



TEST REPORT

Report No. : **CTC2024287502**


Applicant : **XonTel Technology Trd. Co. W.L.L**

Address..... : Office 21 - Justice Tower - Ali Al Salem St. - Qibla - Kuwait City - State Of Kuwait

Manufacturer..... : XonTel Technology Trd. Co. W.L.L

Address..... : Office 21 - Justice Tower - Ali Al Salem St. - Qibla - Kuwait City - State Of Kuwait

Product Name : **Prime Business Phone**

Trade Mark : 

Model/Type reference..... : XT-24G

Listed Model(s) : /

Standard : **ETSI EN 301 489-1 V2.2.3: 2019-11**
ETSI EN 301 489-17 V3.2.4: 2020-09
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

Test Report Form No : CTC-TR-043_A1

Master TRF : Dated 2024-09-20

Date of receipt of test sample... : Jan. 18, 2022

Date of testing..... : Jan. 19, 2022 ~ Feb. 21, 2022

Date of issue..... : Dec. 20, 2024

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

Compiled by:
(Printed name+signature) Jim Jiang 

Supervised by:
(Printed name+signature) Eric Zhang 

Approved by:
(Printed name+signature) Totti Zhao 



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1. TEST SUMMARY

1.1. 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 covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU

[ETSI EN 301 489-17 V3.2.4 \(2020-09\)](#)–ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU

[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

1.2. Report version

Revised No.	Report No.	Date of issue	Description
01	CTC2024287502	Dec. 20, 2024	On the basis of the original report CTC20220136E07, update the applicant, manufacturer, trademark and model number., no testing involved.





1.3. Test Description

Emission			
Test Item	Standard requirement (ETSI EN301 489-1/ EN 55032: 2015 + A11: 2020 + A1: 2020)	Result	Test Engineer
Radiated Emission	Clause 8.2	Pass	Ice Lu
Conducted Emission(AC Mains)	Clause 8.4	Pass	Eva Feng
Conducted Emission(Signal Mains)	Clause 8.4	Pass	Eva Feng
Harmonic Current Emissions	Clause 8.5	N/A	N/A
Voltage Fluctuations and Flicker	Clause 8.6	Pass	Amy Zhao
Immunity			
Test Item	Standard requirement (ETSI EN301 489-1/ EN 55035: 2017 + A11: 2020/ EN 55024: 2010 + A1: 2015)	Result	Test Engineer
Radio Frequency Electromagnetic Field	Clause 9.2	Pass	Amy Zhao
Electrostatic Discharge	Clause 9.3	Pass	Amy Zhao
Fast Transients (common mode)	Clause 9.4	Pass	Amy Zhao
Radio frequency (common mode)	Clause 9.5	Pass	Amy Zhao
Voltage Dips and Interruptions	Clause 9.7	Pass	Amy Zhao
Surges	Clause 9.8	Pass	Amy Zhao

Note: "N/A" is no application

The measurement uncertainty is not included in the test result.



1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: Room 101 of Building B, Room 107, 108, 207, 208 of Building A, No. 7, Lanqing 1st Road, Luh Community, Guanhu Subdistrict, 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.

CTC Laboratories, Inc.

Room 101 Building B, No. 7, Lanqing 1st Road, Luh Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-043_A1

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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:	102kPa




2. GENERAL INFORMATION

2.1. Client Information

Applicant:	XonTel Technology Trd. Co. W.L.L
Address:	Office 21 - Justice Tower - Ali Al Salem St. - Qibla - Kuwait City - State Of Kuwait
Manufacturer:	XonTel Technology Trd. Co. W.L.L
Address:	Office 21 - Justice Tower - Ali Al Salem St. - Qibla - Kuwait City - State Of Kuwait

2.2. General Description of EUT

Product Name:	Prime Business Phone
Trade Mark:	
Model/Type reference:	XT-24G
Listed Model(s):	/
Power supply:	5Vdc/2A from AC/DC Adapter 48Vdc/0.3A from POE
Adapter 1 Model:	F12W8-050200SPAV Input: 100-240V~ 50/60Hz 0.6A Output: 5Vdc/2A
Adapter 2 Model:	F12W8-050200SPAB Input: 100-240V~ 50/60Hz 0.6A Output: 5Vdc/2A
Adapter 3 Model:	F12W8-050200SPAS Input: 100-240V~ 50/60Hz 0.6A Output: 5Vdc/2A
Adapter Difference:	All these models are identical in the same PCB, Layout and electrical circuit, The only difference is plugs.
Hardware version:	V1.0
Software version:	T0.0.9.5.1



Bluetooth 5.0				
Modulation:	GFSK(BLE), $\pi/4$ -DQPSK, 8-DPSK			
Operation frequency:	2402MHz~2480MHz			
WIFI				
Supported type:	<input checked="" type="checkbox"/> 802.11b	<input checked="" type="checkbox"/> 802.11g	<input checked="" type="checkbox"/> 802.11n(HT20)	<input checked="" type="checkbox"/> 802.11n(HT40)
Modulation:	DSSS for 802.11b OFDM for 802.11g/802.11n(HT20)/802.11n(HT40)			
Operation frequency:	2412MHz~2472MHz for 802.11b/802.11g/802.11n(HT20) 2422MHz~2462MHz for 802.11n(HT40)			
RLAN				
Support Type:	<input checked="" type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n	<input checked="" type="checkbox"/> 802.11ac	
Support Bandwidth:	802.11a	<input checked="" type="checkbox"/> 20MHz		
	802.11n	<input checked="" type="checkbox"/> 20MHz	<input checked="" type="checkbox"/> 40MHz	
	802.11ac	<input checked="" type="checkbox"/> 20MHz	<input checked="" type="checkbox"/> 40MHz	<input checked="" type="checkbox"/> 80MHz <input type="checkbox"/> 160MHz
Operation Frequency:	<input checked="" type="checkbox"/> U-NII-1: 5150-5250MHz <input type="checkbox"/> U-NII-2A: 5250-5350MHz <input type="checkbox"/> U-NII-2C: 5470-5725MHz <input checked="" type="checkbox"/> U-NII-3: 5725-5850MHz			

2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
IP Phone	X7	JGB28B000005	/
POE Supply	H3C S1208-PWR	219801A0SYM17B0000LS	H3C
Router	FAST 5280	253703944	Sagemcom
Headset	HT202	JCF0900738	/
Notebook	ThinkBook 14G3 ACL	MP246QDR	Lenovo
Notebook	T460s	---	Lenovo
Cable Information			
Name	Shielded Type	Ferrite Core	Length
Lan Cable	Without	Without	1M

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2.4. Description of Test Modes

Test mode	Ping Lan + Communicate by hands free	Ping Lan + Communicate by telephone receiver	Ping Lan + Communicate by Headset	WIFI	BT	USB	AC/DC Adapter	POE Supply
1	■						■	
2		■					■	
3			■				■	
4				■			■	
5					■		■	
6						■	■	
7	■							■
8		■						■
9			■					■

Note:

- 1) #1: Contains these all support type in section 2.2
- 2) Operation channel as follows:
 - WIFI shall be setting the middle channel for 802.11b/802.11g/802.11n/802.11a/802.11ac

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	T1
Conducted Emission(AC Mains)	T1
Conducted Emission(Signal Mains)	T1
Harmonic Current Emissions	N/A
Voltage Fluctuations and Flicker	T1
Radio Frequency Electromagnetic Field	All
Electrostatic Discharge	All
Electrical Fast Transient / Burst	All
Injected Current	All
Voltage Dips and Interruptions	T1
Surges	All

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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, 2022
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	Nov. 09, 2022
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

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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

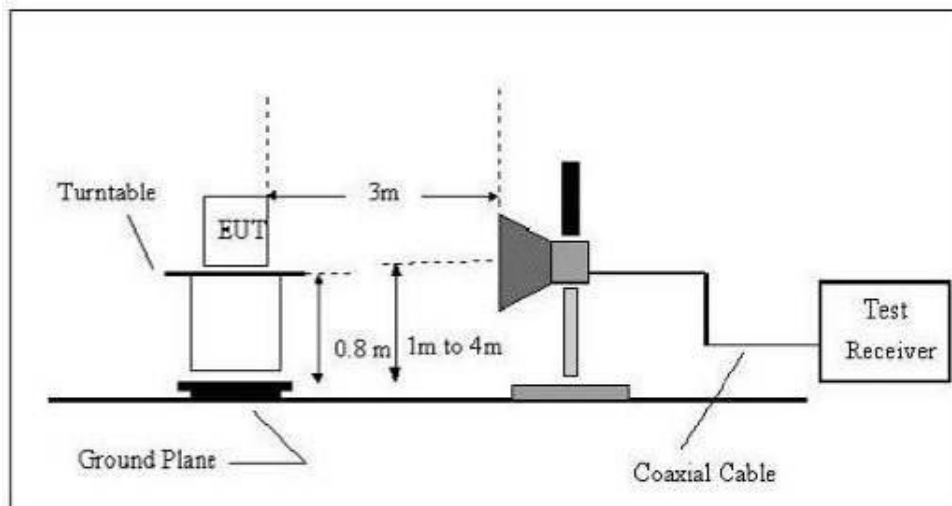
Please refer to ETSI EN301489-1 Clause 8.2.3, Table 4 and CENELEC EN 55032 Annex A Table A.4 & A.5

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

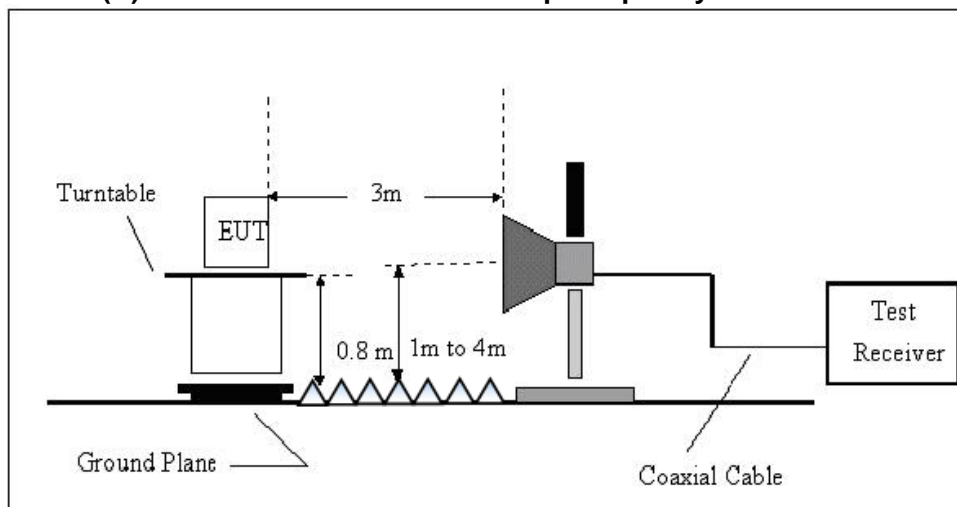
Frequency range (GHz)	Average limits dB μ V/m@3m	Peak limits dB μ V/m@3m
1 ~ 6	54	74

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 ETSI EN 301 489-1 Clause 8.2.3 and CENELEC EN 55032 Clause 6.3 for the measurement methods

TEST MODE

Please refer to the Clause 2.4

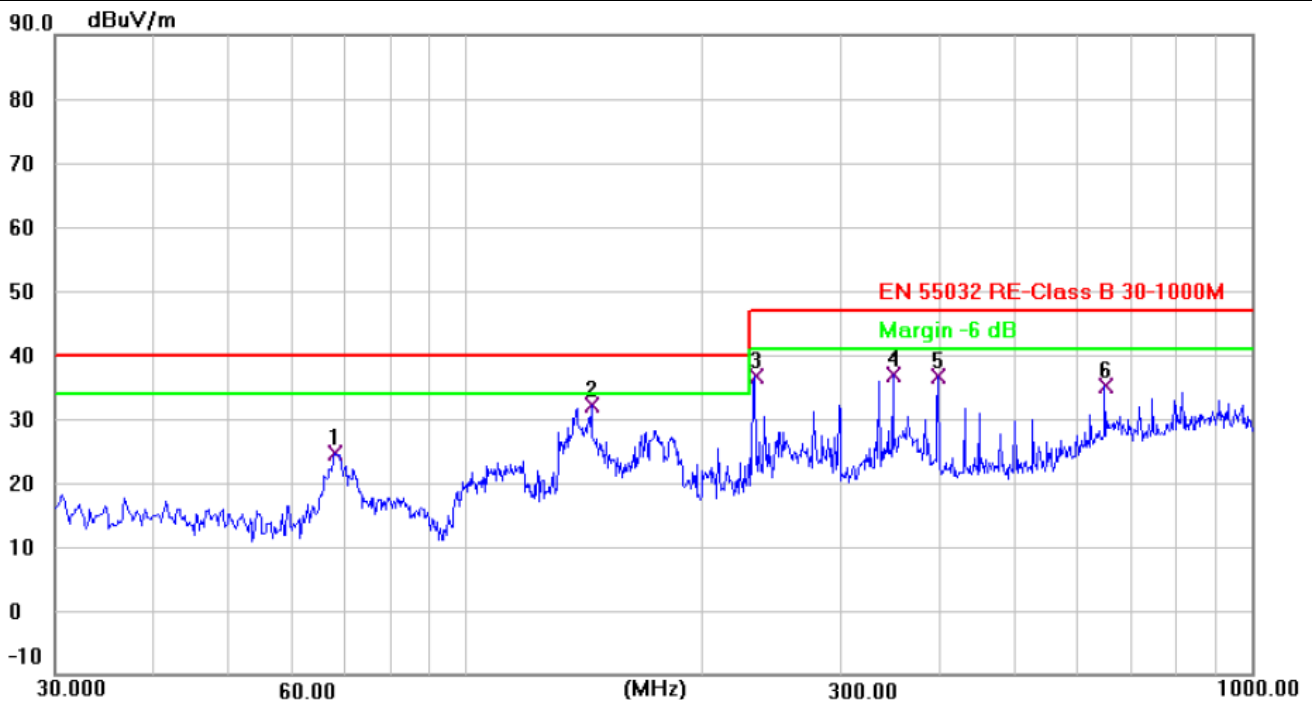
TEST RESULTS





(1) 30MHz-1000MHz

Test Mode	1
Polarization	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	68.1533	42.58	-18.01	24.57	40.00	-15.43	QP
2 *	144.7833	52.01	-19.80	32.21	40.00	-7.79	QP
3	233.3767	51.76	-15.11	36.65	47.00	-10.35	QP
4	350.1000	49.28	-12.30	36.98	47.00	-10.02	QP
5	399.8933	47.70	-11.06	36.64	47.00	-10.36	QP
6	650.1533	41.29	-6.11	35.18	47.00	-11.82	QP

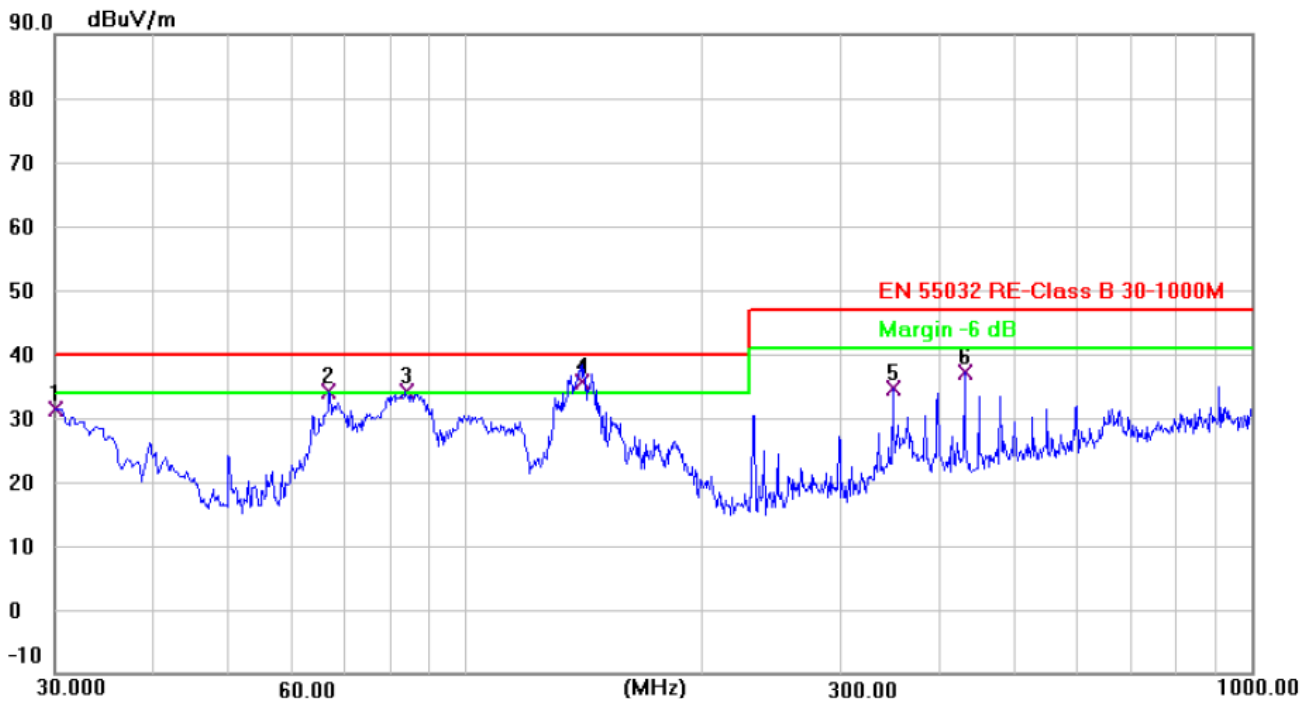
Remark:

- Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- Margin value = Level -Limit value





Test Mode	1
Polarization	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.0000	47.41	-16.01	31.40	40.00	-8.60	QP
2 !	67.1833	51.91	-17.76	34.15	40.00	-5.85	QP
3 !	83.9967	53.46	-19.43	34.03	40.00	-5.97	QP
4 *	140.9033	55.60	-19.96	35.64	40.00	-4.36	QP
5	350.1000	46.87	-12.30	34.57	47.00	-12.43	QP
6	431.9033	47.50	-10.46	37.04	47.00	-9.96	QP

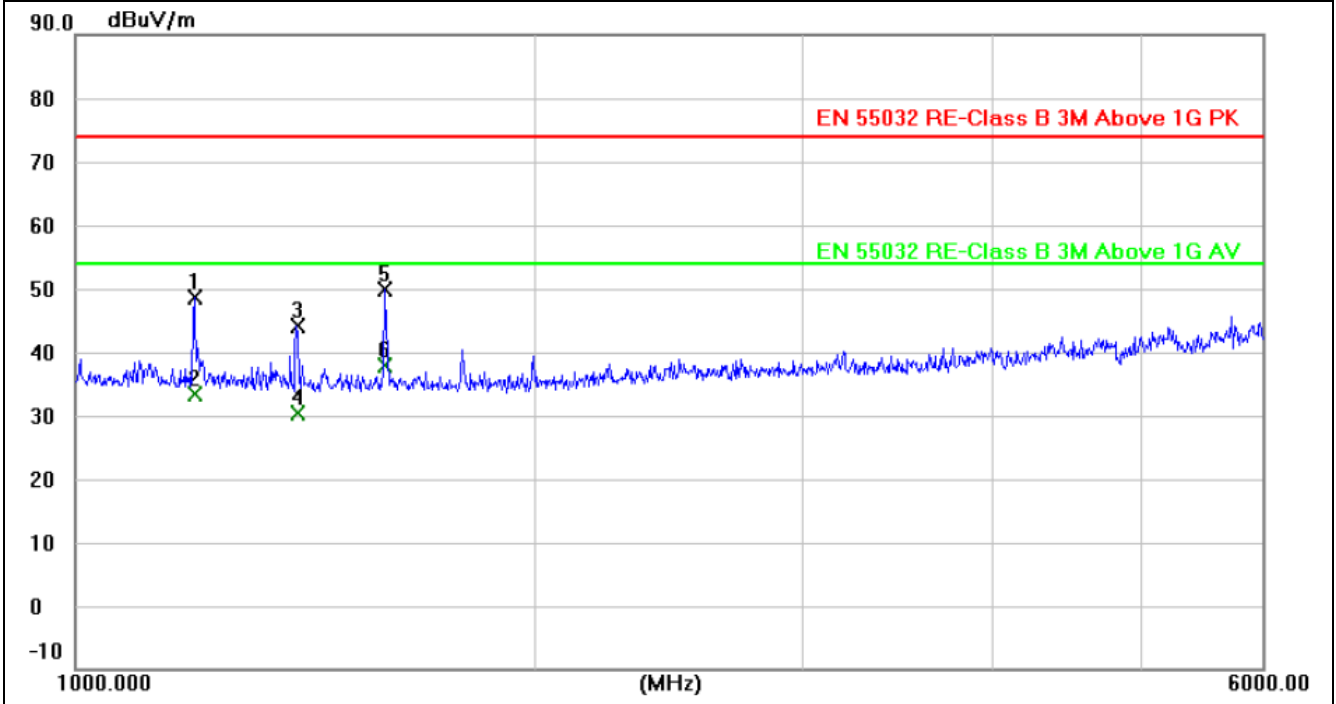
Remark:
 1. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
 2. Margin value = Level -Limit value





(2) Above 1000MHz

Test Mode	1
Polarization	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1198.333	56.35	-7.82	48.53	74.00	-25.47	peak
2	1198.333	41.30	-7.82	33.48	54.00	-20.52	AVG
3	1396.667	50.99	-6.87	44.12	74.00	-29.88	peak
4	1396.667	37.35	-6.87	30.48	54.00	-23.52	AVG
5	1595.000	56.67	-6.84	49.83	74.00	-24.17	peak
6 *	1595.000	44.79	-6.84	37.95	54.00	-16.05	AVG

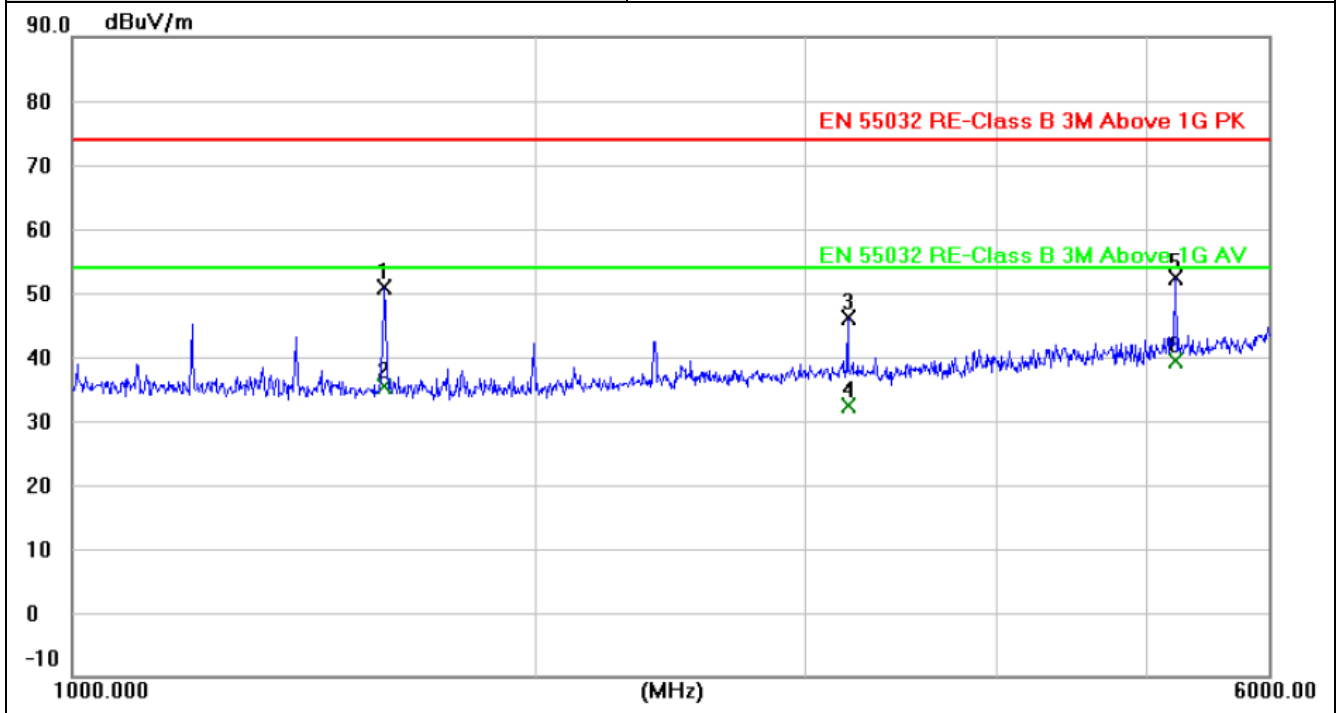
Remark:

- 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



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1598.333	57.72	-6.83	50.89	74.00	-23.11	peak
2	1598.333	42.31	-6.83	35.48	54.00	-18.52	AVG
3	3196.667	48.04	-1.81	46.23	74.00	-27.77	peak
4	3196.667	34.29	-1.81	32.48	54.00	-21.52	AVG
5	5218.333	49.30	3.09	52.39	74.00	-21.61	peak
6 *	5218.333	36.37	3.09	39.46	54.00	-14.54	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)

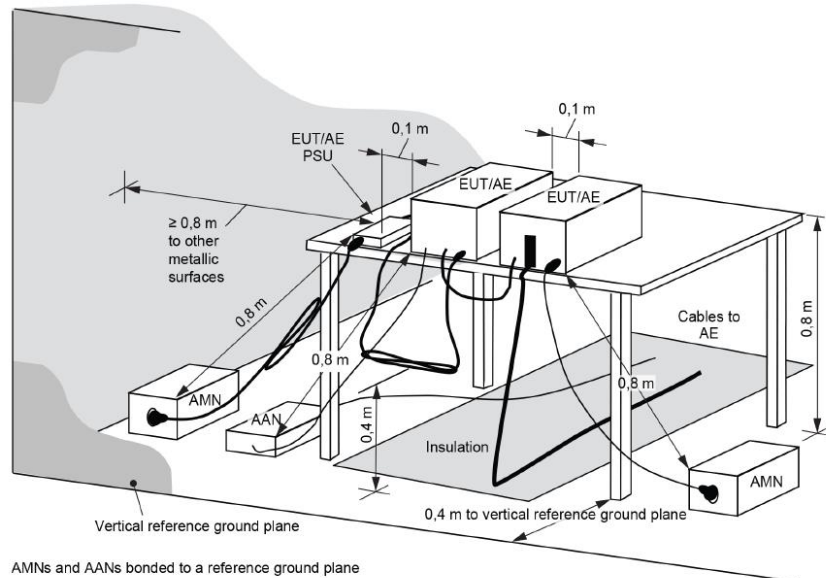
LIMIT

Please refer to ETSI EN301489-1 Clause 8.4.3.2 and 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



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.4.3 and CENELEC EN 55032 Annex A3 Table A.8

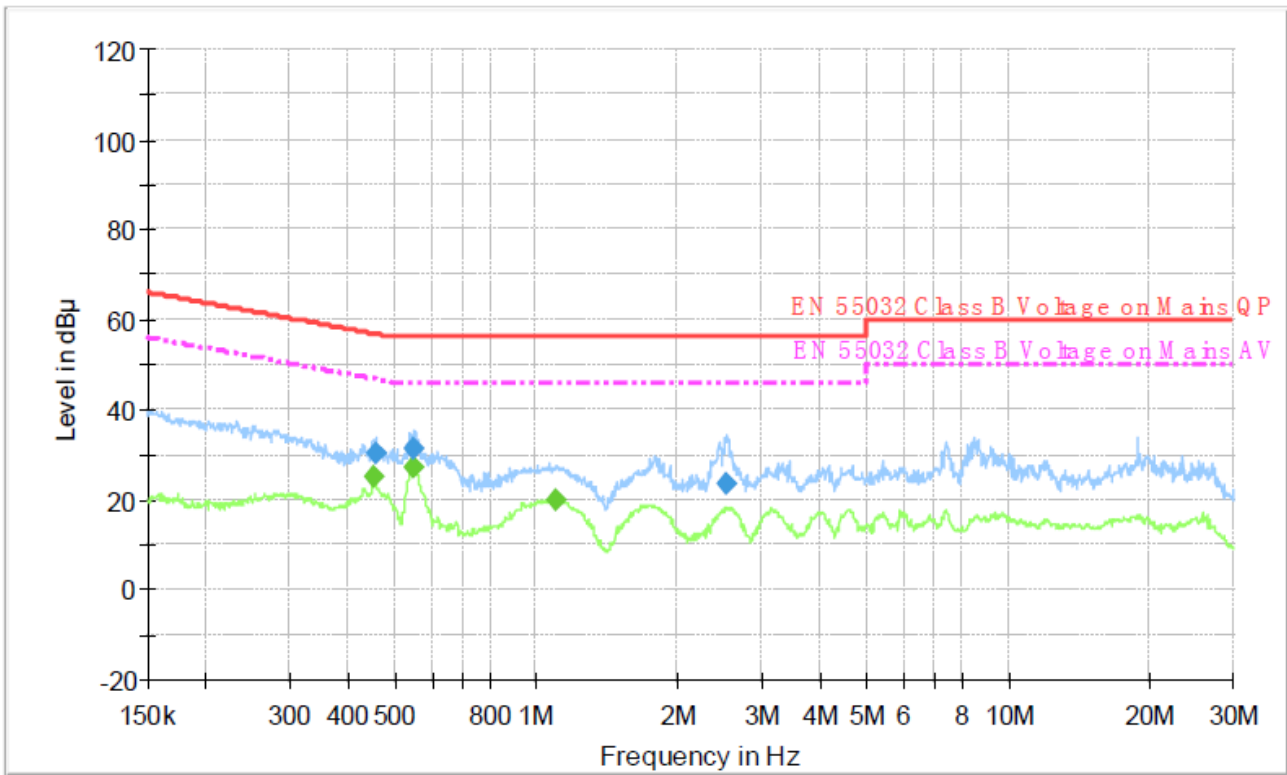
TEST MODE

Please refer to the Clause 2.4

TEST RESULTS



Test Mode	1
Polarization	L



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.458700	30.0	1000.00	9.000	On	L1	9.7	26.7	56.7	
0.551170	31.2	1000.00	9.000	On	L1	9.7	24.8	56.0	
2.532560	23.3	1000.00	9.000	On	L1	9.7	32.7	56.0	

Final Measurement Detector 2

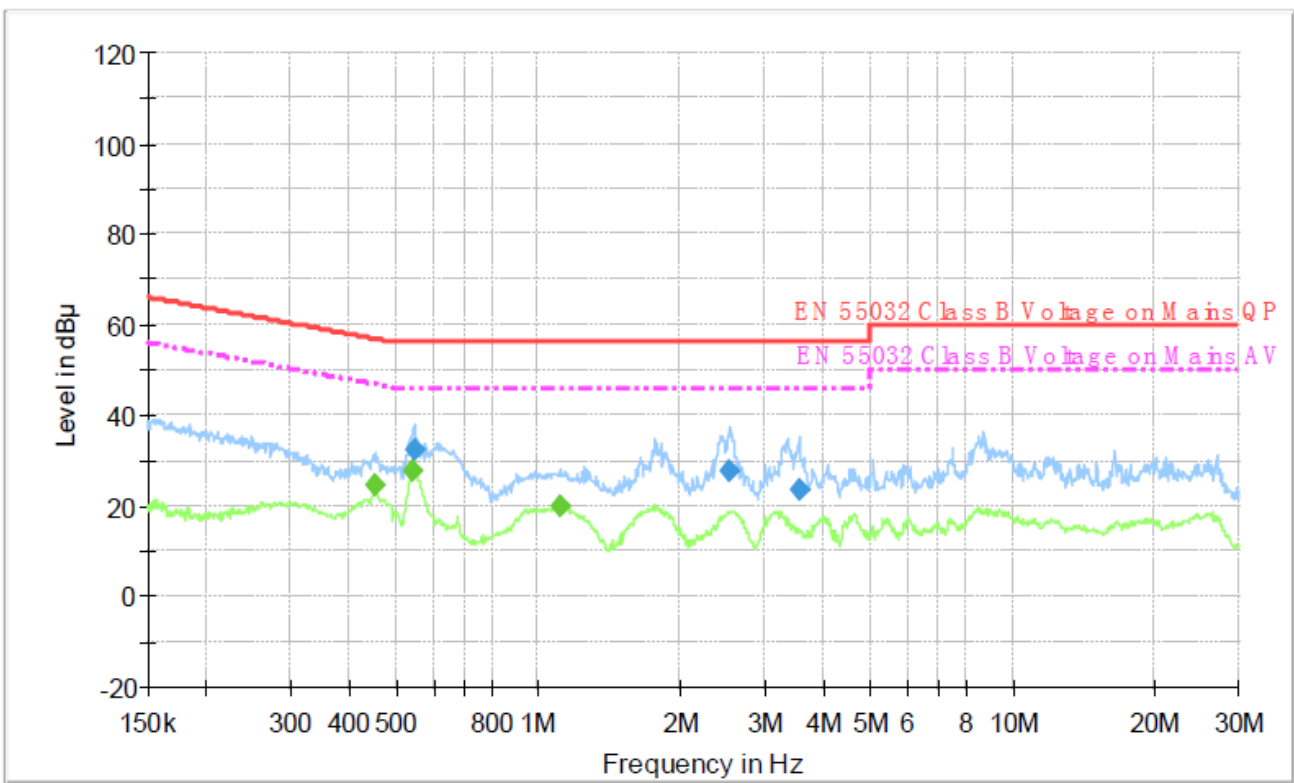
Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.455050	24.9	1000.00	9.000	On	L1	9.7	21.9	46.8	
0.546780	27.2	1000.00	9.000	On	L1	9.7	18.8	46.0	
1.103950	19.7	1000.00	9.000	On	L1	9.7	26.3	46.0	

Emission Level= Read Level+ Correct Factor





Test Mode	1
Polarization	N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.546780	32.2	1000.00	9.000	On	N	10.0	23.8	56.0	
2.542690	27.6	1000.00	9.000	On	N	10.0	28.4	56.0	
3.555710	23.4	1000.00	9.000	On	N	10.0	32.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.453240	24.6	1000.00	9.000	On	N	10.0	22.2	46.8	
0.544600	27.9	1000.00	9.000	On	N	10.0	18.1	46.0	
1.108360	20.0	1000.00	9.000	On	N	10.0	26.0	46.0	

Emission Level= Read Level+ Correct Factor



3.3. Conducted Emission (Signal Mains)

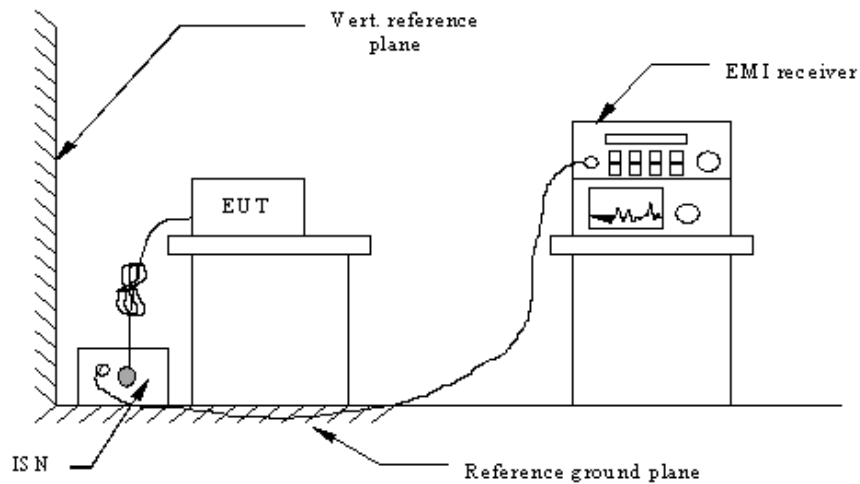
LIMIT

Please refer to ETSI EN301489-1 Clause 8.4.3.2 and 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

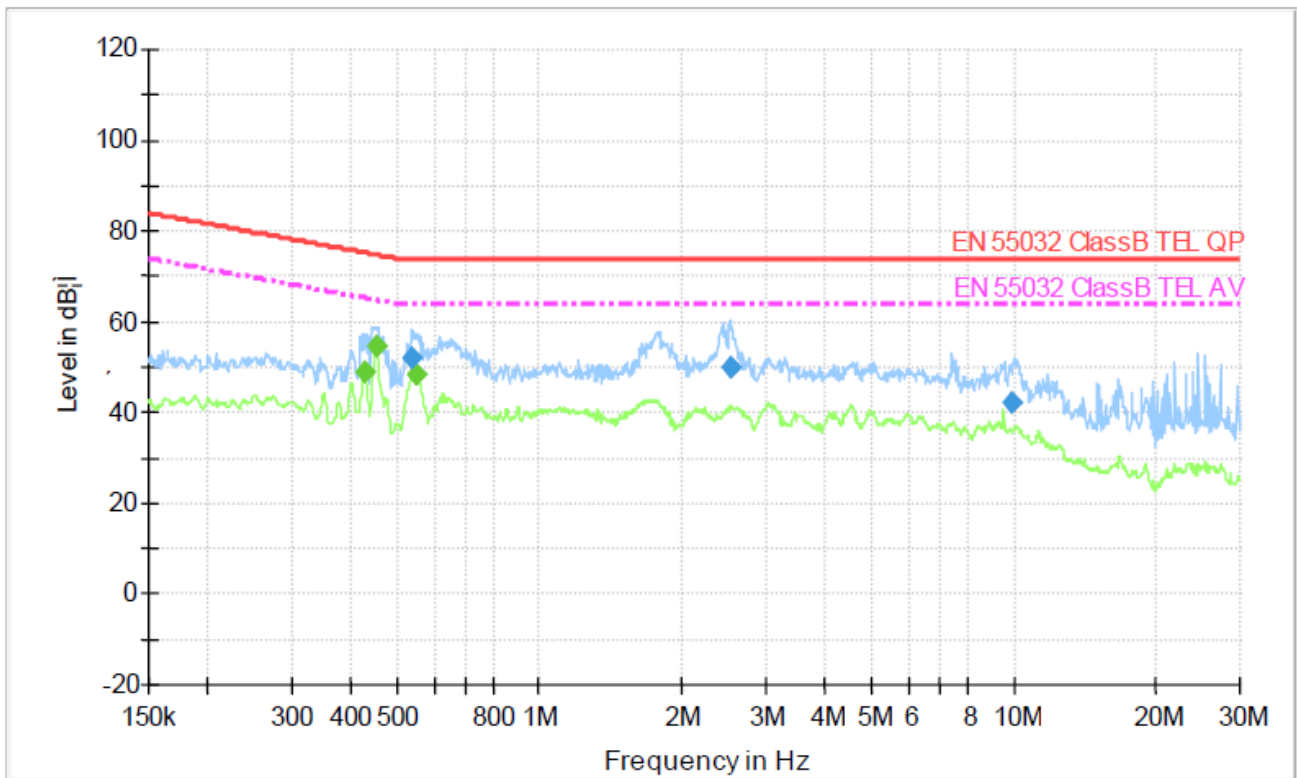
TEST MODE

Please refer to the Clause 2.4

TEST RESULTS



Test Mode	1
Polarization	Lan



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.540270	52.2	1000.00	9.000	On	L1	9.7	21.8	74.0	
2.522470	50.0	1000.00	9.000	On	L1	9.7	24.0	74.0	
9.531320	42.5	1000.00	9.000	On	L1	9.8	31.5	74.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.428610	48.8	1000.00	9.000	On	L1	9.7	16.5	65.3	
0.451440	54.7	1000.00	9.000	On	L1	9.7	10.1	64.8	
0.551170	48.5	1000.00	9.000	On	L1	9.7	15.5	64.0	

Emission Level= Read Level+ Correct Factor





3.4. Harmonic Current Emission

LIMIT

EN IEC 61000-3-2 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

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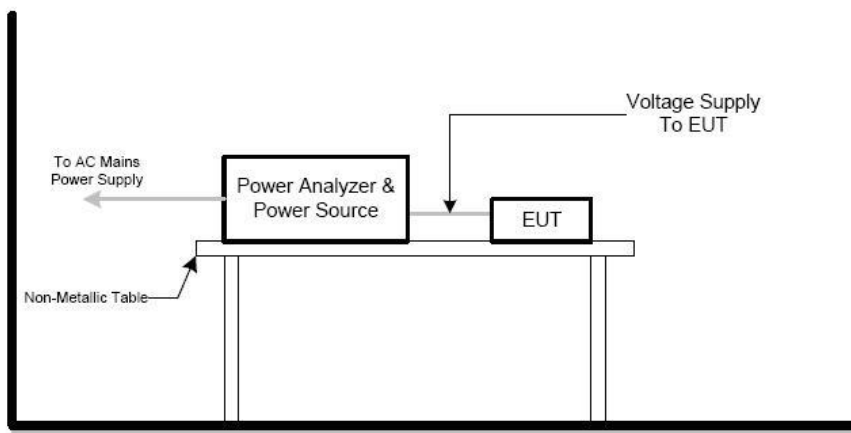


fundamental supply voltage. The current threshold is 5 % of the highest absolute peak value that occurs in the measurement window, and the phase angle measurements are made on the cycle that includes this absolute peak value

➤ **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 ≤ n ≤ 39 (odd harmonics only)	$\frac{3,85}{n}$	See Table 1

TEST CONFIGURATION



TEST PROCEDURE

Please refer to EN IEC 61000-3-2 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.



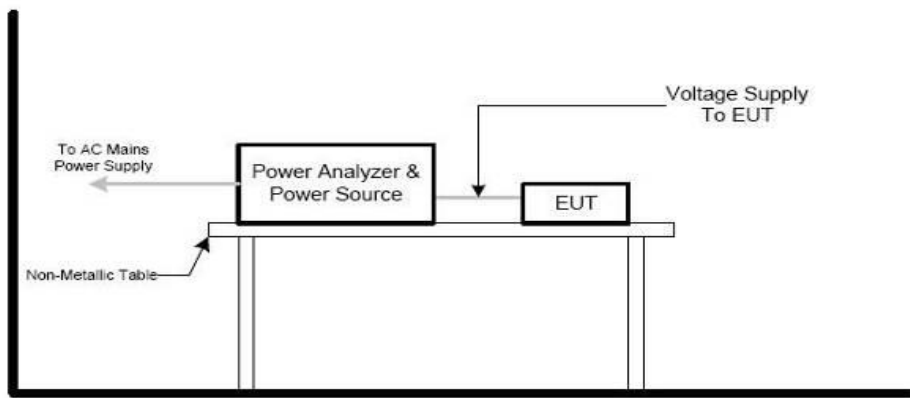
3.5. Voltage Fluctuation and Flicker

LIMIT

Please refer to EN 61000-3-3

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

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please refer to the Clause 2.4





TEST RESULTS

Test Mode		1		
Voltech IEC61000-3 Windows Software 1.27.13		Test Date: 16 Feb 2022 09:08		
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	0.318	0.000	1.587	0





4. EMC IMMUNITY TEST

4.1. Performance criteria

– **EN 55035/ EN55024:**

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.

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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. 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 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.

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 NotACKnowledgement (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 5000 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 000ms 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. Electrostatic Discharge

PERFORMANCE CRITERION

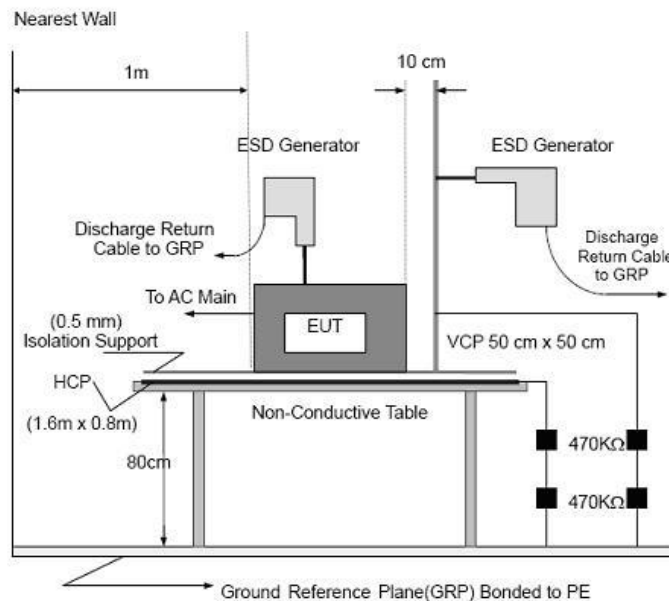
Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria B

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 ETSI EN 301 489-1 Clause 9.3.2 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 refer to the Clause 2.4

TEST RESULTS

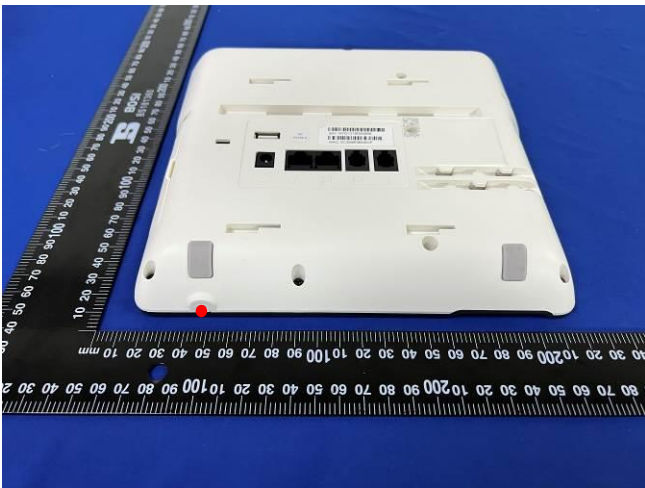
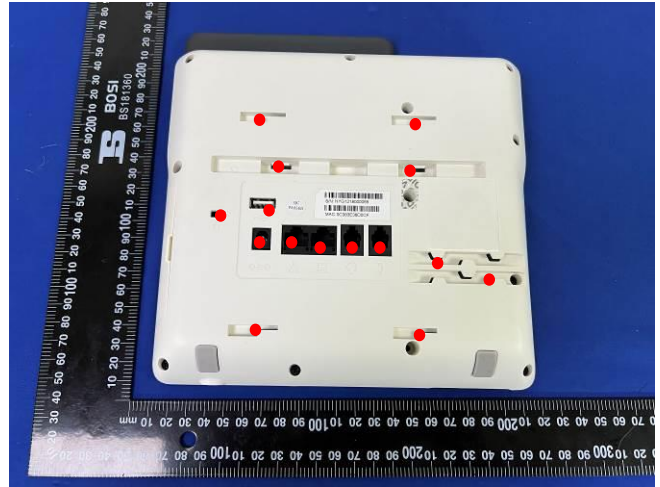
Test mode		All			
Temperature	25°C	Humidity	49%	Atmospheric pressure	101KPa
Test Points	Test Voltage	Kind	Times	Results	Test Result
HCP	<input type="checkbox"/> ±2 kV ; <input checked="" type="checkbox"/> ±4 kV <input type="checkbox"/> ±6 kV ; <input type="checkbox"/> ±8 kV <input type="checkbox"/> ±10 kV ; <input type="checkbox"/> ±15 kV	<input type="checkbox"/> Air <input checked="" type="checkbox"/> Contact	<input checked="" type="checkbox"/> ±10 <input type="checkbox"/> ±25	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
VCP	<input type="checkbox"/> ±2 kV ; <input checked="" type="checkbox"/> ±4 kV <input type="checkbox"/> ±6 kV ; <input type="checkbox"/> ±8 kV <input type="checkbox"/> ±10 kV ; <input type="checkbox"/> ±15 kV	<input type="checkbox"/> Air <input checked="" type="checkbox"/> Contact	<input checked="" type="checkbox"/> ±10 <input type="checkbox"/> ±25	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Contact Discharge	<input type="checkbox"/> ±2 kV ; <input type="checkbox"/> ±4 kV <input type="checkbox"/> ±6 kV ; <input type="checkbox"/> ±8 kV <input type="checkbox"/> ±10 kV ; <input type="checkbox"/> ±15 kV	<input type="checkbox"/> Air <input checked="" type="checkbox"/> Contact	<input checked="" type="checkbox"/> ±10 <input type="checkbox"/> ±25	/	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Air Discharge	<input type="checkbox"/> ±2 kV ; <input type="checkbox"/> ±4 kV <input type="checkbox"/> ±6 kV ; <input checked="" type="checkbox"/> ±8 kV <input type="checkbox"/> ±10 kV ; <input type="checkbox"/> ±15 kV	<input checked="" type="checkbox"/> Air <input type="checkbox"/> Contact	<input checked="" type="checkbox"/> ±10 <input type="checkbox"/> ±25	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
* Comment: <input checked="" type="checkbox"/> No degradation was found <input type="checkbox"/> 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



4.3. Radio Frequency Electromagnetic Field

PERFORMANCE CRITERION

Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria A

TEST LEVEL

Test frequency range: 80MHz~6000MHz

Level: 3V/m (Un-modulation)

Modulation type: Amplitude Modulation, 80% depth

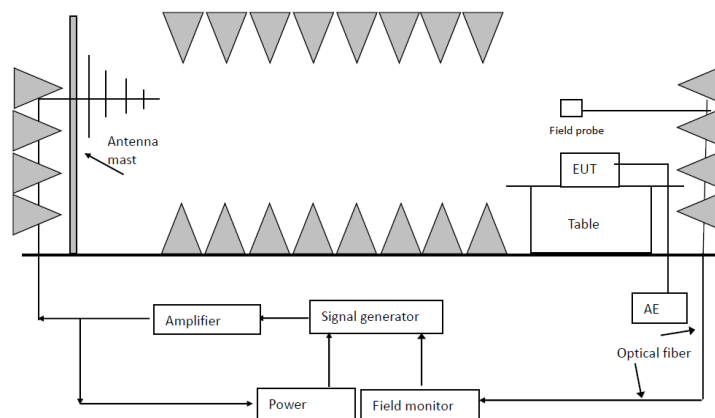
Modulated signal: 1KHz sinusoidal audio signal, 400Hz sinusoidal audio signal for audio breakthrough

Frequency increment step: 1%

Dwell time: 3 seconds

A spot frequency test shall be performed at 920 MHz \pm 1 MHz using a test level of 3 V/m (measured Un-modulated) 100 % modulated by 200 Hz pulses of equal mark to space ratio.

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 refer to the Clause 2.4



TEST RESULTS

Test mode		All			
Temperature	24°C	Humidity	50%	Atmospheric pressure	101kPa
EUT Position	Frequency range: 80-6000 MHz 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz Level: <input checked="" type="checkbox"/> 3V/m <input type="checkbox"/> 10V/m			Test Result	
	Horizontal		Vertical		
Front	A	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		
Right	A	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		
Back	A	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		
Left	A	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		
*Comment: <input checked="" type="checkbox"/> No degradation was found <input type="checkbox"/> Phenomenon Description					



4.4. Fast Transients Common Mode

PERFORMANCE CRITERION

Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria B

TEST LEVEL

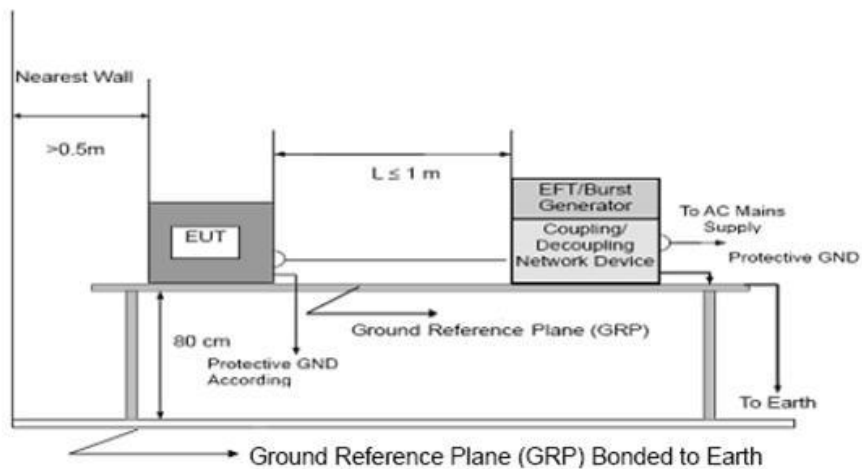
Level: 1kV for AC port, 0.5kV for signal port

Impulse Frequency: 5 kHz;

Tr/Td: 5/50ns;

Burst Duration: 15ms; Burst Period: 300ms

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please refer to the Clause 2.4

**TEST RESULTS**

Test mode		All			
Temperature	24°C	Humidity	50%	Atmospheric pressure	101KPa
Test Ports		Test Voltage	Duration time	Result	Test Result
AC power port		<input type="checkbox"/> ±0.5KV <input checked="" type="checkbox"/> ±1KV <input type="checkbox"/> ±2KV	<input checked="" type="checkbox"/> 120s <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Signal port		<input checked="" type="checkbox"/> ±0.5KV <input type="checkbox"/> ±1KV <input type="checkbox"/> ±2KV	<input checked="" type="checkbox"/> 120s <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
* Comment:					
<input checked="" type="checkbox"/> No degradation was found <input type="checkbox"/> Phenomenon Description					

4.5. Surge

PERFORMANCE CRITERION

Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria B

TEST LEVEL

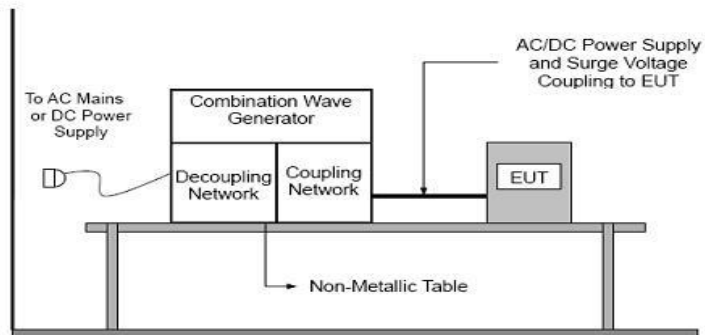
Level: 1kV for line to line, 2kV for line to ground, 1kV for signal line

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

TEST MODE

Please refer to the Clause 2.4





TEST RESULTS

Test mode		All							
Temperature		24°C	Humidity		48%	Atmospheric pressure		101KPa	
Test Ports		Test Voltage	Resistor	Surge Wave	Times	Phase	Interval time	Phenomenon	Test Result
AC Power port	L-N	<input checked="" type="checkbox"/> ±1 KV <input type="checkbox"/> ±2 KV <input type="checkbox"/> ±4 KV <input type="checkbox"/> ± KV	<input checked="" type="checkbox"/> 2Ω <input type="checkbox"/> 12Ω <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.2/50us <input type="checkbox"/> 10/700us <input type="checkbox"/>	<input checked="" type="checkbox"/> ±5 <input type="checkbox"/>	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 180° <input checked="" type="checkbox"/> 270°	<input checked="" type="checkbox"/> 60s <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Signal port	Lines-PE	<input type="checkbox"/> ±0.5 KV <input checked="" type="checkbox"/> ±1 KV <input type="checkbox"/> ±2 KV <input type="checkbox"/>	<input checked="" type="checkbox"/> 200/8+15Ω <input type="checkbox"/>	<input type="checkbox"/> 1.2/50us <input checked="" type="checkbox"/> 10/700us <input type="checkbox"/>	<input checked="" type="checkbox"/> ±5 <input type="checkbox"/>	/	<input checked="" type="checkbox"/> 60s <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

* Comment:
 No degradation was found
 Phenomenon Description



4.6. Radio frequency common mode

PERFORMANCE CRITERION

Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria A

TEST LEVEL

Test frequency range: 150 kHz~80MHz

Level: 3Vrms

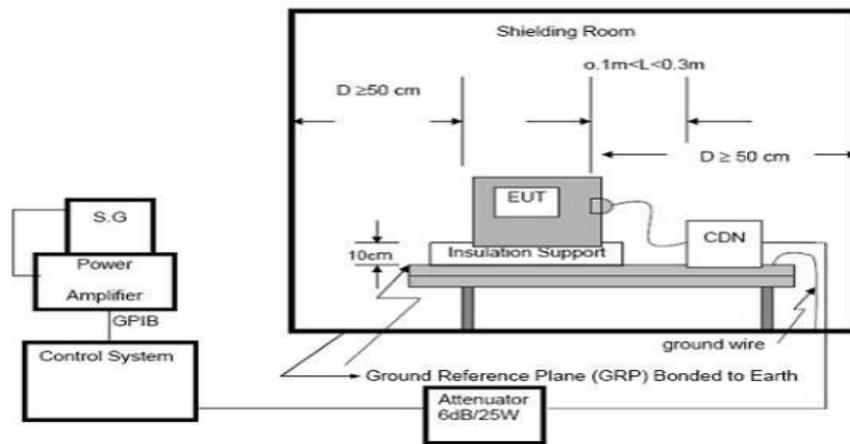
Modulation type: Amplitude Modulation, 80% depth

Modulated signal: 1 KHz sinusoidal audio signal, 400Hz sinusoidal audio signal for audio breakthrough

Frequency increment step: 1%

Dwell time: 3 seconds

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 refer to the Clause 2.4

**TEST RESULTS**

Test mode		All			
Temperature	24°C	Humidity	48%	Atmospheric pressure	101KPa
Test Ports		Frequency range	Test level (Vrms)	Phenomenon	Test Result
AC power port		<input checked="" type="checkbox"/> 0.15MHz~80MHz <input type="checkbox"/> 0.15MHz~230MHz	<input type="checkbox"/> 1V <input checked="" type="checkbox"/> 3V <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
		<input checked="" type="checkbox"/> 0.15MHz~10MHz <input type="checkbox"/> 10MHz~30MHz <input type="checkbox"/> 30MHz~80MHz	<input type="checkbox"/> 1V <input checked="" type="checkbox"/> 3V <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
		<input type="checkbox"/> 0.15MHz~10MHz <input checked="" type="checkbox"/> 10MHz~30MHz <input type="checkbox"/> 30MHz~80MHz	<input type="checkbox"/> 1V <input type="checkbox"/> 3V <input checked="" type="checkbox"/> 3V-1V	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
		<input type="checkbox"/> 0.15MHz~10MHz <input type="checkbox"/> 10MHz~30MHz <input checked="" type="checkbox"/> 30MHz~80MHz	<input checked="" type="checkbox"/> 1V <input type="checkbox"/> 3V <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Signal port		<input checked="" type="checkbox"/> 0.15MHz~80MHz <input type="checkbox"/> 0.15MHz~230MHz	<input type="checkbox"/> 1V <input checked="" type="checkbox"/> 3V <input type="checkbox"/>	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
*Comment: <input checked="" type="checkbox"/> No degradation was found <input type="checkbox"/> Phenomenon Description					





4.7. Voltage dips and interruptions

PERFORMANCE CRITERION

Standard	Criterion
EN 55035/ EN55024 /ETSI EN301489-17	Criteria B for voltage dip Criteria C for voltage interruption

TEST LEVEL

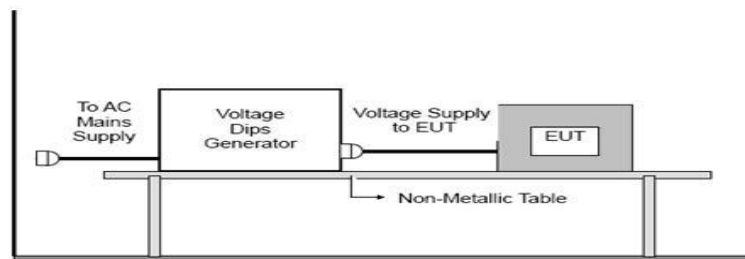
0% of VT (Supply Voltage) for 0.5 period

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

TEST MODE

Please refer to the Clause 2.4

TEST RESULTS

Test mode		T1				
Temperature	24°C	Humidity	48%	Atmospheric pressure		101KPa
Voltage Reduction		Cycle	Duration	Perform Criteria	Results	Test Result
Voltage dips	Reduction <u>30</u> %	25	0.5	B	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Reduction <u>100</u> %	0.5	0.01	B	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Reduction <u>100</u> %	1	0.02	B	A	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Voltage interruption	Reduction <u>100</u> %	250	5	C	C ⁽¹⁾	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
* Comment:						
<input type="checkbox"/> No degradation was found						
<input checked="" type="checkbox"/> 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)



Harmonic Current Emission/ Voltage Fluctuations & Flicker



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



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