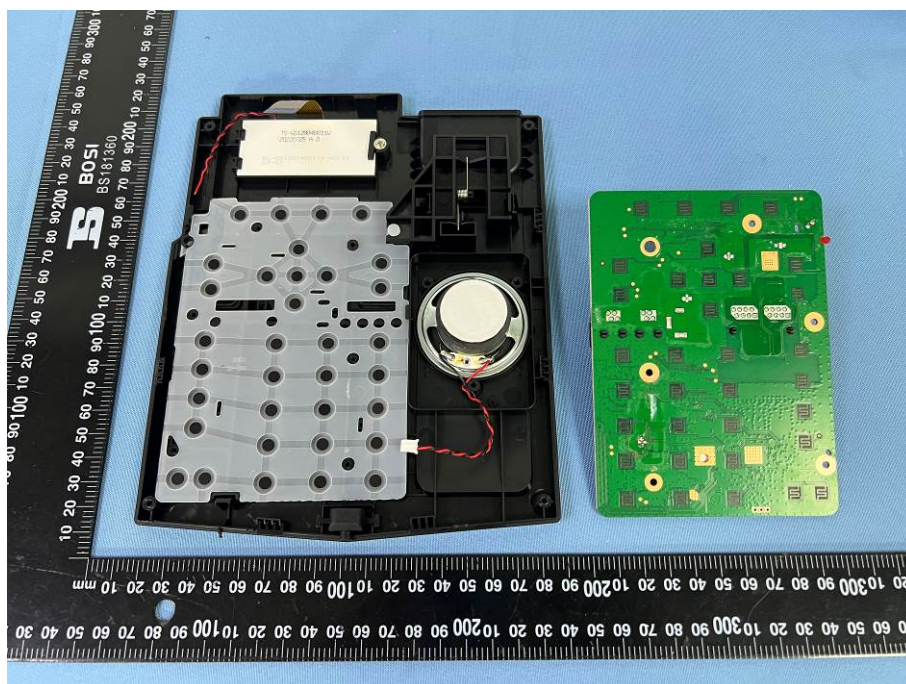
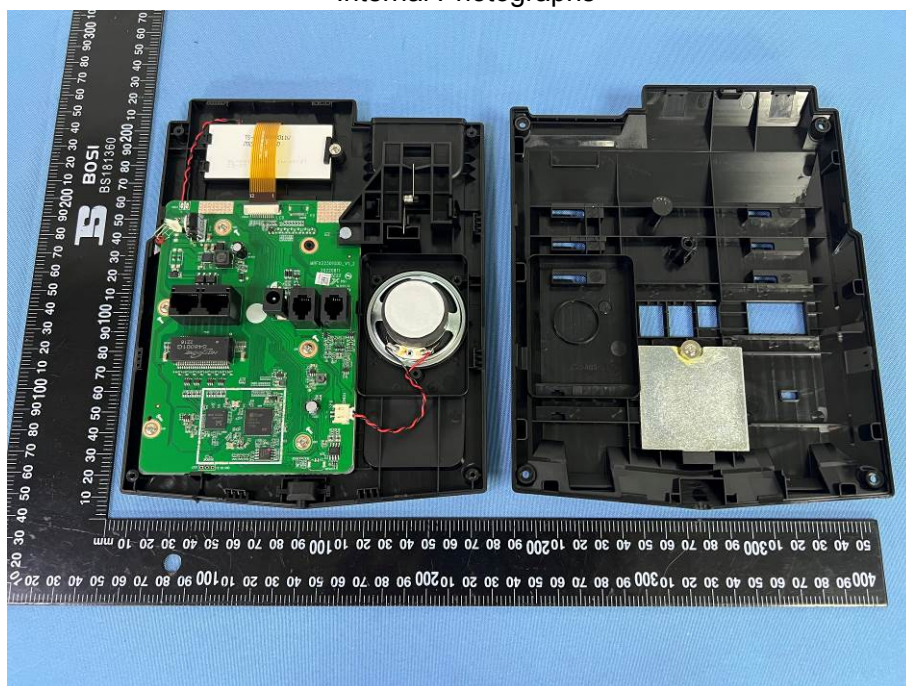


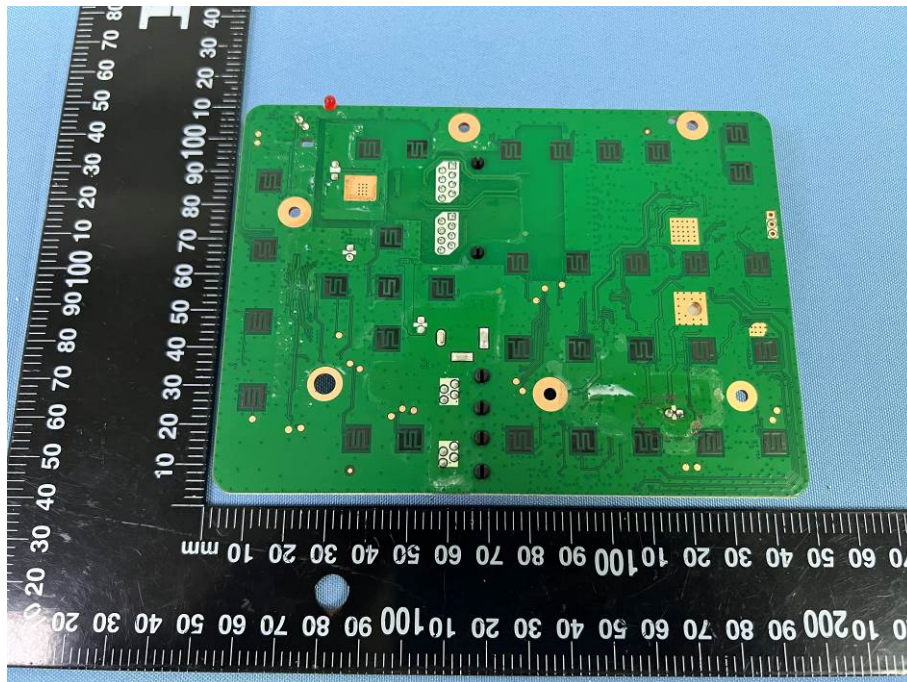
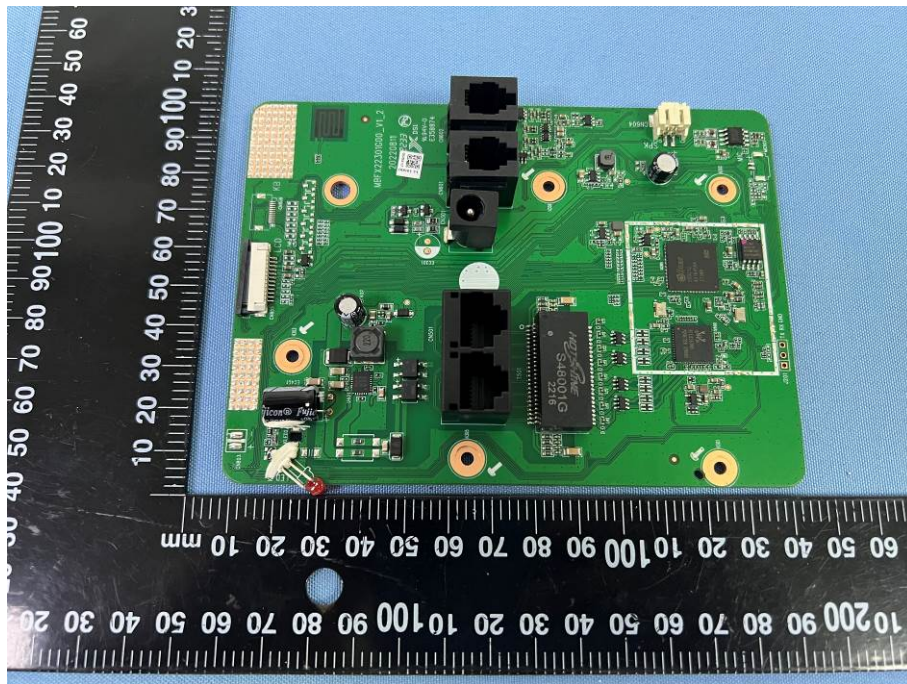






Internal Photographs





*****THE END*****