REPORT No.: SZ18050201A01

TEST REPORT

MANUFACTURER	:	Shenzhen Chainway Information Technology Co.,Ltd.
PRODUCT NAME	:	Mobile Data Terminal
MODEL NAME	:	C75
BRAND NAME	:	CHAINWAY
STANDARD(S)	:	EN 60950-1:2006+ A11:2009 + A1:2010 + A12:2011+A2:2013
TEST DATE	:	2018-07-16 to 2018-07-26
ISSUE DATE	:	2018-07-31

Tested by: Zhong Yingqiang (Test Engineer)

Approved by: Kevin Chen (Supervisor)

MORLAB

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555 Fax: 86-755-36698525
Http://www.morlab.cn E-mail: service@morlab.cn

DIRECTORY

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Change History		
Issue	**Date**	**Reason for change**
1.0	2018-07-31	First edition

1. Technical Information

Note: Provide by manufacturer.

1.1. Manufacturer and Factory Information

Manufacturer:	Shenzhen Chainway Information Technology Co.,Ltd.
Manufacturer Address:	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen
Factory :	Shenzhen Chainway Information Technology Co.,Ltd.
Factory Address:	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen

1.2. Equipment Under Test (EUT) Description

EUT Type:	Mobile Data Terminal	
Serial No:	N/A	
Hardware Version:	C70_MB_V11	
Software Version:	C75E_MT6737_V1.2_EU_GITe4dc346_201805171136	
Ancillary Equipment:	**AC Adapter**	
	Brand Name:	GME
	Model No.:	GME10D-050200FGu
	Serial No.:	(N/A, marked #1 by test site)
	Rated Input:	100-240V~, 50/60Hz, 0.28A
	Rated Output:	5V⎓2.0A
	Battery	
	Brand Name:	N/A
	Model No.:	646069
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	8000mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V

Note: For a more detailed description, please refer to specification or user'smanual supplied by the applicant and/or manufacturer.

2. Test Results

List of Attachments (including a total number of pages in each attachment): N/A

Summary of testing:

Tests performed (name of test and test clause):

Clause	Test(s)
1.6.2	Input Current Test
1.7.11	Durability of Marking Test
2.1.1.1	Access to energized parts
2.2.2	SELV limits for normal conditions
2.2.3	SELV limits for fault conditions
4.2.2	Steady force test,10 N
4.2.4	Steady force test, 250N
4.2.6	Drop test
4.2.7	Stress relief test
4.3.8	Battery test
4.5.2	Maximum Temperature Tests
5.3	Abnormal operating and fault conditions

Testing location:

Shenzhen Morlab Communication Technology Co., Ltd

FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China 518101

Summary of compliance with National Differences

List of countries addressed:

☒ The product fulfils the requirements of EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

2.1. EUT Setup and Operating Conditions

Test Item	
Condition/status	
Condition A:	The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and charged full discharged battery pack.
Condition B:	The unit was operated continuously with max. Brightness of LCD, Volume of speaker, communications and charged full discharged battery pack.
Condition C	The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and power supply by full charged battery pack.
Condition D	The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, communications and power supply by full charged battery pack.
Remark:	

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

Temperature (°C):	15 - 35
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86 - 106

Test item particulars.....:	
Equipment mobility .....:	[] movable [X] hand-held [] transportable [] stationary [] for building-in [] direct plug-in
Connection to the mains .....:	[] pluggable equipment [] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [X] not directly connected to the mains
Operating condition.....:	[X] continuous [] rated operating / resting time:
Access location .....:	[X] operator accessible [] restricted access location
Over voltage category (OVC) .....:	[] OVC I [] OVC II [] OVC III [] OVC IV [X] other: Not directly connected to the mains
Mains supply tolerance (%) or absolute mains supply values .....:	Not directly connected to the mains
Tested for IT power systems .....:	[] Yes [X] No
IT testing, phase-phase voltage (V) .....:	N/A
Class of equipment .....:	[] Class I [] Class II [X] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	N/A
Pollution degree (PD) .....:	[] PD 1 [X] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	<2000m
Altitude of test laboratory (m) .....:	<2000m
Mass of equipment (kg) .....:	0.445kg

Possible test case verdicts:

- test case does not apply to the test object..: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement..: F (Fail)

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....:

☐ Yes
☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

General product information:

- The Mobile Data Terminal is Class III equipment.
- Maximum recommended ambient (Tma): 50°C, but charging by adapter maximum recommended ambient (Tma): 35°C.

- Circuit characteristics: Secondary (SELV) circuit.

Copy of marking plate

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Components, which are certified to IEC and/or national standards, are used correctly within their ratings. Components not separately certified are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal control provided.	N/A
1.5.4	Transformers	No Transformers.	N/A
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	No capacitors	N/A
1.5.7	Resistors bridging insulation	No resistors bridging insulation used	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	No such component	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9	Surge suppressors	No such component	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		P
1.6.1	AC power distribution systems	No direct connection to mains supply	N/A
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The rated voltage is not exceed 250V. Full fill the requirement.	P
1.6.4	Neutral conductor	No direct connection to mains supply	N/A
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings	See below	P
1.7.1.1	Power rating marking	The marking label is on outside of equipment.	P
	Multiple mains supply connections.....:	The unit does not directly connect to mains supply.	N/A
	Rated voltage(s) or voltage range(s) (V) :	5.0V	P
	Symbol for nature of supply, for d.c. only:	⎓	P
	Rated frequency or rated frequency range (Hz) ..... :	The unit does not directly connect to mains supply.	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (mA or A) .....:	2A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	Manufacturer's name: Shenzhen Chainway Information Technology Co.,Ltd.	P
	Model identification or type reference ...	C75	P
	Symbol for Class II equipment only ....:	Class III equipment	N/A
	Other markings and symbols .....:	The additional marking does not give rise to misunderstandings.	P
1.7.1.3	Use of graphical symbols	No use of graphical symbols	N/A
1.7.2	Safety instructions and marking	English version safety instruction provided. Other languages will be provided when submitted for national approval.	P
1.7.2.1	General	See below	P
1.7.2.2	Disconnect devices	Not connect to mains	N/A
1.7.2.3	Overcurrent protective device	No such equipment	N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	N/A
1.7.2.6	Ozone	No such equipment	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector, auto ranging.	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	No power outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .:	No fuse used	N/A
1.7.7	Wiring terminals	No such terminals	N/A
1.7.7.1	Protective earthing and bonding terminals .....:	Class III equipment without earth connection.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	The unit does not directly connect to mains supply.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply.	N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....:		N/A
1.7.8.2	Colours .....:		N/A
1.7.8.3	Symbols according to IEC 60417 .....:		N/A
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:		N/A
1.7.10	Thermostats and other regulating devices .....:	No such parts.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries .....:	The lithium battery is not exchangeable and warning words mentioned on the user's manual and service manual.	N/A
	Language(s) .....:		—

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14	Equipment for restricted access locations .....:	Not intended for use in restricted access locations	N/A
2	**PROTECTION FROM HAZARDS**		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts	No access with test finger and test pin to any hazardous parts.	P
	Test by inspection :	See above.	P
	Test with test finger (Figure 2A) :	See above.	P
	Test with test pin (Figure 2B) :	See above.	P
	Test with test probe (Figure 2C) :	No TNV circuit	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage circuit wiring	N/A
2.1.1.5	Energy hazards :		N/A
2.1.1.6	Manual controls	No manual controls	N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Measured voltage (V); time-constant (s) :		—
2.1.1.8	Energy hazards – d.c. mains supply	Not connect to mains	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Capacitor connected to the d.c. mains supply :		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers :	No such equipment.	N/A
2.1.2	Protection in service access areas	No operator accessible area that needs to be accessed by the use of a tool.	N/A
2.1.3	Protection in restricted access locations	No intended for use in restricted access locations.	N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	See below	P
2.2.2	Voltages under normal conditions (V)	Class III equipment,supplied by SELV and there is no hazardous voltage generated inside the EUT	P
2.2.3	Voltages under fault conditions (V)	Class III equipment,supplied by SELV and there is no hazardous voltage generated inside the EUT	P
2.2.4	Connection of SELV circuits to other circuits .....:	SELV circuit is only connected to SELV citcuit and limited current circuits	P
2.3	**TNV circuits**		N/A
2.3.1	Limits	No TNV circuits in the equipment	N/A
	Type of TNV circuits.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....:		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....:		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....:		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements	No Limited current circuits in the equipment	N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....:		—
	Measured current (mA).....:		—
	Measured voltage (V) .....:		—
	Measured circuit capacitance (nF or μF) :		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**		N/A
	a) Inherently limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		—
	Max. output voltage (V), max. output current (A), max. apparent power (VA) :		—
	Current rating of overcurrent protective device (A) .:		N/A
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing	Class III equipment, no provisions for earthing or bonding	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG.....		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG.....		—
	Protective current rating (A), cross-sectional area (mm2), AWG		—

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..		N/A
2.6.3.5	Colour of insulation.....		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	**Overcurrent and earth fault protection in primary circuits**	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Basic requirements	No primary circuits in the equipment	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel :		N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles	No Safety interlocks.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.9	**Electrical insulation**		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials is used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation	Function insulation provided.	P
2.9.4	Separation from hazardous voltages	No hazardous voltages	N/A
	Method(s) used	Method 1 used.	—

2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General	See below.	P
2.10.1.1	Frequency	Class III equipment.	N/A
2.10.1.2	Pollution degrees	PD2	P
2.10.1.3	Reduced values for functional insulation	The functional insulation comply with 5.3.4 c)	P
2.10.1.4	Intervening unconnected conductive parts	Class III equipment, no critical insulation in the EUT.	N/A
2.10.1.5	Insulation with varying dimensions	Class III equipment, no critical insulation in the EUT.	N/A
2.10.1.6	Special separation requirements	Class III equipment, no critical insulation in the EUT.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	Class III equipment, no critical insulation in the EUT.	N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits	No secondary circuits	N/A
2.10.3.5	Clearances in circuits having starting pulses	No such circuit	N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	No TNV circuit	N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	**Solid insulation**		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation	No such component.	N/A
2.10.5.4	Semiconductor devices	No such component.	N/A
2.10.5.5.	Cemented joints	No such component.	N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material	No separable thin sheet material used	N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material	No such marterial	N/A
2.10.5.9	Thin sheet material – standard test procedure	No thin sheet material used	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	No thin sheet material used	N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction.	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No such construction.	N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation ...		N/A
2.10.6	**Construction of printed boards**		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards	No coated printed boards.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	**Component external terminations**		N/A
2.10.8	Tests on coated printed boards and coated components	No special coating in order to reduce distance.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Internal wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	No critical insulation exsited, only functional insulation.	N/A
3.1.3	Securing of internal wiring	No critical insulation exsited, only functional insulation.	N/A
3.1.4	Insulation of conductors	No critical insulation exsited, only functional insulation.	N/A
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws.	N/A
3.1.7	Insulating materials in electrical connections	No non-metallic materials in electrical connections.	N/A
3.1.8	Self-tapping and spaced thread screws	No self tapping screws are used.	N/A
3.1.9	Termination of conductors	There is no hazardous live parts.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	10 N pull test	No critical insulation exsited, only functional insulation.	N/A
3.1.10	Sleeving on wiring	Not used.	N/A
3.2	**Connection to a mains supply**		N/A
3.2.1	Means of connection	Class III equipment, no direct connection to mains supply	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	No power cord.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm^2), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief	No power cord.	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards	No cord guard provided.	N/A
	Diameter or minor dimension D (mm); test mass (g)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Not permanent connection or non-detachable power cord type.	N/A
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals	No such terminals provided in class III equipment.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the mains supply**		N/A
3.4.1	General requirement	Class III with only SELV circuit	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	**Interconnection of equipment**		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits :	SELV circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits as interconnection circuits.	N/A
3.5.4	Data ports for additional equipment	All data ports are fullfil this requirement.	P
4	**PHYSICAL REQUIREMENTS**		P
4.1	Stability		N/A
	Angle of 10°	Handheld equipment.	N/A
	Test force (N)	The unit is not floor-standing.	N/A
4.2	**Mechanical strength**		P
4.2.1	General	See below, after tests, unit comply with 2.1.1, 2.6.1, 2.10 and 4.4.1.	P
	Rack-mounted equipment.	No such equipment	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.4	Securing of parts	No loosening of parts is likely to occur.	N/A
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment	Not a direct plug-in equipment	N/A
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:		N/A
4.3.7	Heating elements in earthed equipment	No such parts.	N/A
4.3.8	Batteries	Batteries fulfil the requirement.	P
	- Overcharging of a rechargeable battery	See appended table 5.3	P
	- Unintentional charging of a non-rechargeable battery	No non-rechargeable battery	N/A
	- Reverse charging of a rechargeable battery	Battery pack polarity can't be reversed according to the design of enclosure and connector	N/A
	- Excessive discharging rate for any battery	See appended table 4.3.8	P
4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or using powder, liquids or gases.	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids .....:	The equipment does not contain flammable liquid.	N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13	Radiation	See below	P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation	No ionizing radiation	N/A
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No ultraviolet radiation	N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See below	P
4.3.13.5.1	Lasers (including laser diodes)		P
	Laser class .....:	Class 2	—
4.3.13.5.2	Light emitting diodes (LEDs)	Indicating LED comply with Exempt Group and Risk Group 1	P
4.3.13.6	Other types .....:	See SAR repot No.: SZ18050201S01	P

4.4	**Protection against hazardous moving parts**		P
4.4.1	General	See below	P
4.4.2	Protection in operator access areas .....:	Equipment contains one vibrator motor that not user accessible and fully enclosed.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations :		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)…….:		N/A
	Is considered to cause pain, not injury. b) …….:		N/A
	Considered to cause injury. c) …….:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……:		N/A

4.5	**Thermal requirements**		P
4.5.1	General		P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L .....:	See appended table 1.6.2	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm) .....:		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottomm, dimensions (mm) .....:		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	No adhesives for constructional purposes	N/A
	Conditioning temperature (°C), time (weeks).....:		—

4.7	**Resistance to fire**		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	N/A
4.7.2	Conditions for a fire enclosure	See below	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: ● Components in secondary (not supplied by LPS). ● Components mounted on material of flammability class V-1.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. See appended table 1.5.1.	P
4.7.3.2	Materials for fire enclosures	See appended table 1.5.1	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Other materials inside fire enclosure are minimum V-2 material.	P
4.7.3.5	Materials for air filter assemblies	No air filter assemblies	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components.	N/A

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		**P**
5.1	**Touch current and protective conductor current**		N/A
5.1.1	General	(SELV circuit only, no requirement.	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
	Measured protective conductor current (mA) .....:		—
	Max. allowed protective conductor current (mA).....:		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....:		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connect to telecommunication networks and cable distribution systems	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....:		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		N/A
5.2.1	General	Class III equipment,no such parts	N/A
5.2.2	Test procedure		N/A
5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	(see appended Annex B)	P
5.3.3	Transformers	No transformers	N/A
5.3.4	Functional insulation.....:	Complied with the requirements c).	P
5.3.5	Electromechanical components	No electromechanical components.	N/A
5.3.6	Audio amplifiers in ITE .....:	No such component	N/A
5.3.7	Simulation of faults	Refer the enclosed fault condition tests.	P
5.3.8	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9	Compliance criteria for abnormal operating and fault conditions	Refer to below.	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No hazard	P

6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	NO CONNECTION TO TELECOMMUNICATION NETWORKS	N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A

6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements	No telecommunication networks	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm) .....:		—
A.1.2	Conditioning of samples; temperature (°C) .....:		N/A
A.1.3	Mounting of samples .....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D .....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm) .....:		—
A.2.2	Conditioning of samples; temperature (°C) .....:		N/A
A.2.3	Mounting of samples .....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		P
B.1	General requirements	See appended table 1.5.1	P
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	Test conditions	(see appended table 5.3)	P
B.3	Maximum temperatures	(see appended table 5.3)	P
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) ....:		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		N/A
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies .....:		N/A
G.2.3	Unearthed d.c. mains supplies .....:		N/A
G.2.4	Battery operation .....:		N/A
G.3	Determination of telecommunication network transient voltage (V) .....:		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .....:		N/A
G.4.2	Transients from telecommunication networks .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	The equipment is operated according to the most unfavorable way of operation given in the operating instructions.	P

M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .:		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.2.3	Monitoring voltage (V) .....:		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	a) Preferred climatic categories .....:		N/A
	b) Maximum continuous voltage .....:		N/A
	c) Pulse current .....:		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—
U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
			—
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A
W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus .....:		N/A
Y.2	Mounting of test samples .....:		N/A
Y.3	Carbon-arc light-exposure apparatus ....:		N/A
Y.4	Xenon-arc light exposure apparatus .....:		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		N/A
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……:		N/A
CC.3	Test program 2…….:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N….:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)		
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2	P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note	P
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note	P

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	* Note of secretary: Text of Common Modification remains unchanged.		
1.1.1 (A1:2010)	**Replace** the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1	Add the following NOTE:		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only.		
	The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: – hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	intended for use by young children, the limits of EN 71-1 apply.		
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.		N/A
	All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.		
	d) have a warning as specified in Zx.3; and		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;		
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	following: Up to and including 6 | 0,75 [a)] | Over 6 up to and including 10| (0,75) [b)] 1,0 | Over 10 up to and including 16| (1,0) [c)] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a)]. In NOTE 1, applicable to Table 3B, delete the second sentence.		
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).	Considered.	—
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	Considered.	—
Annex H	Replace the last paragraph of this annex by:	The unit does not emit X-ray	N/A

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EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	Class III equipment.	N/A
1.2.13.14	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.	Not connected to cable distribution system.	N/A
1.5.7.1	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Class III equipment.	N/A
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Class III equipment.	N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts,	Class III equipment, not connect to cable distribution system.	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag” In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:		

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)		
	"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."		
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet." Translation to Swedish: "Utrustning som är kopplad till skyddsjord		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
	additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		
2.3.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
3.2.1.1 (A2:2013)	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. CLASS I EQUIPMENT provided with socketoutlets with earth cotacts or which are intended to be used in locations where protection against indirect contact is required according to		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)		
	the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c		
3.2.1.1	In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A	Class III equipment, no power supply cord provide.	N/A
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)		
	dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE .....250 V, 16		
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	In **Spain**, supply cords of single-phase	Class III equipment, no power	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
	equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	supply cord provide.	
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS	Class III equipment, no power supply cord provide.	N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	1363 or an approved conversion plug.		
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	Class III equipment, no power supply cord provide.	N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.	Class III equipment, no power supply cord provide.	N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Class III equipment, no power supply cord provide.	N/A
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.	Class III equipment, no power supply cord provide.	N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria	No TNV circuits.	N/A

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Adapter	GME Technology (Shenzhen)Co.,Ltd.	GME10D-050200FGu	Input: 100-240V~ 50-60Hz 0.28A Output: 5V, 2A LPS.	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2: 2013	Test Report No.:PT800206160416S-LD-001 by DongGuan Precise Testing Service Co.,Ltd.
PCB	DALIAN ASIA PACIFIC ELECTRONICS CO LTD	JX-02	V-0,130℃	UL 796	UL E246715
Enclosure	LG CHEM (GUANGZHOU) ENGINEERING PLASTICS CO LTD	LUPOY GN-2109F(#)	V-0, 80℃ Min Thick: 1.5mm	UL 94	UL E248280
Battery pack	Springpower Technology(Shenzhen) Co.,Ltd.	646069	DC3.7V 8000mAh	EN 62133-2: 2017	Test Report No.: TCT180326B031-2 by Shenzhen TCT Testing Technology Co., Ltd.
LCD	SKYWORTH LCD MODULES(SHENZHEN) CO., LTD	SMI520-B02	5.2" TFT 1920*(3:RGB)* 1080dots	EN60950-1	Tested within appliance
Flash LED	Shenzhen Kena Industry Co.,Ltd.	KSW314W10-5.2A	DC 25mA Exempt Group (IEC 62471)	IEC 62471:2006 (First Edition)	Test report No.: 68.140.11.115.01 by Jiangsu TUV Product Service Ltd.Shenzhen Branch

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Flash LED	Everlight Electronics Co.,Ltd.	ELCH Series	DC 350mA Exempt Group and Risk Group 1 (IEC 62471 EN 62471)	IEC 62471:2006 (First Edition)	Test report No.: 10031507 001 by TUV-Rheinland Taiwan Ltd.
Scan Engine	ZEBRA TECHNOLOGIES CORPORATION	SE4750	Electrical ratings are optional – no direct connection to mains IEC 62471 EXEMPT RISK GROUP	IEC 62471:2006 (First Edition)	Test report No.: E143267-D23-CB-2 by UL RTP
Scan Engine	ZEBRA TECHNOLOGIES CORPORATION	SE4750	Electrical ratings are not reauired – (no direct connection to the supply mains) IEC 60825-1 Class 2 Laser Product	IEC 60825-1:2014 (Third Edition)	Test report No.: E143267-D24-CB-2 by UL RTP

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Image Engine	Motorola Solutions, Inc.	SE4710	Electrical ratings are optional – no direct connection to mains IEC 62471 EXEMPT RISK GROUP	IEC 62471:2006 (First Edition)	Test report No.: 13CA51589 by UL RTP
Motor	Shenzhen Yinuo microelectic Motor Co., Ltd.	15BY25-012	DC 5.0V 1200-3000rpm	EN60950-1	Tested within appliance
Speaker	Hosiden Corporation	HDR9254-014070	8.5±1.6Ω 0.5W	EN60950-1	Tested within appliance
Supplementary information:					

1.5.1	TABLE: Opto Electronic Devices	N/A

Manufacturer ..... : Type .....: Separately tested .....: Bridging insulation .....: External creepage distance .....: Internal creepage distance .....: Distance through insulation .....: Tested under the following conditions .....:
Input.....: Output.....:
supplementary information

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
5	1.228	2	1.013	--	--	Max. Normal load. (Condition A)
5	1.170	2	2.735	--	--	Max. Normal load. (Condition B)
4.3	0.796	--	3.134	--	--	Max. Normal load. (Condition C)
4.3	0.752	--	2.934	--	--	Max. Normal load. (Condition D)
Supplementary information:						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test	N/A

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
--	--	--	--	--
--	--	--	--	--
supplementary information:				
Test with model: Test voltage: Test frequency:				

2.1.1.5 c) 2)	TABLE: stored energy	N/A

Capacitance C (μF)	Voltage U (V)	Energy E (J)
--	--	--
--	--	--

supplementary information:

2.1.1.7	Table: discharge test	N/A

Condition	τ calculated (s)	τ measured(s)	t u→ 0V (s)	Comments
--	--	--	--	--

Note(s):

Test voltage:

2.2.2	Voltage under Normal Conditions Test	N/A

Measured between:	Voltage	Limit	Measured between:	Voltage	Limit
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

2.2.3	Voltage under Fault Conditions Test				N/A
Fault condition	Measured between	Voltage (Max.)	Limit	Voltage (after 0.2s)	Limit
--	--	--	--	--	--
--	--	--	--	--	--

2.4.2	TABLE: limited current circuit measurement			N/A
Location	Voltage (V)	Current (mA)	Freq.(Hz)	Limit(mA)
--	--	--	--	--
--	--	--	--	--
Supplimentary information:				

2.5	TABLE: Limited power sources					N/A
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
--	normal condition	--	--	8	--	100VA
	abnormal condition	--	--	8	--	100VA
supplementary information:						
Sc=Short circuit, Oc=Open circuit						

2.10.2	Table: working voltage measurement	N/A

Location	RMS voltage (V)	Peak voltage (V)	Comments
--	--	--	--
--	--	--	--
supplementary information:			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements	N/A

Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Basic insulation/Functional insulation/Supplementary insulation:						
--	--	--	--	--	--	--
Reinforced:						
--	--	--	--	--	--	--
--	--	--	--	--	--	--
Supplementary information:						

2.10.5	TABLE: Distance through insulation measurements	N/A

Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test volt-age (V)	Required DTI (mm)	DTI (mm)
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information:					

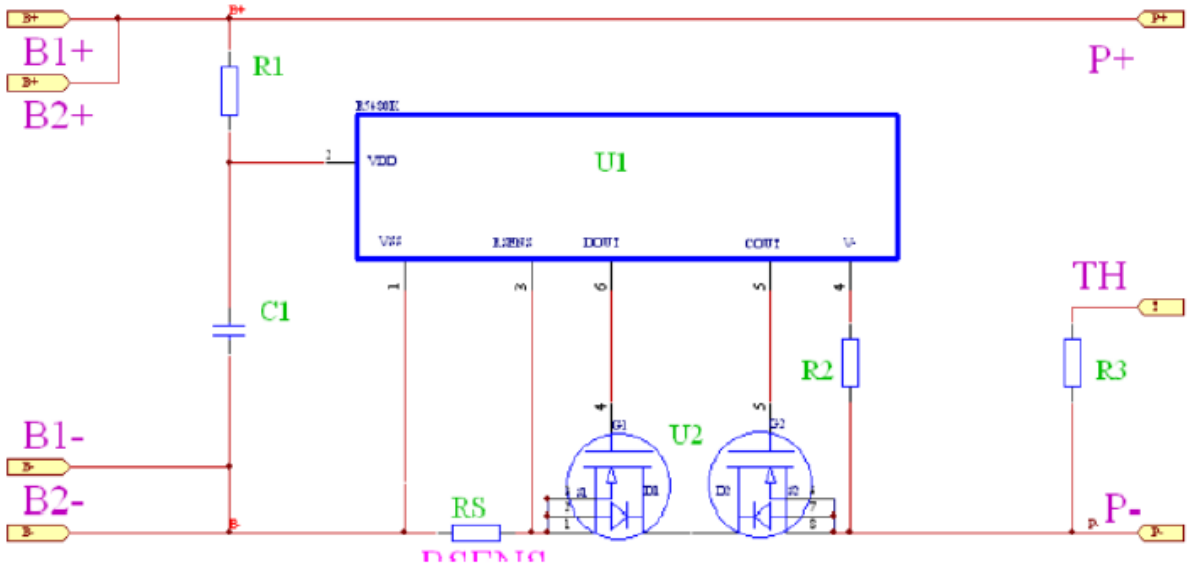
4.3.8	TABLE: Batteries	P
The tests of 4.3.8 are applicable only when appropriate battery data is not available		N/A
Is it possible to install the battery in a reverse polarity position?		N/A

	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	1372mA	4000mA	796 mA	4000mA	--	--
Max. current during fault condition	--	--	--	1375mA	4000mA	797 mA	4000mA	--	--

Test results:		Verdict
- Chemical leaks	No chemical leaks	P
- Explosion of the battery	No explosion	P
- Emission of flame or expulsion of molten metal	No emission of flame or expulsion of molten metal	P
- Electric strength tests of equipment after completion of tests		N/A
Supplementary information: fault condition U2 pin1-pin7 short circuit		

4.3.8	TABLE: Batteries	P

Battery category .....:	Lithium ion
Manufacturer .....:	See table 1.5.1
Type / model.....:	See table 1.5.1
Voltage .....:	See table 1.5.1
Capacity .....:	See table 1.5.1
Tested and Certified by (incl. Ref. No.) .....:	See table 1.5.1
Circuit protection diagram:	



MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	--
Language(s) .....:	--
Close to the battery .....:	--
In the servicing instructions .....:	--
In the operating instructions .....:	--

4.5	TABLE: Thermal requirements			P
	Supply voltage (V)	Supplied by adapter power(5.0V)	Supplied by battery pack	—
	Ambient T_{min} (°C)	--	--	—
	Ambient T_{max} (°C)	See below	See below	—

Maximum measured temperature T of part/at::	T (°C)		Allowed T_{max} (°C)
	Condition A	Condition C	
Test condition with Max. Load:	--	--	--
Plastic enclosure near panel	44.5	59.0	75
Key	41.2	54.6	75
Plastic enclosure near battery	38.3	52.4	75
Battery	45.1	59.2	60
PCB near U12	47.8	61.9	130
PCB near U14	37.8	52.0	130
PCB near U9	48.8	62.5	130
PCB near U1	48.3	61.8	130
Battery input	50.8	62.7	130
Ambient ℃	35.0	50.0	--

Supplementary information:

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

The temperatures were measured under worst-case normal mode (described as table 1.6.2) and at voltage as described above.

- Maximum recommended ambient (Tma): 50°C, but charging by adapter maximum recommended ambient (Tma): 35°C.

Condition A: The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and charged full discharged battery pack.

Condition B: The unit was operated continuously with max. Brightness of LCD, Volume of speaker, communications and charged full discharged battery pack.

Condition C: The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and power supply by full charged battery pack.

Condition D: The unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, communications and power supply by full charged battery pack.

4.5.5	**TABLE: Ball pressure test of thermoplastic parts**		N/A
	Allowed impression diameter (mm) .....:	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
--	--	--
--	--	--
Supplementary information:		

4.7	**TABLE: Resistance to fire**				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
See table 1.5.1	--	--	--	--	--
Supplementary information:					

5.1	TABLE: touch current measurement			N/A
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
--		--	--	--
--		--	--	--
supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N/A
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
--		--	--	--
--		--	--	--
Reinforced:				
--		--	--	--
--		--	--	--
Supplementary information:				

5.3	TABLE: fault condition tests		P
	Ambient temperature (°C)……..:	20 °C – 30 °C	—
	Model/type of power supply…….:	See table 1.5.1	—
	Manufacturer of power supply…….:	See table 1.5.1	—
	Rated markings of power supply…..:	See table 1.5.1	—

component No.	fault	test voltage (V)	test time	fuse No.	input current (A)	Result
Battery Over charge	Normal	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board C412	S-c	5Vdc	20min	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board D410	S-c	5Vdc	20min	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board R417	S-c	5Vdc	20min	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board C1	S-c	5Vdc	20min	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board R1	S-c	5Vdc	20min	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.

Battery control board U2 pin1-pin7	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
Battery control board U2 pin1-pin7	S-c	4.3Vdc	7h	--	--	Battery over-discharges tests, no abnormal temperature, no abnormal current, and no hazard.
Battery+ to Battery-	S-c	4.3Vdc	7h	--	--	Battery over-discharges tests, no abnormal temperature, no abnormal current, and no hazard.
Motor	Locked	5 Vdc	7h	--	--	Motor body surface temperature: 41.5℃ Ambient: 24.5℃ No hazard.
Speaker	S-c	5Vdc	1h	--	--	No hazard.
supplementary information						
Note: In fault column, S-c=short-circuited, O-l=over-loaded.						

C.2	TABLE: transformers	N/A

Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
--	--	--	--	--	--
--	--	--	--	--	--

Supplementary information:

C.2	TABLE: transformers	N/A

Annex Photographs of the EUT

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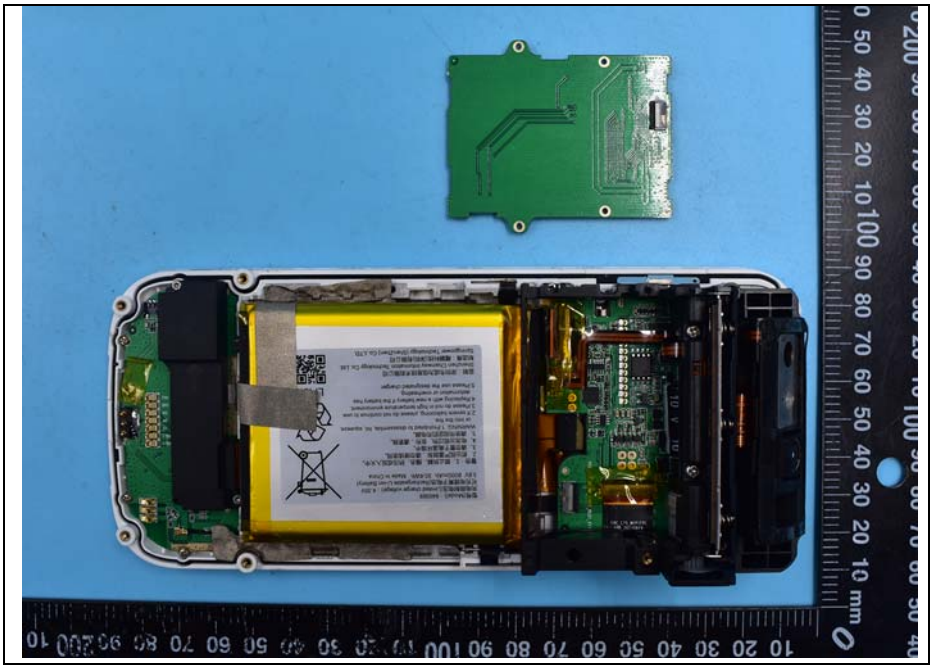

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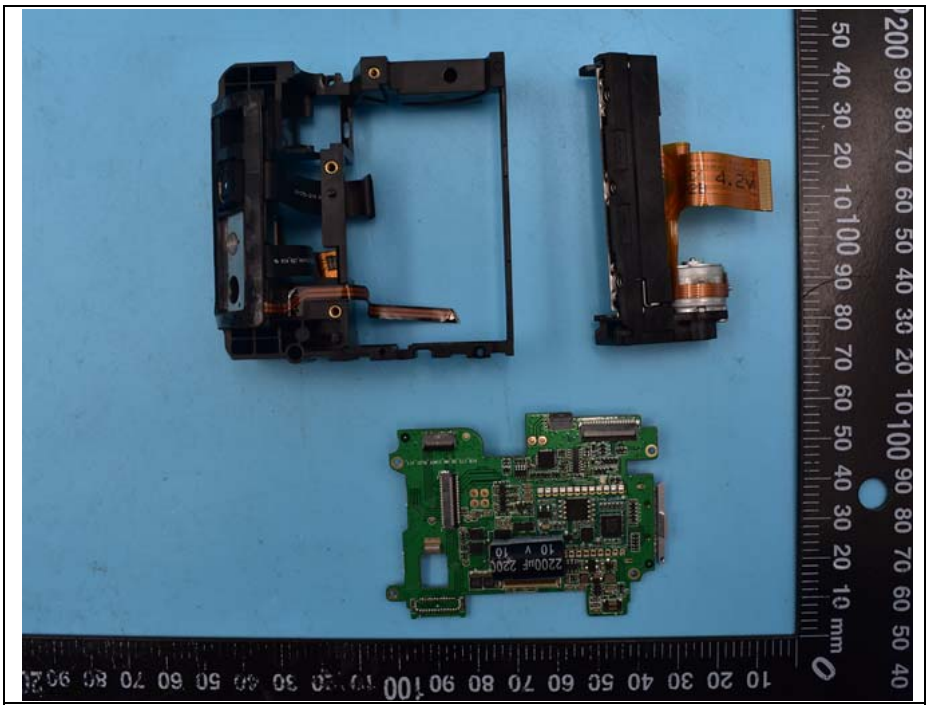

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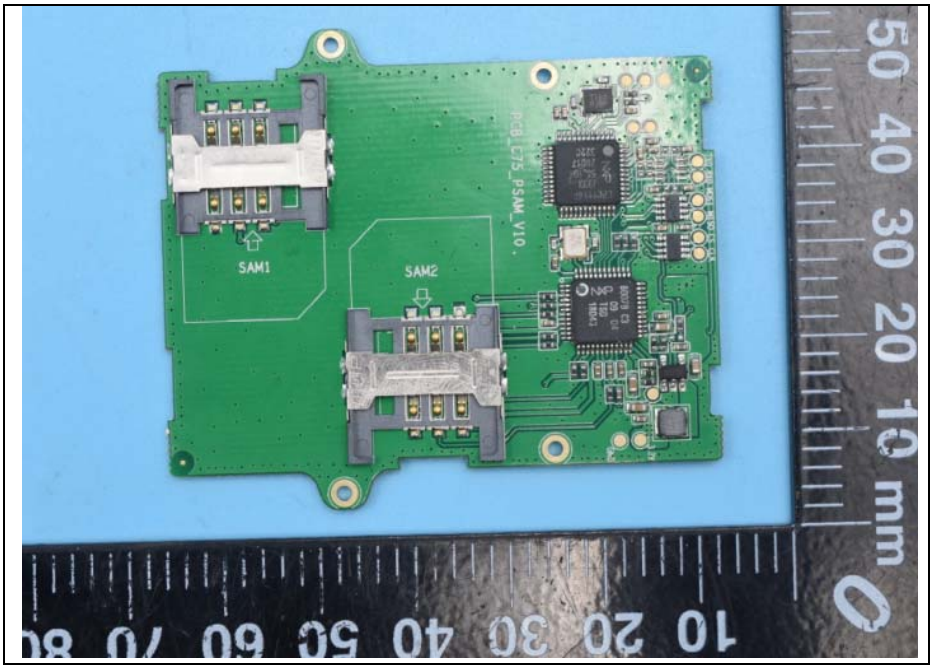

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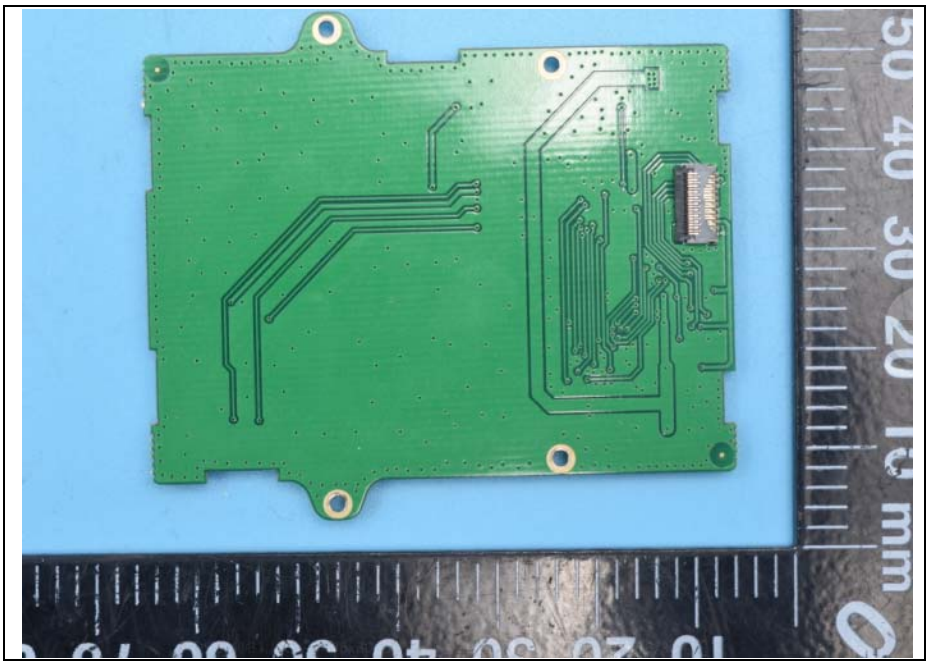

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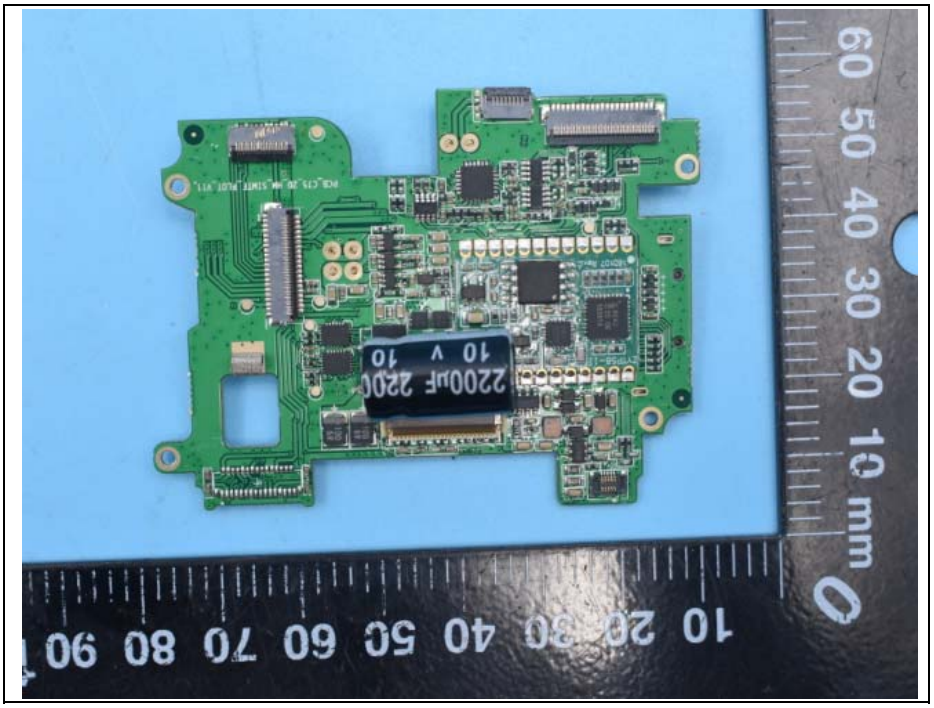

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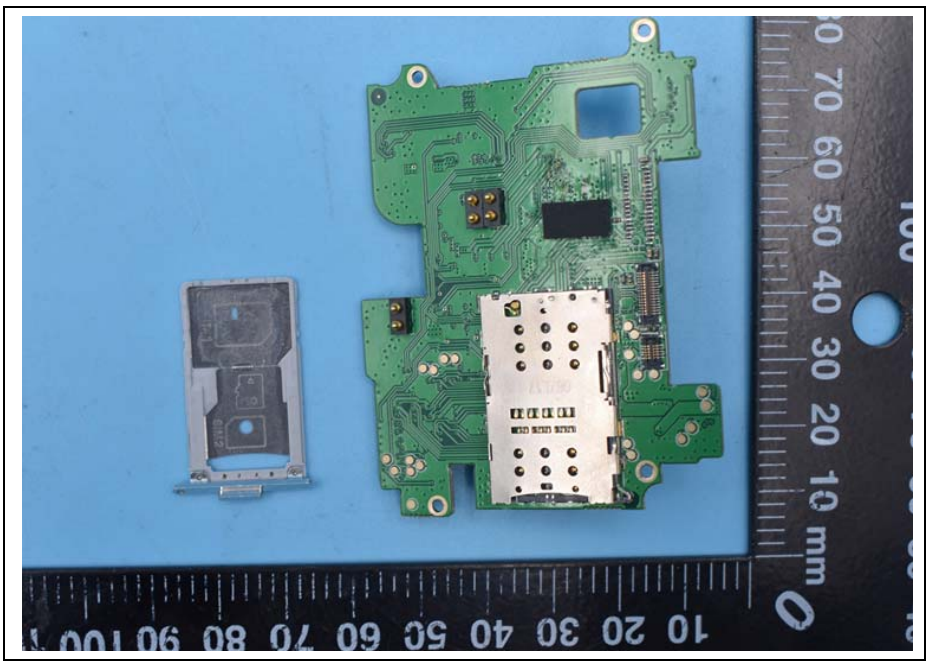

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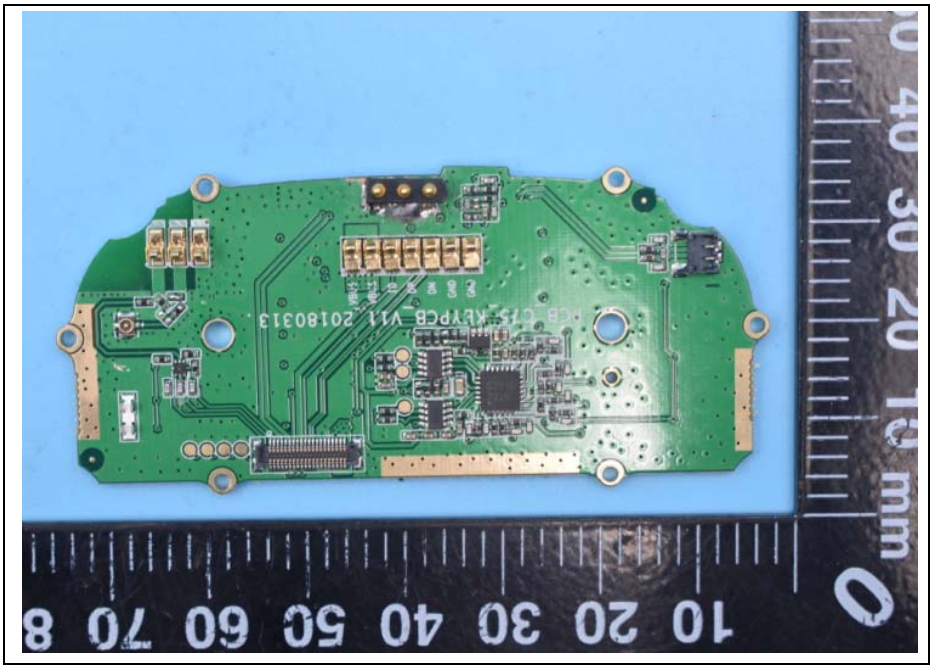

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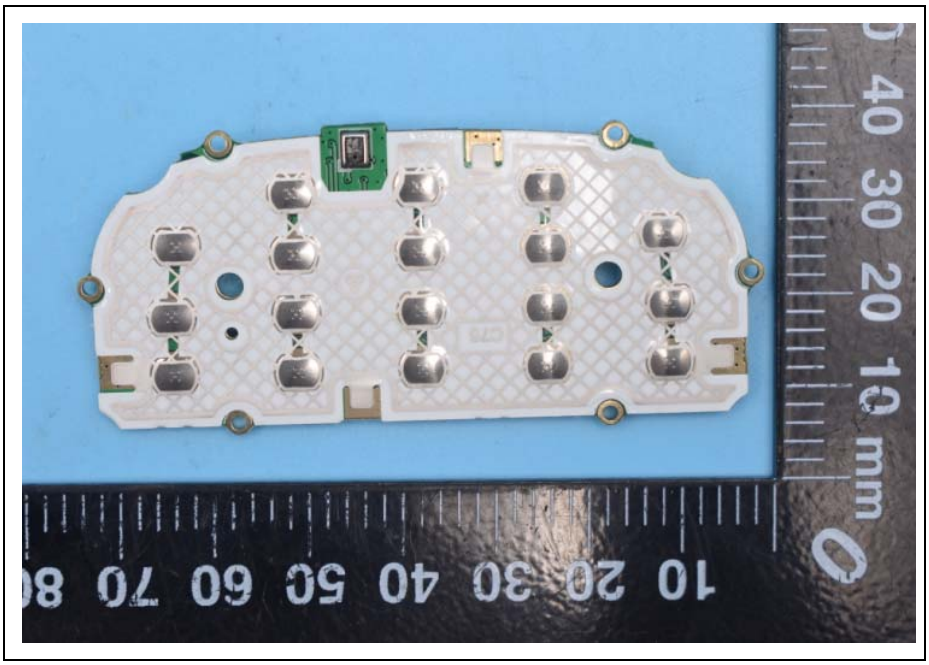

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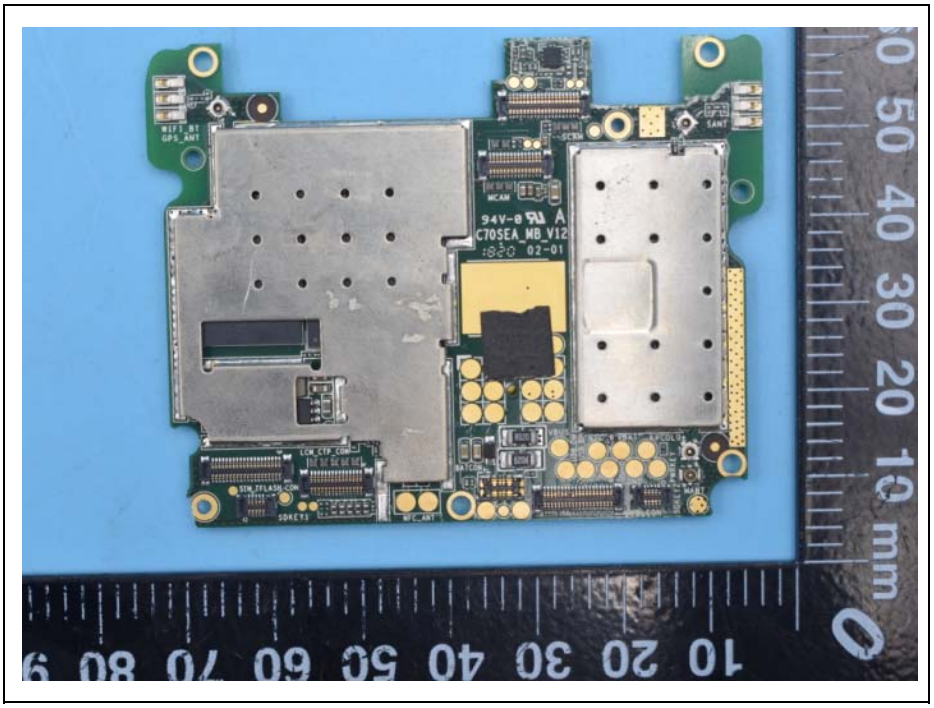

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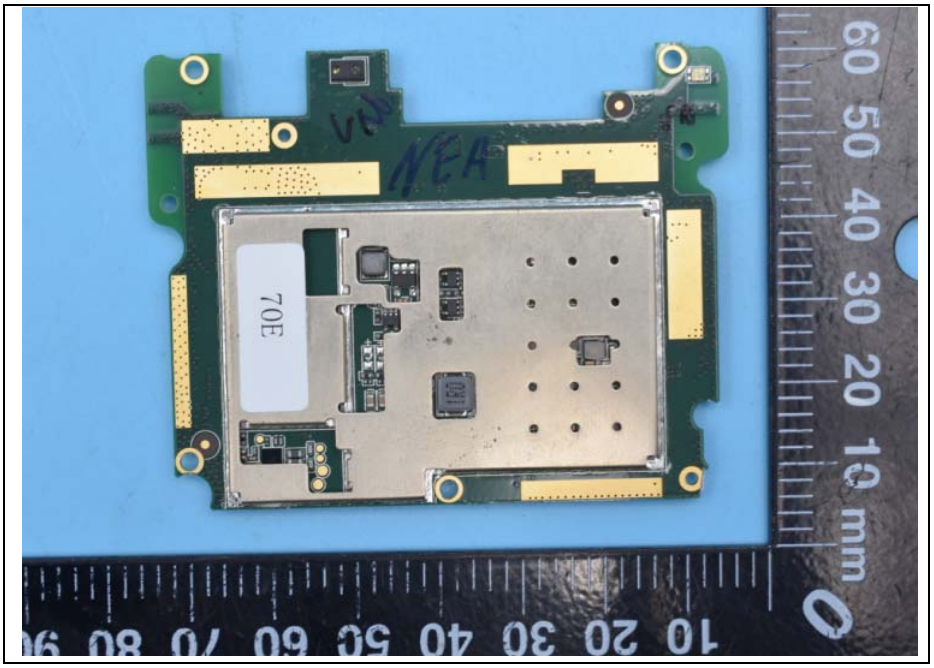

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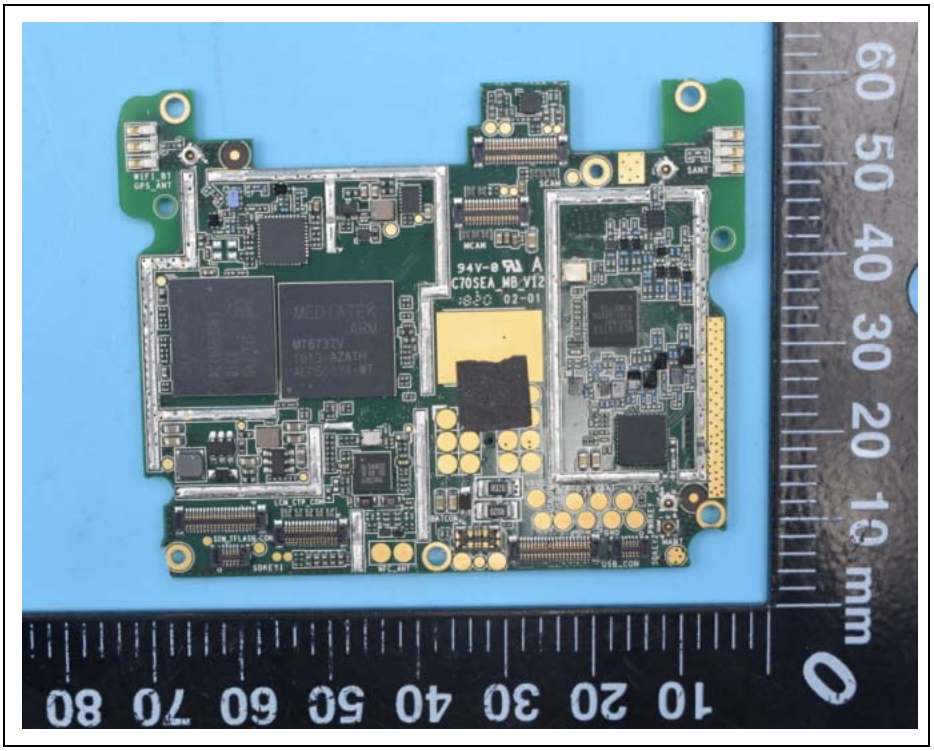
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MEDIATEK
MT6737V
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10 20 30 40 50 60 70 80

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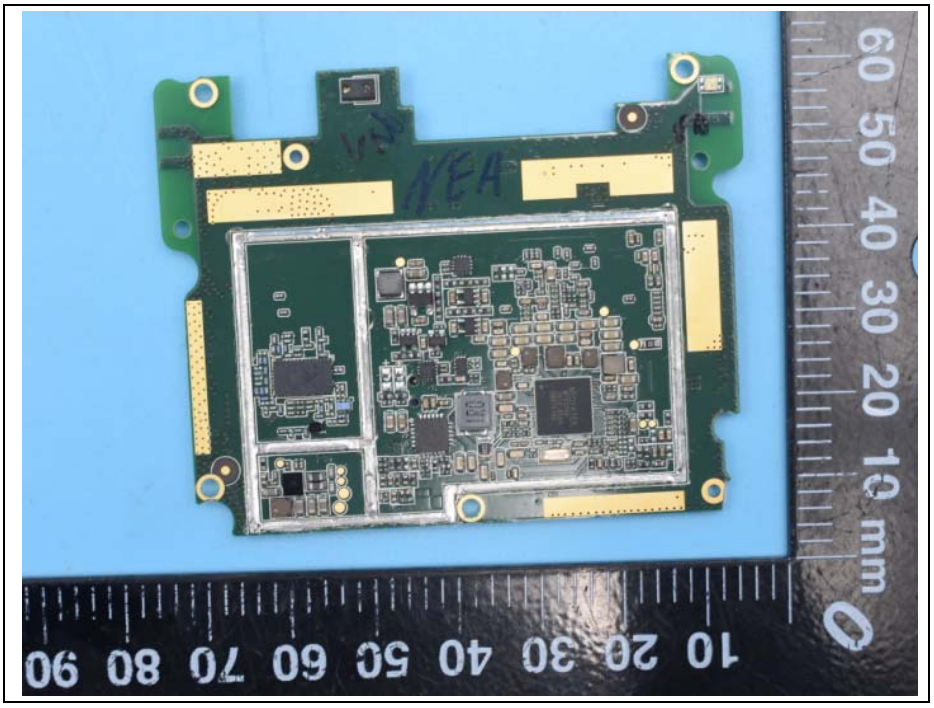
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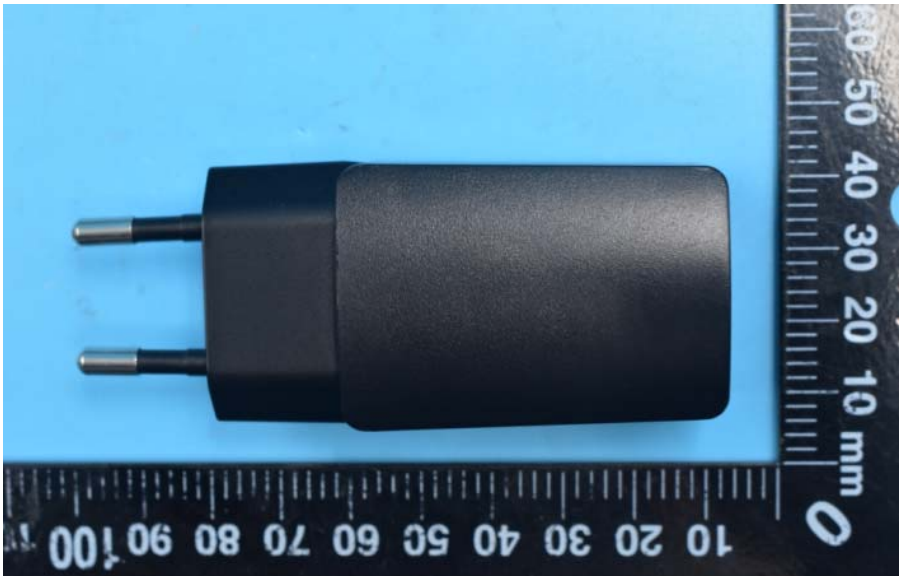

Annex General Information

B.1 Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

B.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

***** END OF REPORT *****