TEST REPORT
ETSI EN 301 489-1 V2.2.3 (2019-11)
ETSI EN 301 489-17 V3.2.4 (2020-09)
EN 55032:2015+AC:2016+A1:2020+A11:2020
EN 55035:2017+A11:2020
EN IEC 61000-3-2:2019/A1:2021
EN 61000-3-3:2013/A2:2021/AC:2022

Report Reference No.....:	**LTT20240516E001**
Compiled by (position+printed name+signature)..:	File administrators Kevin Liu
Supervised by (position+printed name+signature)..:	Project Engineer Kevin Liu
Approved by (position+printed name+signature)..:	RF Manager Eric Wang
Date of issue.....:	May. 16, 2024

Testing Laboratory Name .....:	
Address.....:	

Applicant's name.....:	**Shenzhen LTT Testing Technology Co., Ltd.**
Address.....:	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

Test specification ..... **:**	
Standard .....:	**ETSI EN 301 489-1 V2.2.3 (2019-11)** **ETSI EN 301 489-17 V3.2.4 (2020-09)** **EN 55032:2015+AC:2016+A1:2020+A11:2020** **EN 55035:2017+A11:2020** **EN IEC 61000-3-2:2019/A1:2021** **EN 61000-3-3:2013/A2:2021/AC:2022**

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Test item description .....:	**Portable label printer**
Trade Mark .....:	N/A
Manufacturer .....:	GAINSCHA AUTO ID CO., LTD.
Model/Type reference.....:	B300
List Model .....:	Refer to page 2
Ratings.....:	Model: ZL-U010WL0502000 Input: AC 100-240V 50/60Hz 0.5A Output: DC 5V 2A
Result.....:	**PASS**

TEST REPORT

Equipment under Test	:	Portable label printer
Model /Type	:	B300
Listed Models	:	B300、B200、B210、B220、B230、B240、B250、B260、B270、B280、B290、B310、B320、B330、B340、B350、B360、B370、B380、B390、K200、K210、K220、K230、K240、K250、K260、K270、K280、K290、K300、K310、K320、K330、K340、K350、K360、K370、K380、K390、PT-200、PT-210、PT-220、PT-230、PT-240、PT-250、PT-260、PT-270、PT-280、PT-290、PT-300、PT-310、PT-320、PT-330、PT-340、PT-350、PT-360、PT-370、PT-380、PT-390、ZH-200、ZH-210、ZH-220、ZH-230、ZH-240、ZH-250、ZH-260、ZH-270、ZH-280、ZH-290、ZH-300、ZH-310、ZH-320、ZH-330、ZH-340、ZH-350、ZH-360、ZH-370、ZH-380、ZH-390、GA-M200、GA-M210、GA-M220、GA-M230、GA-M240、GA-M250、GA-M260、GA-M270、GA-M280、GA-M290、GA-M300、GA-M310、GA-M320、GA-M330、GA-M340、GA-M350、GA-M360、GA-M370、GA-M380、GA-M390、GP-M200、GP-M210、GP-M220、GP-M230、GP-M240、GP-M250、GP-M260、GP-M270、GP-M280、GP-M290、GP-M300、GP-M310、GP-M320、GP-M330、GP-M340、GP-M350、GP-M360、GP-M370、GP-M380、GP-M390
Applicant	:	GAINSCHA AUTO ID CO., LTD.
Address	:	Zone G, 2nd floor, Workshop No. 1, No. 15 Pingbei 2nd Road, Xiangzhou District, Zhuhai, 519060, Guangdong, China
Manufacturer	:	GAINSCHA AUTO ID CO., LTD.
Address	:	Zone G, 2nd floor, Workshop No. 1, No. 15 Pingbei 2nd Road, Xiangzhou District, Zhuhai, 519060, Guangdong, China

Test Result	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following 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 forBroadban Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility
EN 55032:2015+AC:2016+A1:2020+A11:2020- Electromagnetic compatibility of multimedia equipment - Emission Requirements
EN 55035:2017+A11:2020- Electromagnetic compatibility of multimedia equipment - Immunity requirements
EN IEC 61000-3-2:2019/A1:2021-Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)
EN 61000-3-3:2013/A2:2021/AC:2022- Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	May. 04, 2024
Testing commenced on	:	May. 04, 2024
Testing concluded on	:	May. 16, 2024

2.2. Product Description

Product Name:	Portable label printer
Trade Mark:	N/A
Model/Type reference:	B300
List Model:	N/A
Power supply:	Model: ZL-U010WL0502000 Input: AC 100-240V 50/60Hz 0.5A Output: DC 5V 2A
Hardware Version:	V1.0
Software Version:	V1.0
BLE	
Operation frequency	2402MHz-2480MHz
Modulation Type	GFSK,
Channel separation:	2MHz
Channel number:	40

2.3. EUT operation mode

Test mode	BT	SD Playing	Adapter
1		■	■
2	■		■

Note:
1. ■ is operation mode.
2. Pre-scan above all test mode, found below test mode which it was worse case mode.

Test item	Test mode (Worse case mode)
Conducted emission（AC Mains）	Mode 1
Radiated emission	Mode 1
EMS	All Modes

2.4. EUT configuration

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

● - supplied by the manufacturer
○ - supplied by the lab

●	USB Cable	Length	<1.2m

2.5. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen LTT Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen LTT Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen LTT Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2

3.3. Environmental conditions

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

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

3.4. Test Description

Emission Measurement		
Radiated Emission	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55032:2015+AC:2016+A1:2020+A11:2020	PASS
Conducted Emission	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55032:2015+AC:2016+A1:2020+A11:2020	PASS
Harmonic Current Emissions	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN IEC 61000-3-2:2019	PASS
Voltage Fluctuations and Flicker	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 61000-3-3:2013+A1:2019	PASS
Immunity Measurement		
Electrostatic Discharge	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS
RF Electromagnetic Field	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS
Fast Transients Common Mode	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS
RF Common Mode 0,15 MHz to 80 MHz	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS

Voltage Dips and Interruptions	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS
Surges	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09) EN 55035:2017+A11:2020	PASS

Remark:1. N/A means “not applicable”.
2.The measurement uncertainty is not included in the test result.

3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to 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 Shenzhen LTT Testing Technology Co., Ltd. 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.

Hereafter the best measurement capability for Shenzhen LTT Testing Technology Co., Ltd. is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.24 dB	(1)
Radiated Emission	1~18GHz	5.16 dB	(1)
Conducted Disturbance	0.15~30MHz	3.39 dB	(1)

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

3.6. Equipments Used during the Test

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	EMI Test Receiver	R&S	ESPI	CTA-307	2023/08/03	2024/08/02
2	Artificial Mains	R&S	ENV-216	CTA-308	2023/08/03	2024/08/02
3	Artificial Mains	R&S	ENV-216	CTA-314	2023/08/03	2024/08/02
4	ISN	Schwarzbeck	NTFM8158	CTA-407	2023/08/03	2024/08/02
5	ISN	Schwarzbeck	CAT58158	CTA-408	2023/08/03	2024/08/02
6	ISN	Schwarzbeck	CAT38158	CTA-409	2023/08/03	2024/08/02
7	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02
8	EMI Test Software	Tonscend	TS®JS32-CE	N/A	N/A	N/A

Harmonic Current/ Voltage Fluctuation and Flicker						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	Harmonic and Flicker Analyzer	Voltech	PM6000	CTA-339	2023/08/03	2024/08/02

2	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

Electrostatic Discharge						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	ESD Simulators	NOISEKEN	ESS-100L(A)	CTA-315	2023/08/04	2024/08/03
2	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

Radiated Emission						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	ULTRA-BROADBAND ANTENNA	Schwarzbeck	VULB9163	CTA-310	2021/08/07	2024/08/06
2	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	CTA-306	2023/08/03	2024/08/02
3	Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2021/08/07	2024/08/06
4	Universal Radio Communication	CMW500	R&S	CTA-302	2023/08/03	2024/08/02
5	Band-reject filter	Xi'an Xingbo Technology Co.,Ltd	XBLBQ-DZA66	CTA-410	2023/08/03	2024/08/02
6	Band-reject filter	Xi'an Xingbo Technology Co.,Ltd	XBLBQ-DZA64	CTA-411	2023/08/03	2024/08/02
7	Band-reject filter	Xi'an Xingbo Technology Co.,Ltd	XBLBQ-DZA63	CTA-411	2023/08/03	2024/08/02
8	High-pass filter	Xi'an Xingbo Technology Co.,Ltd	XBLBQ-GTA10	CTA-412	2023/08/03	2024/08/02
9	High-pass filter	Xi'an Xingbo Technology Co.,Ltd	XBLBQ-GTA18	CTA-402	2023/08/03	2024/08/02
10	EMI Test Software	Tonscend	TS®JS32-RE	N/A	N/A	N/A

Electrical Fast Transient						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	Fast Transient Burst Simulator	Prima	EFT61004TA	CTA-316	2023/08/03	2024/08/02
2	Coupling Clamp	Prima	EFT-CLAMP	CTA-317	2023/08/03	2024/08/02
3	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

Surge

Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	Lightning Surge Generator	Prima	SUG61005TB	CTA-318	2023/08/03	2024/08/02
2	Lightning Surge Generator	Prima	SUG10/700TA	CTA-319	2023/08/03	2024/08/02
3	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

Dips						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	Cycle Sag Simulator	Prima	DRP61011TA	CTA-321	2023/08/03	2024/08/02
2	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

RF Field Strength Susceptibility						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	SIGNAL GENERATOR	Agilent	N5182A	CTA-305	2023/08/03	2024/08/02
2	POWER AMPLIFIER	AR	150W1000	CTA-413	2023/08/03	2024/08/02
3	POWER AMPLIFIER	Mictop	MPA-1000-6000-100	CTA-414	2023/08/03	2024/08/02
4	DUAL DIRECTIONAL COUPLER	AR	DC6080	CTA-415	2023/08/03	2024/08/02
5	POWER METER	Agilent	E4419B	CTA-416	2023/08/03	2024/08/02
6	Power sensor	Agilent	E9301A	CTA-417	2023/08/03	2024/08/02
7	Power sensor	Agilent	8483A	CTA-418	2023/08/03	2024/08/02
8	TRANSMITTING ANTENNA	AR	AT1080	CTA-419	2021/08/07	2024/08/06
9	TRANSMITTING ANTENNA	Schwarzbeck	STLP 9149	CTA-420	2021/08/07	2024/08/06
10	Radio Communication Tester	R&S	CMW500	CTA-302	2023/08/03	2024/08/02
11	Audio Analyzer	R&S	UPL	CTA-421	2023/08/03	2024/08/02

Conducted Susceptibility						
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	CS Test system	Schloder	CDG 6000-75	CTA-322	2023/08/03	2024/08/02
2	CDN M2+M3	Zhinan	ZN3750	CTA-323	2023/08/03	2024/08/02
3	6dB Attenuator	Schloder	CDG60100	CTA-324	2023/08/03	2024/08/02
4	EM Clamp	Schloder	EMCL-20	CTA-325	2023/08/03	2024/08/02
5	Audio Analyzer	R&S	UPL	CTA-421	2023/08/03	2024/08/02
6	Universal Radio Communication	R&S	CMW500	CTA-302	2023/08/03	2024/08/02

4. TEST CONDITIONS AND RESULTS

4.1. EMISSION

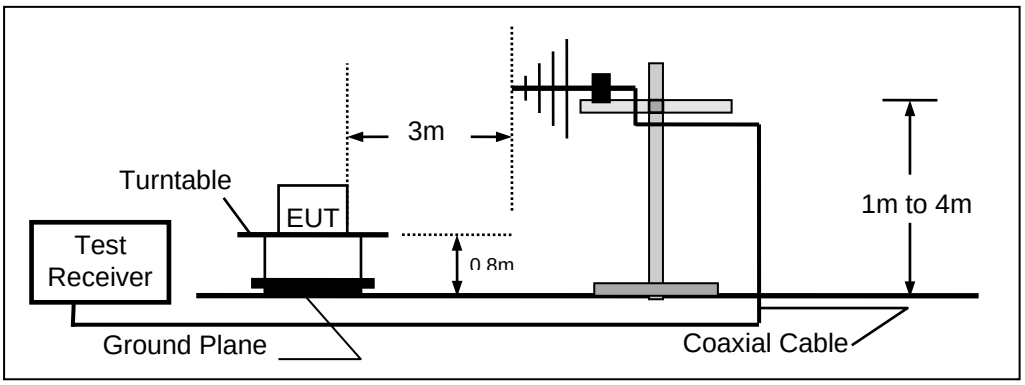
4.1.1. Radiated Emission

LIMIT

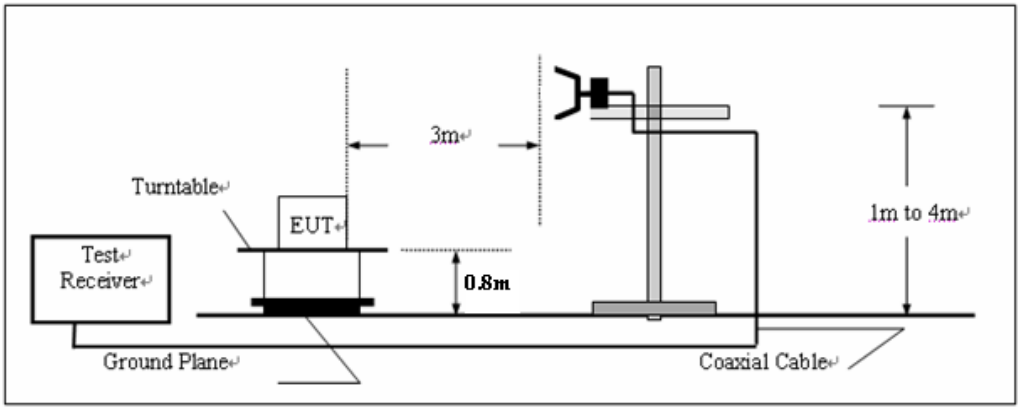
Please refer to ETSI EN301489-1 Clause 8.2.3, Table 4 and EN55032 Annex A, Table A.2,A.3, and Class B

TEST CONFIGURATION

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



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



TEST PROCEDURE

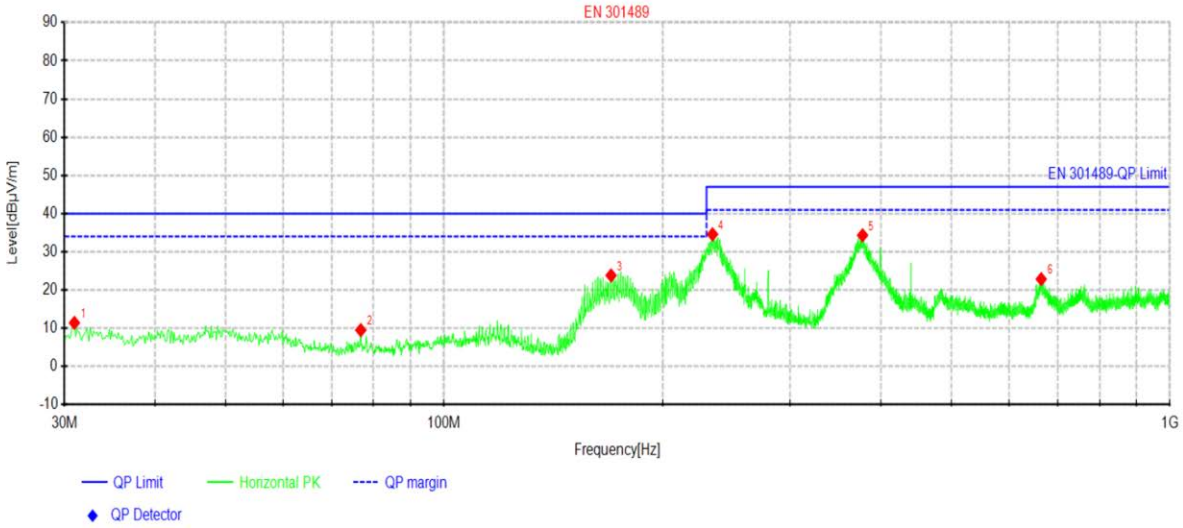
Please refer to ETSI EN 301 489-1 Clause 8.2.3 and EN55032 Annex A for the measurement methods

TEST RESULTS

Passed

Please refer to the below test data:

Test mode:	Mode 1	Polarization	Horizontal



Suspected Data List

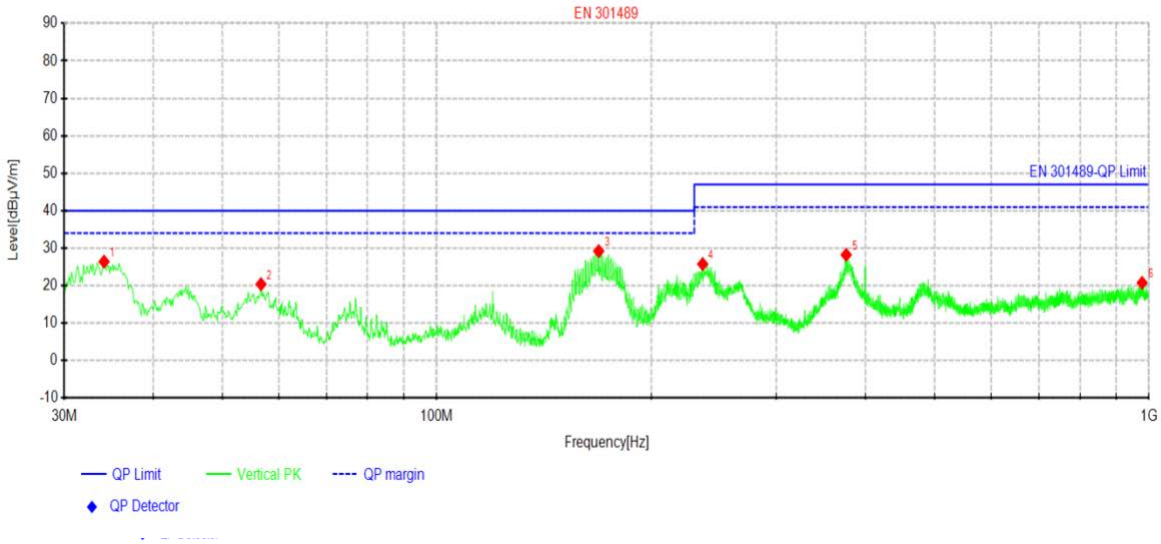
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	30.97	30.03	11.44	-18.59	40.00	28.56	100	131	Horizontal
2	76.8025	30.72	9.53	-21.19	40.00	30.47	100	12	Horizontal
3	169.922	44.88	23.84	-21.04	40.00	16.16	100	115	Horizontal
4	234.427	52.98	34.60	-18.38	47.00	12.40	100	147	Horizontal
5	377.26	50.12	34.35	-15.77	47.00	12.65	100	350	Horizontal
6	664.986	34.87	22.88	-11.99	47.00	24.12	100	0	Horizontal

Note:1).Level (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

Test mode:	Mode 1	Polarization	Vertical



Suspected Data List

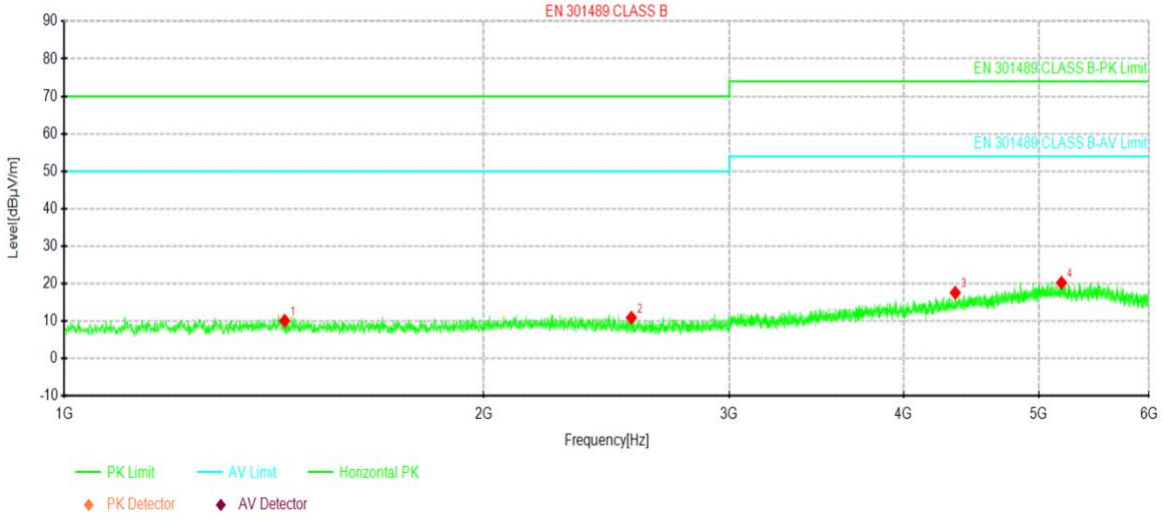
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	34.1225	44.44	26.43	-18.01	40.00	13.57	100	268	Vertical
2	56.675	37.92	20.42	-17.50	40.00	19.58	100	42	Vertical
3	168.831	50.35	29.24	-21.11	40.00	10.76	100	259	Vertical
4	236.246	44.14	25.79	-18.35	47.00	21.21	100	97	Vertical
5	375.805	44.04	28.25	-15.79	47.00	18.75	100	259	Vertical
6	978.175	29.42	20.78	-8.64	47.00	26.22	100	58	Vertical

Note:1).Level (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

Test mode:	Mode 1	Polarization	Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1439.37	35.16	10.12	-25.04	70.00	59.88	100	110	Horizontal
2	2551.87	32.50	10.92	-21.58	70.00	59.08	100	100	Horizontal
3	4356.87	33.83	17.60	-16.23	74.00	56.40	100	40	Horizontal
4	5193.12	34.24	20.26	-13.98	74.00	53.74	100	180	Horizontal

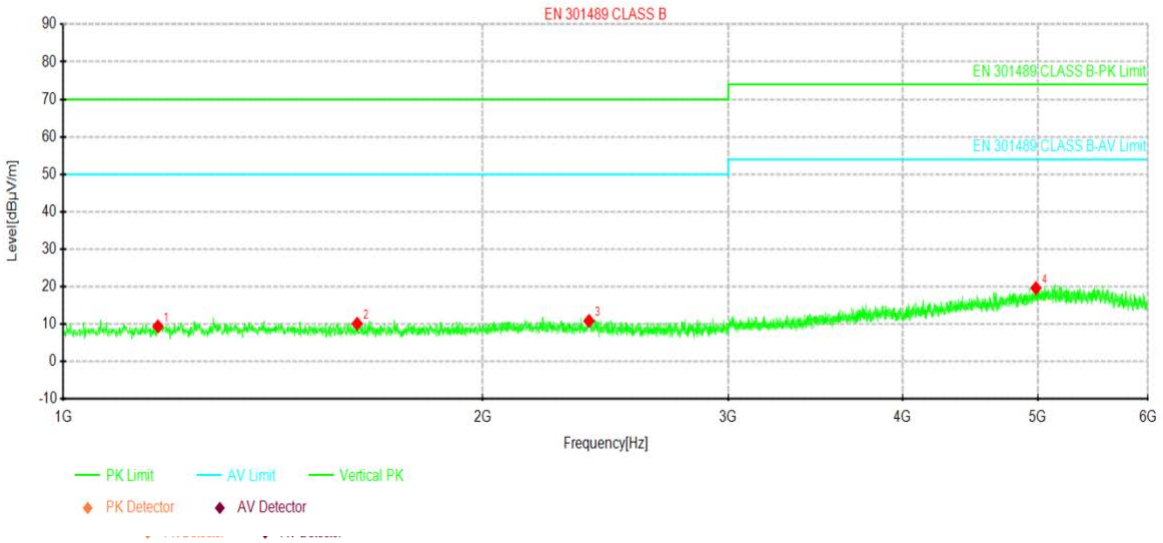
Note:1).Level (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

Test mode:	Mode 1	Polarization	Vertical

Graph



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1169.37	35.21	9.43	-25.78	70.00	60.57	100	350	Vertical
2	1625	35.11	10.14	-24.97	70.00	59.86	100	120	Vertical
3	2383.12	32.67	10.88	-21.79	70.00	59.12	100	50	Vertical
4	4986.25	33.20	19.63	-13.57	74.00	54.37	100	210	Vertical

Note:1).Level (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

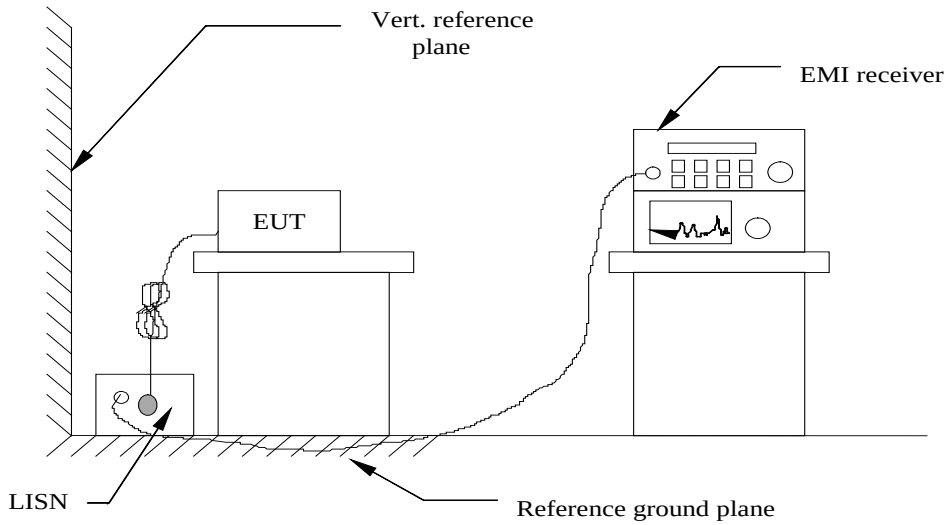
3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

4.1.2. Conducted Emission

LIMIT

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

TEST CONFIGURATION



TEST PROCEDURE

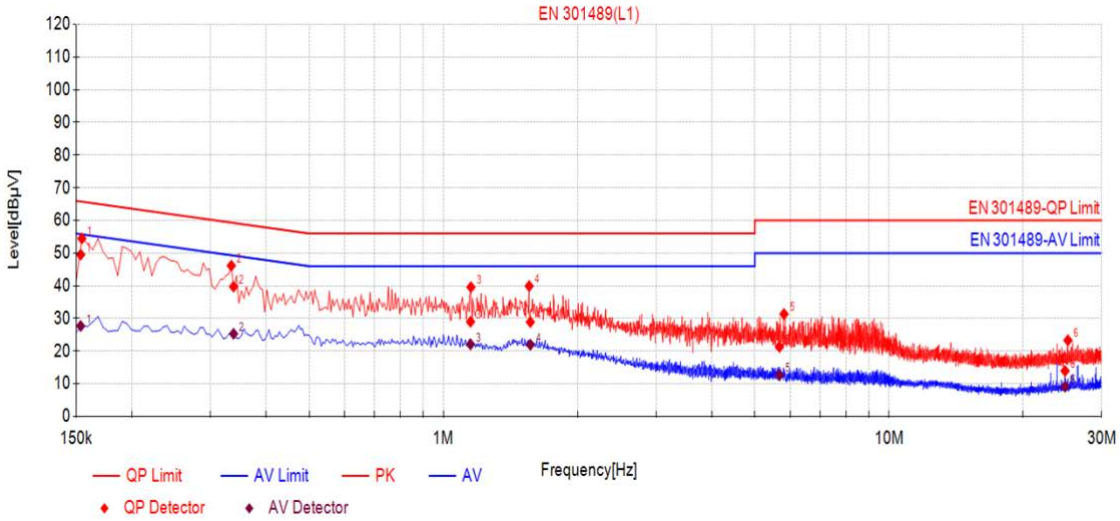
Please refer to ETSI EN 301 489-1 Clause 8.4.3 and EN55032 Annex A for the measurement methods.

TEST RESULTS

Passed

Please refer to the below test data:

Test mode:	Mode 1	Polarization	L



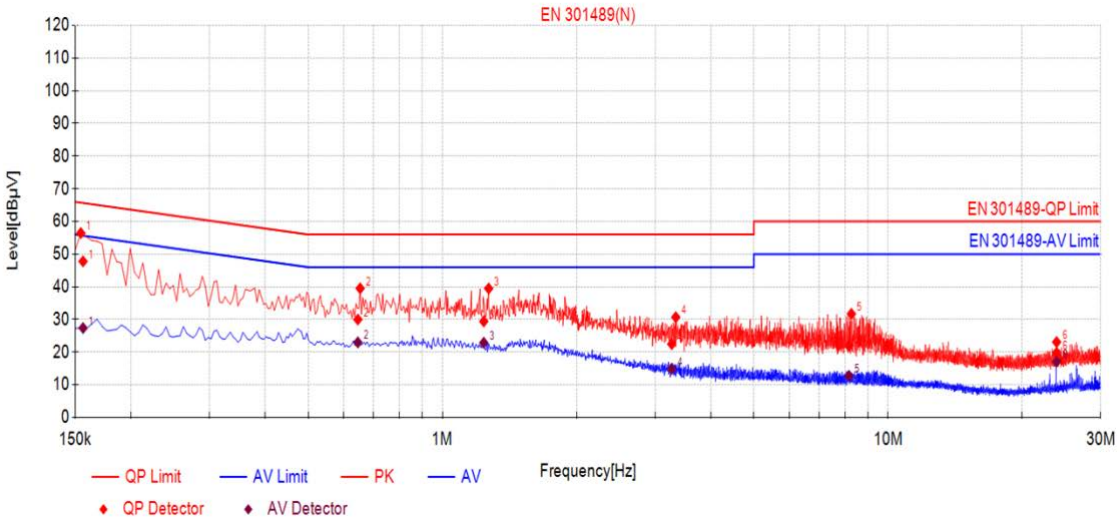
Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1536	10.50	39.02	49.52	65.80	16.28	17.20	27.70	55.80	28.10	PASS
2	0.3384	10.50	29.23	39.73	59.24	19.51	14.80	25.30	49.24	23.94	PASS
3	1.1508	10.50	18.50	29.00	56.00	27.00	11.58	22.08	46.00	23.92	PASS
4	1.5677	10.50	18.41	28.91	56.00	27.09	11.47	21.97	46.00	24.03	PASS
5	5.6794	10.50	10.79	21.29	60.00	38.71	2.15	12.65	50.00	37.35	PASS
6	24.8355	10.50	3.43	13.93	60.00	46.07	-1.39	9.11	50.00	40.89	PASS

Note:1).Result (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

2). Factor(dB/m)=Cable loss (dB) + LISN Factor (dB)

Test mode:	Mode 1	Polarization	N



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dB µV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1563	10.50	37.28	47.78	65.66	17.88	16.89	27.39	55.66	28.27	PASS
2	0.6463	10.50	19.49	29.99	56.00	26.01	12.49	22.99	46.00	23.01	PASS
3	1.2387	10.50	18.92	29.42	56.00	26.58	12.38	22.88	46.00	23.12	PASS
4	3.2717	10.50	11.97	22.47	56.00	33.53	4.39	14.89	46.00	31.11	PASS
5	8.1752	10.50	11.42	21.92	60.00	38.08	2.27	12.77	50.00	37.23	PASS
6	23.8965	10.50	9.32	19.82	60.00	40.18	6.60	17.10	50.00	32.90	PASS

Note:1).Result (dBµV/m)= Reading (dBµV/m)+ Factor (dB/m)

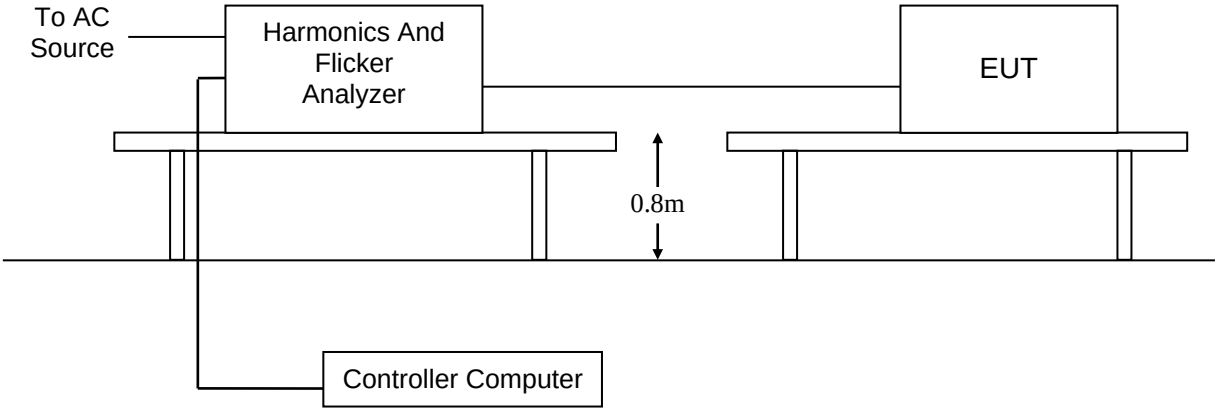
2). Factor(dB/m)=Cable loss (dB) + LISN Factor (dB)

4.1.3. Harmonic Current Emission

LIMIT

Please refer to EN 61000-3-2

TEST CONFIGURATION



TEST PROCEDURE

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

TEST RESULTS

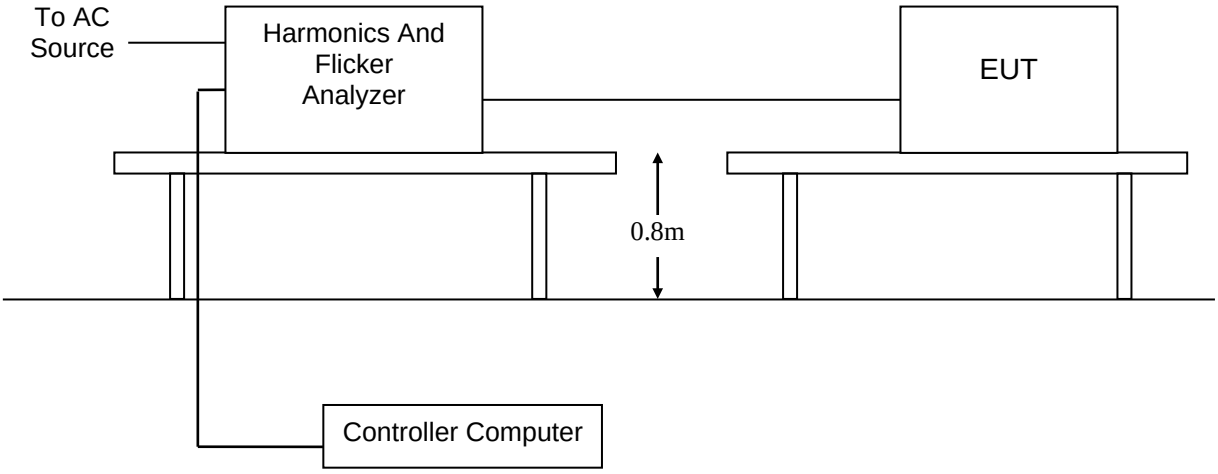
The power of the Adpter is less than 75W, So this test item is not applicable for the EUT.

4.1.4. Voltage Fluctuation and Flicker

LIMIT

Please refer to EN 61000-3-3

TEST CONFIGURATION



TEST PROCEDURE

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

TEST RESULTS

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

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

4.2. IMMUNITY

4.2.1. Performance criteria

■ **ETSI EN301489-17**

General performance criteria

• Performance criteria A for immunity tests with phenomena of a continuous nature;

• Performance criteria B for immunity tests with phenomena of a transient nature;

• Performance criteria C for immunity tests with power interruptions exceeding a certain time.

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

Criteria	During test	After test
A	Shall operate as intended. (See note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.
NOTE: Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2.		

Performance criteria for Continuous phenomena

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena

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

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.

4.2.2. Monitoring of EUT for all immunity test

For RF Electromagnetic Field Test

no loss of the wireless transmission function PER <10%	Establish wireless link between the EUT and CMW500(Which connected to a monitor outside the chamber through cable), Monitoring the wireless connection on CMW500

For others exept RF Electromagnetic Field Test

no loss of the wireless transmission function	Establish wireless link between the EUT and CMW500, Monitoring the wireless connection on CMW500

4.2.3. Electrostatic Discharge

PERFORMANCE CRITERION

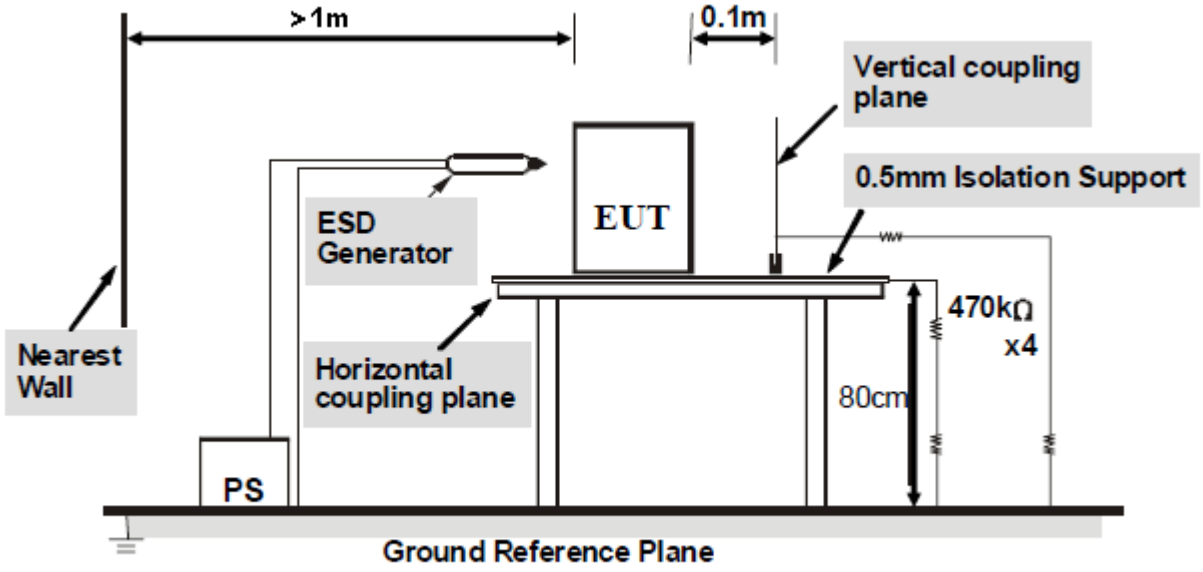
Criteria B

LIMIT

SEVERITY LEVELS OF ELECTROSTATIC DISCHARGE

Test level: Contact Discharge at ±2KV, ±4KV Air Discharge at ±2KV, ±4KV, ±8KV

TEST CONFIGURATION



TEST PROCEDURE

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

Contact Discharge:

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

Air Discharge:

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

Indirect discharge for horizontal coupling plane:

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

Indirect discharge for vertical coupling plane:

At least 10 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from

the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

TEST MODE

Please reference to the section 2.3

TEST RESULTS

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

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

4.2.4. RF Electromagnetic Field

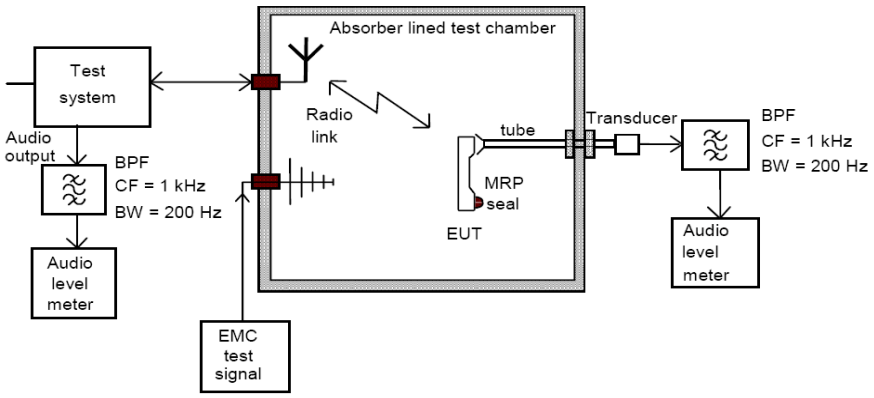
PERFORMANCE CRITERION

Criteria A

TEST LEVEL

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

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please reference to the section 2.3

TEST RESULTS

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

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

Special conditions for EMC immunity tests

For 1Mbps

Test frequency	2402MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	2%		
	Left	3%		
	Right	1%		

Test frequency	2480MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	4%		
	Left	3%		
	Right	1%		

For 2Mbps

Test frequency	2402MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	2%		
	Left	3%		
	Right	1%		

Test frequency	2480MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	4%		
	Left	3%		
	Right	1%		

4.2.5. Surges

PERFORMANCE CRITERION

Criteria B

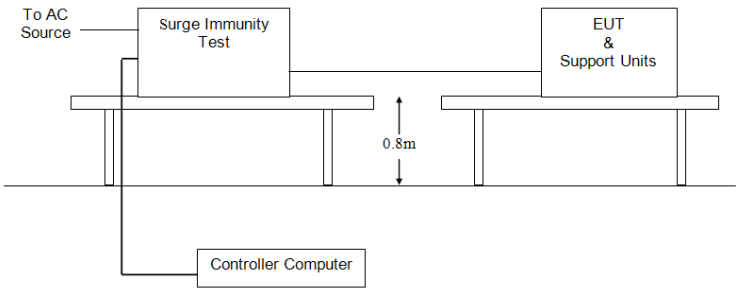
TEST LEVEL

1kV Line to Line: Differential mode

2kV Line to Ground: Common mode

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

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please reference to the section 2.3

TEST RESULTS

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

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

4.2.6. RF- Common Mode 0.15MHz to 80MHz

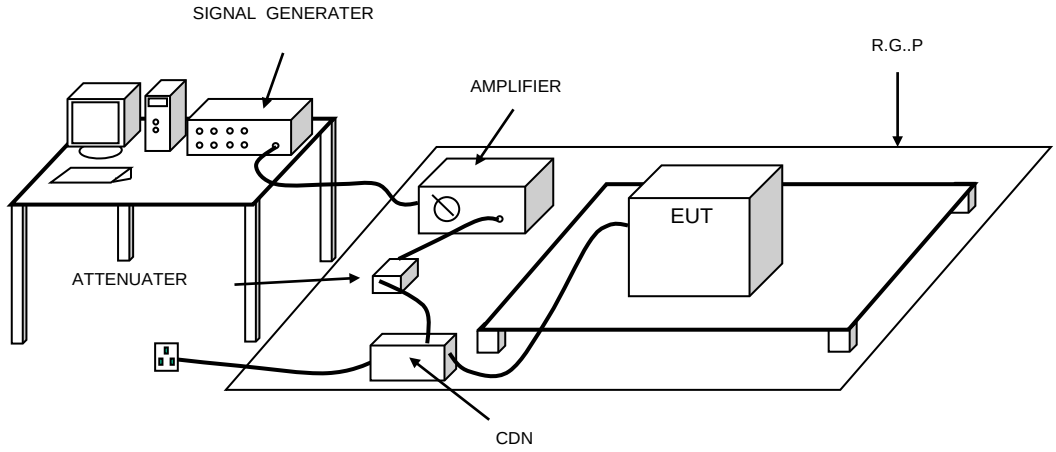
PERFORMANCE CRITERION

Criteria A

TEST LEVEL

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

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please reference to the section 2.3

TEST RESULTS

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

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

Special conditions for EMC immunity tests

For 1Mbps

Test frequency	2402MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	2%	10%	pass
	Rear	2%		
	Left	1%		
	Right	1%		

Test frequency	2480MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	2%	10%	pass
	Rear	3%		
	Left	2%		
	Right	1%		

For 2Mbps

Test frequency	2402MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	2%		
	Left	3%		
	Right	1%		

Test frequency	2480MHz	Test mode	Normal link	
Test mode	GFSK	Frequency range	80-6000(MHz)	Result
TX	EUT Face	PER Test Result	PER Limit	
	Front	3%	10%	pass
	Rear	4%		
	Left	3%		
	Right	1%		

4.2.7. Fast Transients Common Mode

PERFORMANCE CRITERION

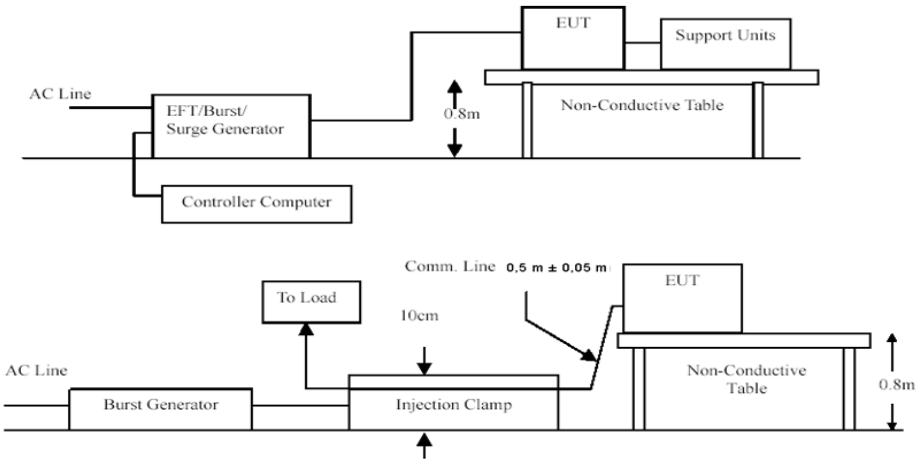
Criteria B

TEST LEVEL

1KV for AC main port

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

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please reference to the section 2.3

TEST RESULTS

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

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

4.2.8. Voltage Dips and Interruptions

PERFORMANCE CRITERION

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

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

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

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

TEST LEVEL

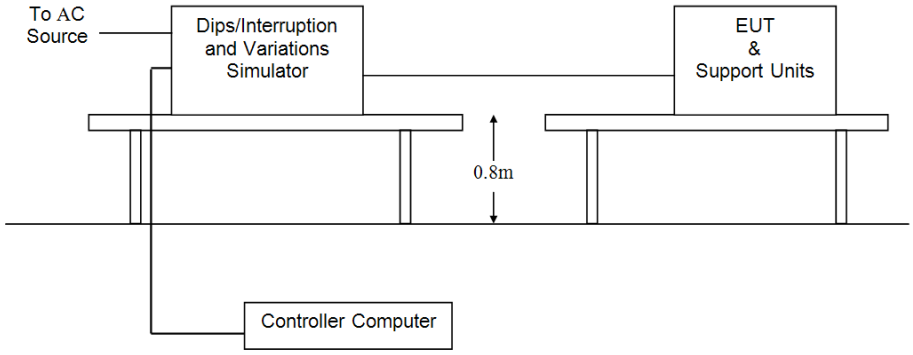
0% of VT(Supply Voltage) for 0.5 period

0% of VT(Supply Voltage) for 1.0 period

70% of VT(Supply Voltage) for 25 period

0% of VT(Supply Voltage) for 250 period

TEST CONFIGURATION



TEST PROCEDURE

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

TEST MODE

Please reference to the section 2.3

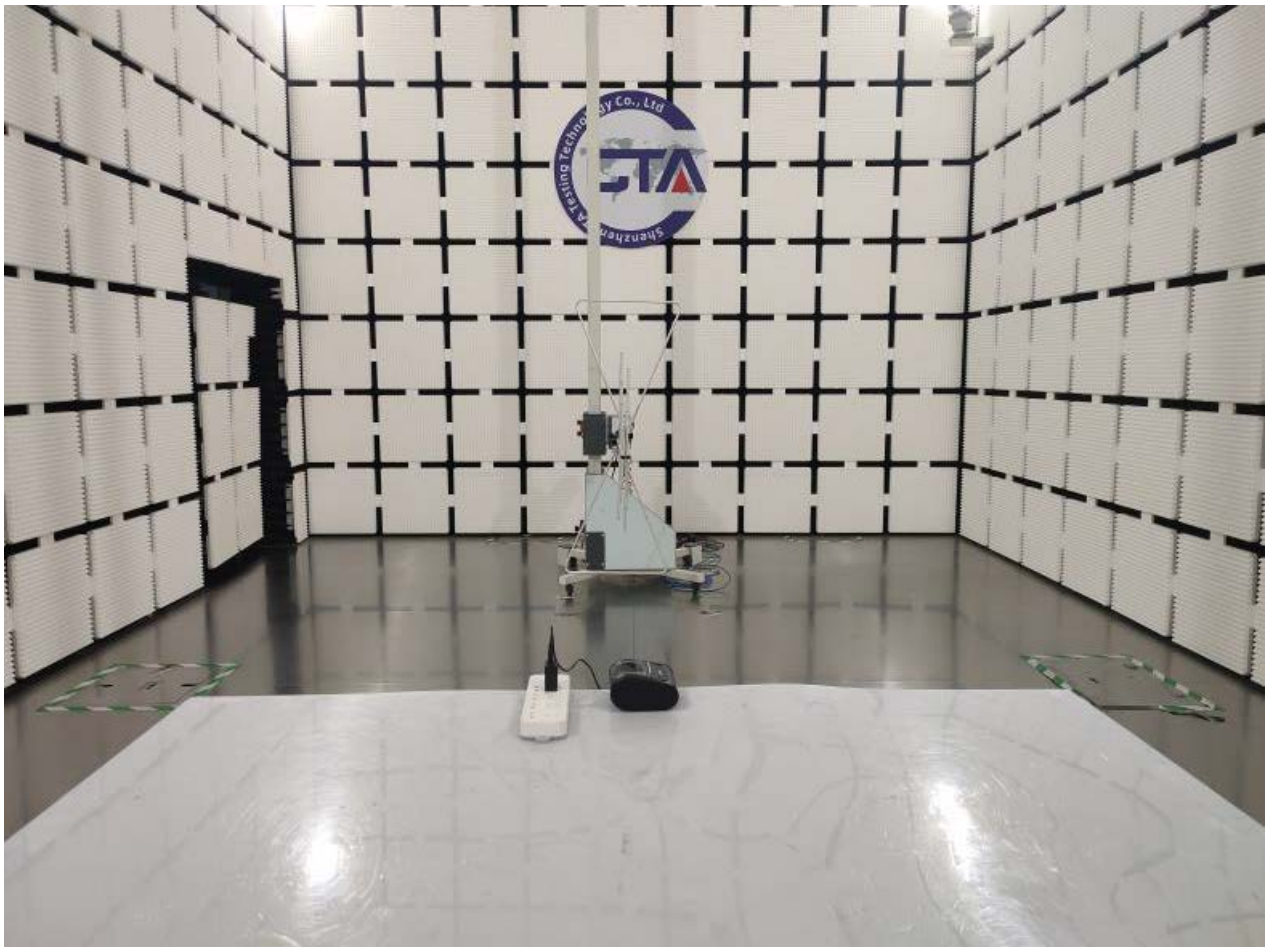
TEST RESULTS

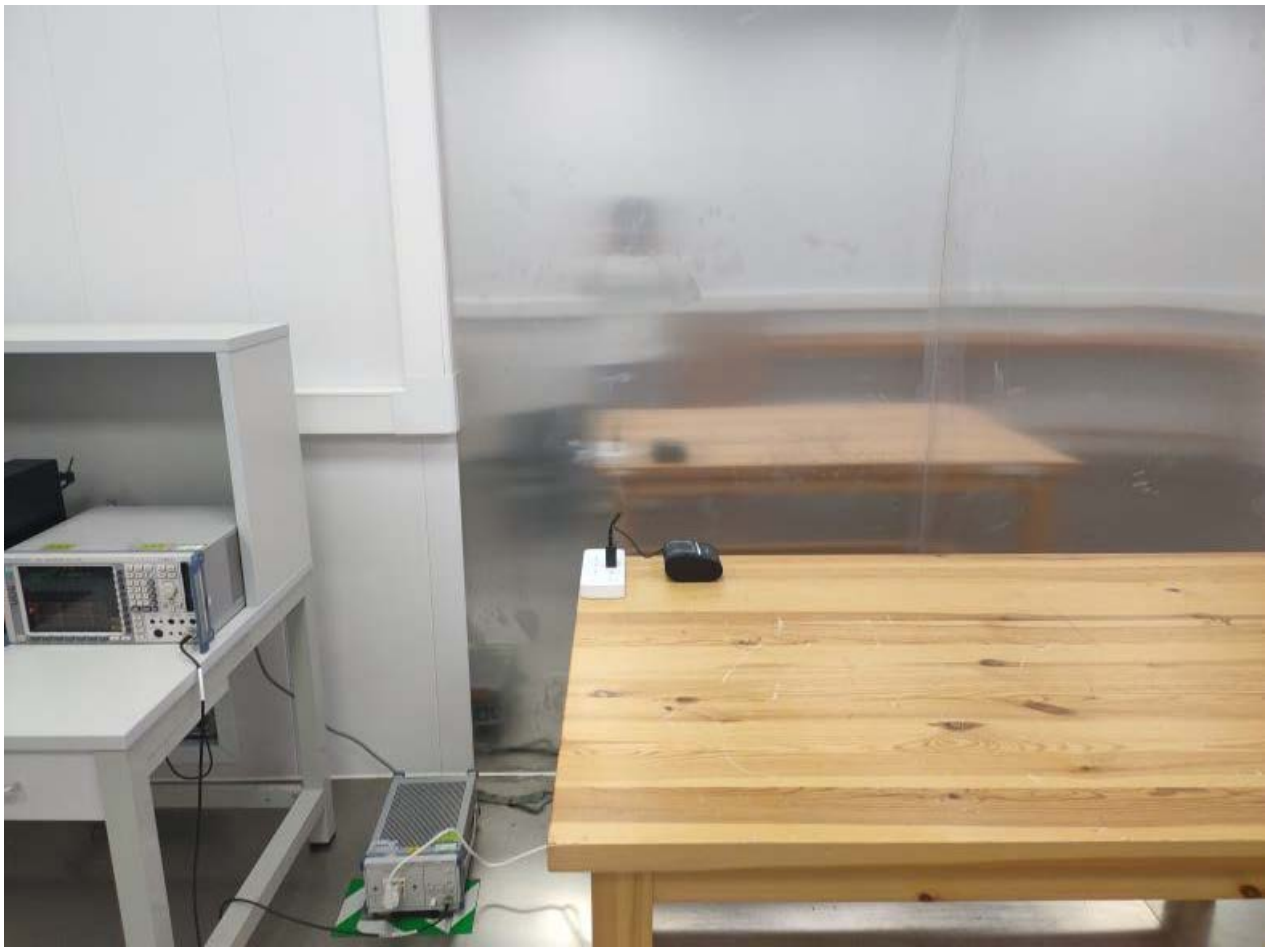
Test Level % UT	Duration (Periods)	Phase angle	No. of drop out	Time between dropout	Observations (Performance Criterion)	Result
0	0.5	0°, 90°, 180°, 270°	3	10s	A	Pass
0	1.0	0°, 90°, 180°, 270°	3	10s	A	Pass
70	25	0°, 90°, 180°, 270°	3	10s	A	Pass
0	250	0°, 90°, 180°, 270°	3	10s	B	Pass

Remark :
A: No degradation in performance of the EUT was observed.
B: During the test, the power shut down, after the experiment, the function can automatically return to normal

5. Test Set-up Photos of the EUT







6. External and Internal Photos of the EUT






Portable Thermal Printer
Model: B300
Input: 5V ⎓ 2.0A
GAINSCHA AUTO ID CO.,LTD.





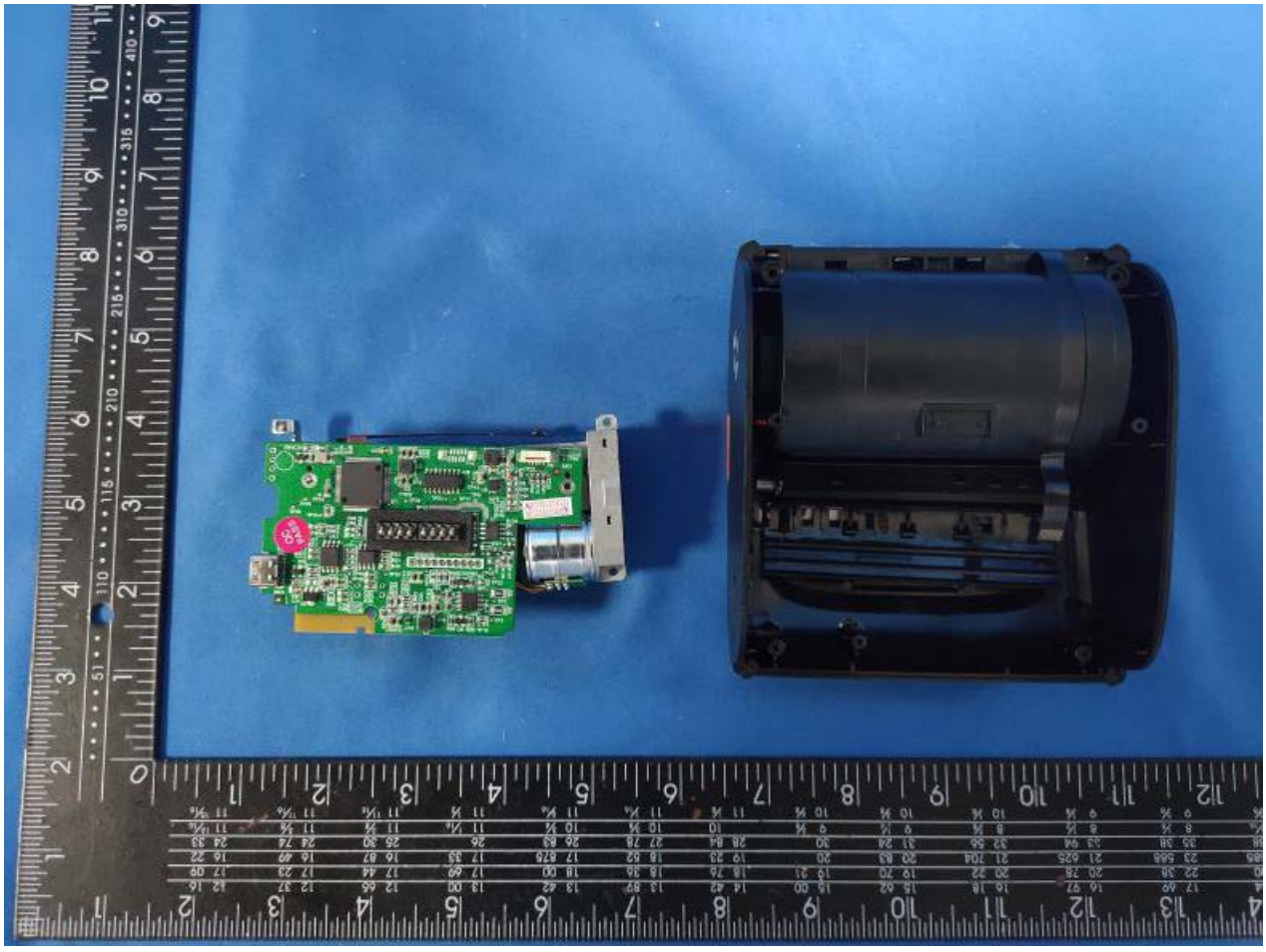


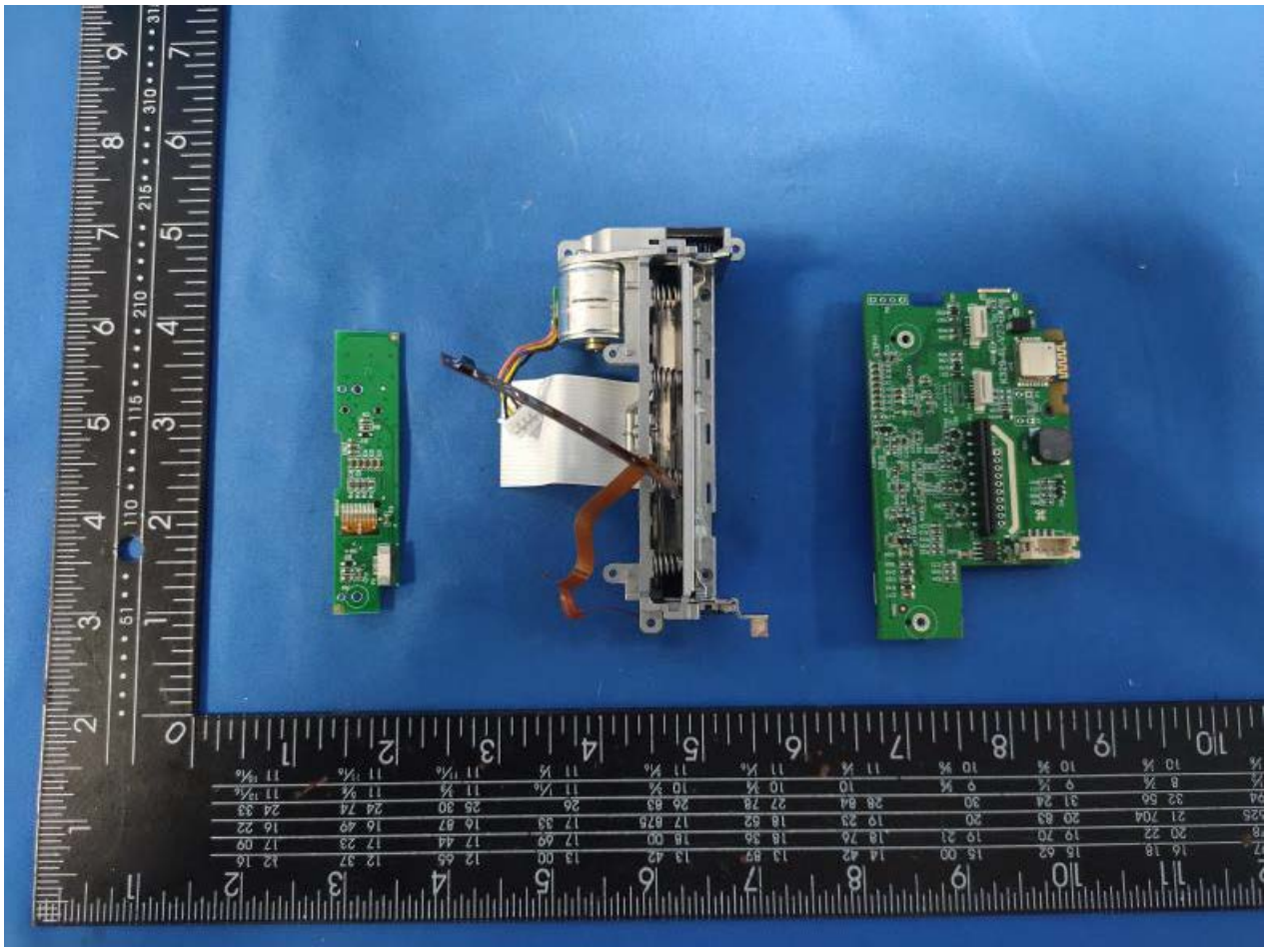


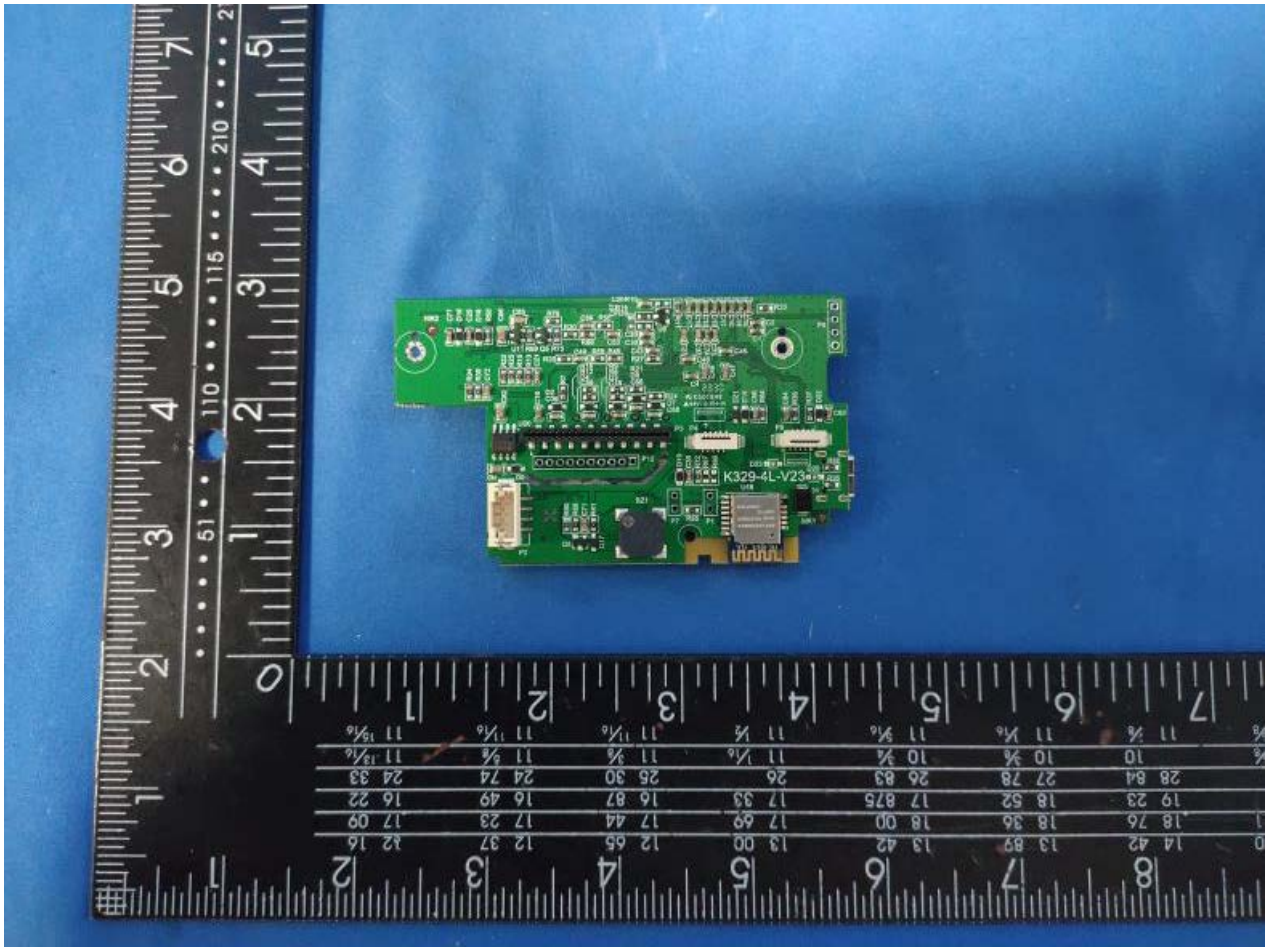

Portable Thermal Printer
Model: B300
Input: 5V ⎓ 2.0A
GAINSCHA AUTO ID CO.,LTD.

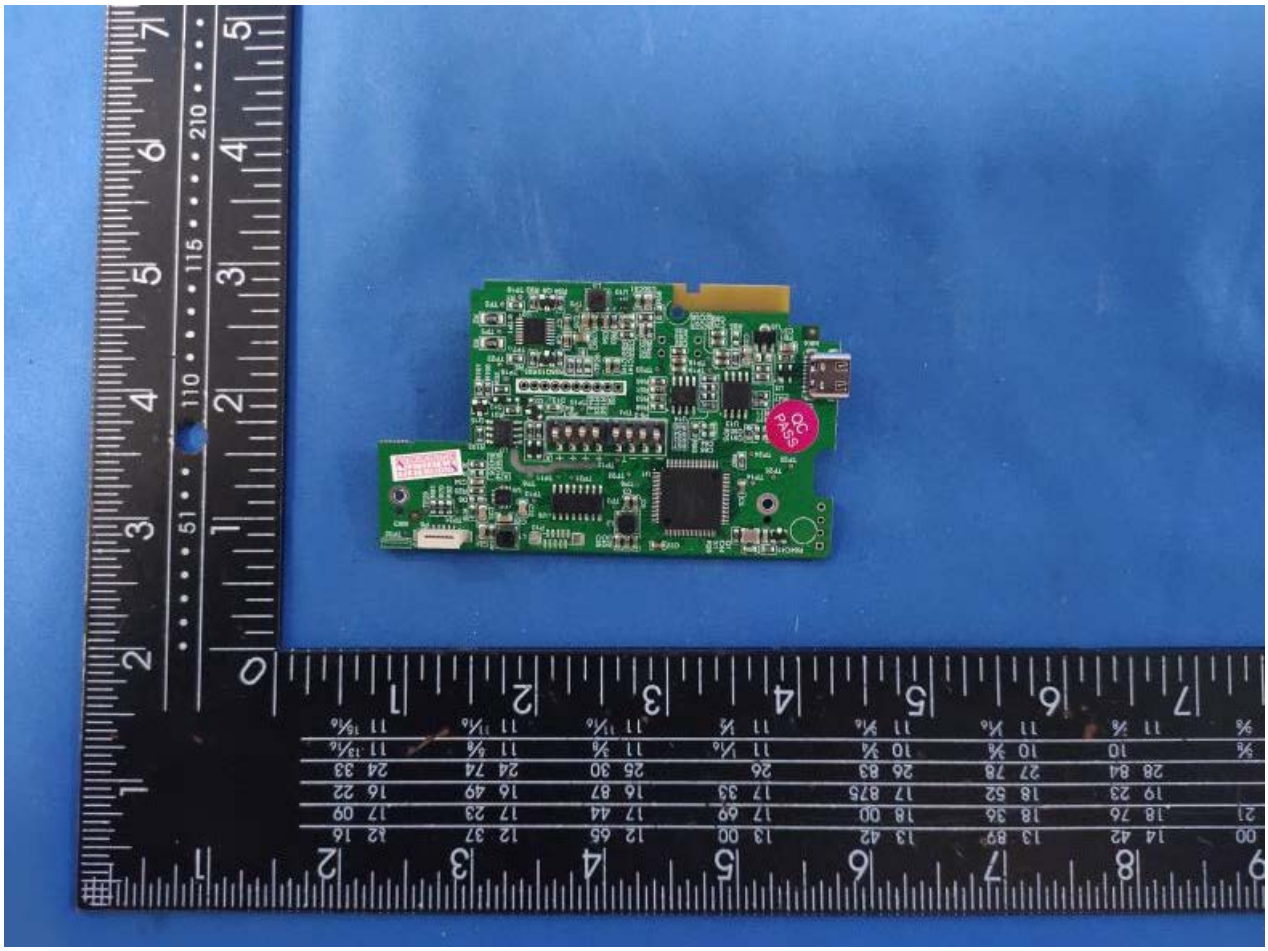

Warning



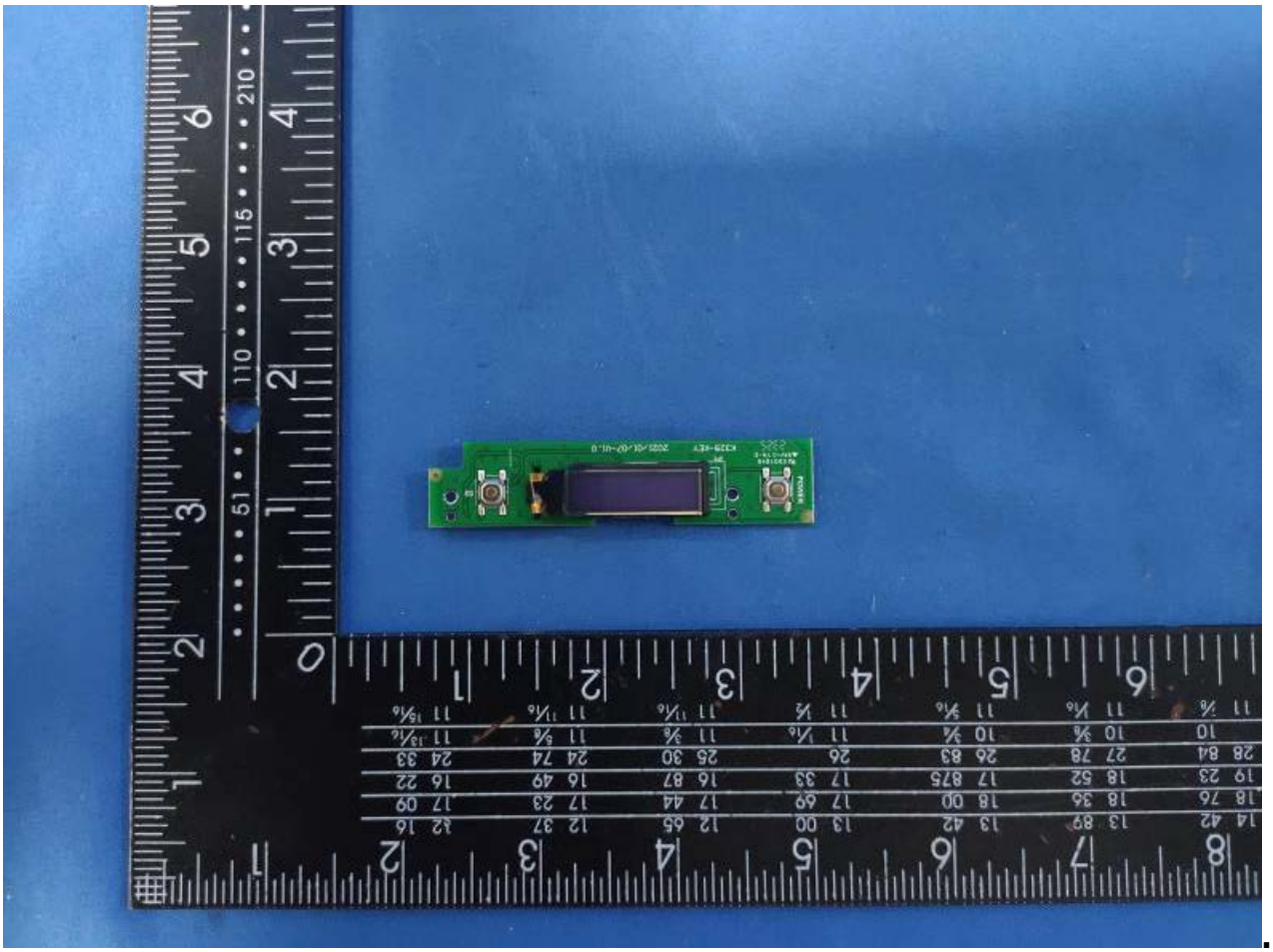





K329-4L-V23


QC
PASS





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