



REPORT No. : SZ17080130A01A

CE SAFETY TEST REPORT

MANUFACTURER : Shenzhen Chainway Information
Technology Co.,Ltd.

PRODUCT NAME : Mobile Data Terminal

MODEL NAME : C71

TRADE NAME : CHAINWAY

BRAND NAME : CHAINWAY

STANDARD(S) : EN 60950-1:2006+ A11:2009 + A1:2010
+ A12:2011+A2:2013

ISSUE DATE : 2017-09-01

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

MORLAB GROUP

FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555
[Http://www.morlab.com](http://www.morlab.com)

Fax: 86-755-36698525
E-mail: service@morlab.cn



DIRECTORY

TEST REPORT DECLARATION	3
1. TECHNICAL INFORMATION	4
1.1. MANUFACTURER INFORMATION	4
1.2. EQUIPMENT UNDER TEST (EUT) DESCRIPTION	4
1.2.1. PHOTOGRAPHS OF THE EUT	4
2. TEST RESULTS	5
ANNEX PHOTOGRAPHS OF THE EUT	90
ANNEX GENERAL INFORMATION	102

Change History		
Issue	Date	Reason for change
1.0	2017-09-01	First edition



Test Report Declaration

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
Product Name	Mobile Data Terminal
Model Name	C71
Brand Name	CHAINWAY
HW Version	C70SE_MB_V11
SW Version	V1.0_60006735_20170424
Test Standards	EN60950-1:2006+A11:2009+ A1:2010 + A12:2011+A2:2013
Test Date	2017-08-21 to 2017-08-30
Test Result	PASS

Tested by : Zhong Yingqiang
Zhong Yingqiang (Test engineer)

Approved by : Fan Yunsheng
Fan Yunsheng(Supervisor)



1. Technical Information

Note: Provide by applicant.

1.1. Manufacturer Information

Company: Shenzhen Chainway Information Technology Co.,Ltd.

Address: 9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67,
Bao'an, Shenzhen

1.2. Equipment under Test (EUT) Description

Brand Name	CHAINWAY
Trade Name	CHAINWAY
Model Name	C71
Ratings	Internal battery: d.c. 3.8V, 5000mAh Charging by Adapter: 5.0V \Rightarrow 2.0A or Charging by charging base: 5.0V \Rightarrow 2.0A
Standard.....	EN 60950-1:2006+ A11:2009 + A1:2010 + A12:2011+A2:2013
Test procedure	CE LVD Scheme
Non-standard test method.....	N/A

1.2.1. Photographs of the EUT

Please reference ANNEX Photographs of the EUT.

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
2.1.1.5	Energy hazards
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

Copy of marking plate



Designed by Chainway Made in China
Model NO:C71 FCC ID:



**Test item particulars**

Equipment mobility : ☒ movable ☒ 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
☒ not directly connected to the mains

Operating condition : ☒ continuous
☐ rated operating / resting time:

Access location : ☒ operator accessible
☐ restricted access location

Over voltage category (OVC) : ☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV
☒ 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 ☒ No

IT testing, phase-phase voltage (V) : N/A

Class of equipment : ☐ Class I ☐ Class II ☒ Class III
☐ Not classified

Considered current rating of protective device as part of the building installation (A) : N/A

Pollution degree (PD) : ☐ PD 1 ☒ PD 2 ☐ PD 3

IP protection class : IPX0

Altitude during operation (m) : <2000m

Altitude of test laboratory (m) : <200m

Mass of equipment (kg) : 0.245kg

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 IEC 60335-1:

The application for obtaining a CB Test ☐ Yes
Certificate includes more than one factory ☒ Not applicable
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.....:

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

General product information:

- The Mobile Data Terminal is Class III equipment.

- Maximum recommended ambient (T_{ma}): 45°C.

The power adapter test report No.: PT800206160416S-LD-001, specified maximum ambient temperature is 45°C through the linear computation.

- Circuit characteristics: Secondary (SELV) circuit.

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)

**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


EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
	Rated voltage(s) or voltage range(s) (V) :	(Internal battery: d.c. 3.8V, 5000mAh) Charging by Adapter: 5.0V  2.0A or Charging by charging base: 5.0V  2.0A	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
	Rated current (mA or A)	2.0A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	trade-mark: CHAINWAY	P
	Model identification or type reference	C71	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	Operation/installation instruction is provided with each unit.	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



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
	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		P
1.7.8.1	Identification, location and marking		P
1.7.8.2	Colours	Only used for function display	P
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



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No removable part.	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.	P
	Language(s)	English version is checked. Instructions shall be in a language acceptable for the country where the equipment is to be used.	—
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	No TNV circuit in Battery compartments.	P
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible.	N/A



EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage (V _{peak} or V _{rms}); 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 :	No energy hazards in operator access area. The connectors of the equipment below 240VA.	P
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
	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		P
2.2.2	Voltages under normal conditions (V)	Between any conductors of the SELV circuits 42.4V peak or 60V d.c. are not exceeded.	P



EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
2.2.3	Voltages under fault conditions (V)	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 seconds and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 seconds.	P
2.2.4	Connection of SELV circuits to other circuits	See 2.2.2 and 2.2.3	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits in the equipment	N/A
	Type of TNV circuits		—
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

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

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 μ F) :		—
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
	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
------------	--	--	-----

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
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 (mm ²), AWG.....		—
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

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
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
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



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

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	Functional insulation only. See clause 5.3.4.	P

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.1	Frequency		N/A
2.10.1.2	Pollution degrees	PD2	P
2.10.1.3	Reduced values for functional insulation	The functional insulation complied with clause 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	No such part.	N/A
2.10.1.5	Insulation with varying dimensions	No reduced distance is considered.	N/A
2.10.1.6	Special separation requirements	No TNV circuit.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit.	N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
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



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



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



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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		N/A
3.1	General		N/A
3.1.1	Current rating and overcurrent protection	No direct wiring used in the distribution lines	N/A
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators	No used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	N/A
3.1.8	Self-tapping and spaced thread screws	No used.	N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring	No sleeving used to provide supplementary insulation.	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



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



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

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
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


EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

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
4.2.2	Steady force test, 10 N	The EUT is still complying with relevant requirements of this standard after 10 N force is applied to the components	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazardous.	P
4.2.5	Impact test	See 4.2.6	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	Height 1000mm No energy or other hazardous.	P
4.2.7	Stress relief test	After 7h at 70°C and cooled down to room ambient, no shrinkage, distortion or loosening of enclosure parts was noticed on the enclosure.	P
4.2.8	Cathode ray tubes	No cathode ray tube.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not for wall or ceiling mounted equipment.	N/A


EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

4.3	Design and construction		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N) :	No such controls.	N/A
4.3.3	Adjustable controls	No such adjustable control.	N/A
4.3.4	Securing of parts	No loosening of parts is likely to occur.	P
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	P
	- 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



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 and flash LED comply with Exempt Group and Risk Group 1	P
4.3.13.6	Other types		N/A



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

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
	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	—



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

4.6	Openings in enclosures		P
4.6.1	Top and side openings	No opening	P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	No opening	P
	Construction of the bottommm, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures	No doors or covers	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

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	Conditions for a fire enclosure	See below	P
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: <ul style="list-style-type: none">● 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



EN 60950-1			
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)		—



EN 60950-1			
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



EN 60950-1			
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


EN 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	Not connection to telecommunication networks	—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	NOT CONNECTION TO CABLE DISTRIBUTION SYSTEMS	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
A.1.1	Samples		—
	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)		—



EN 60950-1			
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	(see appended table 5.3)	P
B.6.1	General		N/A
B.6.2	Test procedure		N/A



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits	(see appended table 5.3)	P
B.7.1	General	(see appended table 5.3)	P
B.7.2	Test procedure	(see appended table 5.3)	P
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ... :	Motor voltage not exceed the limited.	N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings		N/A

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
----------	---	--	-----



EN 60950-1			
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



EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		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
G.6	Determination of minimum clearances ...		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)	N/A
----------	---	-----

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)	N/A
	Metal(s) used	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)	N/A
K.1	Making and breaking capacity	N/A
K.2	Thermostat reliability; operating voltage (V)	N/A
K.3	Thermostat endurance test; operating voltage (V)	N/A
K.4	Temperature limiter endurance; operating voltage (V)	N/A
K.5	Thermal cut-out reliability	N/A
K.6	Stability of operation	(see appended table 5.3) N/A



EN 60950-1			
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	Ringling 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

**EN 60950-1**

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

**EN 60950-1**

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

**EN 60950-1**

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

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A):		N/A
	Test with wedge probe (Figure EE1 and EE2):		N/A



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

EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

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 4.7.3.1 Note 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		P



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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	6.2.2. Note * 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)

	<p>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.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p>		
	<p>The requirements do not apply:</p> <ul style="list-style-type: none">– while the personal music player is connected to an external amplifier; or– while the headphones or earphones are not used. <p>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.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none">– hearing aid equipment and professional equipment; <p>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.</p> <ul style="list-style-type: none">– 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. <p>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.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits</p>		N/A



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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	of EN 71-1 apply.		
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none">– 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. <p>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.</p>		N/A
	<p>All other equipment shall:</p> <ul style="list-style-type: none">a) protect the user from unintentional acoustic outputs exceeding those mentioned above; andb) 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; andc) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above.		N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	<p>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</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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.</p>		
	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)

	<p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A
	Zx.3 Warning		N/A

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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	<p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div data-bbox="466 887 727 1151" data-label="Image">  </div> <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or</p>		N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	<p>passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>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.</p> <p>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.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none">– 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 level; and– with volume and sound settings in the listening device (for example built-in		N/A



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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	<p>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.</p> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		
	<p>Zx.5 Measurement methods</p> <p>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.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>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):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply</p>		N/A



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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	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;		
	<p>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.</p> <p>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.</p>		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	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <p>Up to and including 6 0,75 ^{a)} </p> <p>Over 6 up to and including 10 (0,75) ^{b)} </p> <p>1,0 Over 10 up to and including 16 </p>		N/A

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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
	<p>(1,0)^{c)} 1,5 </p> <p>In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>		
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	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <p>Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>		N/A
4.3.13.6 (A1:2010)	<p>Replace the existing NOTE by the following:</p> <p>NOTE Z1 Attention is drawn to:</p> <p>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and</p> <p>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).</p>	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	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background</p>	The unit does not emit X-ray radiation.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

	level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		
Bibliography	Additional EN standards.		—
ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—

**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)**

	<p>have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p> <p>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.</p> <p>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.</p> <p>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:</p>		
--	--	--	--

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	<p>“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).”</p>		
	<p>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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“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.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan</p>		N/A



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

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		
1.7.2.1 (A2:2013)	In Denmark , 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, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in Denmark shall be as follows: In Denmark : “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”		N/A
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the	No socket-outlets provided.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		
1.7.5 (A2:2013)	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c		N/A
2.2.4	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
2.3.2	In Finland , Norway and Sweden there are additional requirements for the insulation.	No TNV circuits.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	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 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		N/A



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

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	<p>plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>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.</p> <p>Justification the Heavy Current Regulations, 6c</p>		
3.2.1.1	<p>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:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>	Class III equipment, no power supply cord provide.	N/A
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>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 dimension sheets, published in February</p>		N/A



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

ZB ANNEX (normative)

SPECIAL NATIONAL CONDITIONS (EN)

	<p>1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16</p>		
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>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.</p> <p>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.</p>	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not</p>	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)**

	<p>exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>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.</p> <p>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.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		
3.2.1.1	<p>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.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	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)**

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 mm ² 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: <ul style="list-style-type: none">1,25 mm² to 1,5 mm² 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 PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9,		N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a	Not exceed 3.5mA.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	SERVICE PERSON; <ul style="list-style-type: none">• STATIONARY PLUGGABLE EQUIPMENT TYPE B;• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none">- 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. <p>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</p> <ul style="list-style-type: none">- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of	No TNV circuits.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	No TNV circuits.	N/A
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE	No TNV circuits.	N/A

**EN 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

ZB ANNEX (normative)**SPECIAL NATIONAL CONDITIONS (EN)**

	EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No CDS circuits.	N/A
7.3	In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway, for installation conditions see EN 60728-11:2005.		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:100-240 V~,50/60Hz, 0.28A Output: DC5.0V, 2.0A Max.: 12.58VA LPS.	EN 60950-1:2006 +A11:2009+A1:2010+A12:2011+A2:2013	Test Report No.: PT80020616041 6S-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	
PCB (charging base)	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	
Enclosure (charging base)	Various	Various	Metal	EN60950-1	Tested within appliance	
Battery pack	Springpower Technology(ShenZhen) Co.,LTD.	886061	DC 3.8V 5000mAh	IEC 62133: 2012 (Second Edition)	Test Report No.: SZ17080130D02 by Shenzhen Morlab Communication Technology Co., Ltd	



-Battery cell	Springpower Technology(ShenZhen) Co.,LTD.	866061	DC 3.8V 5000mAh	IEC 62133: 2012 (Second Edition)	Test Report No.: SZ17080130D02 by Shenzhen Morlab Communication 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 (WHITE 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
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-C B-2 by UL RTP



Scan Engine	ZEBRA TECHNOLOGIES CORPORATION	SE4750	Electrical ratings are not required – (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-C B-2 by UL RTP
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	shengzhen tengzhihui Tenghui Electronics Co., Ltd.	1027---L15	Rated voltage: 3.0Vdc Rated speed: 10000rpm Min ± 2000	EN60950-1	Tested within appliance
Speaker	Hosiden Corporation	HDR9254-0 14070	$8.5 \pm 1.5 \Omega$ 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)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
5Vdc	0.921	2.0	4.505	--	--	Max. Normal load. (Condition A)	
5Vdc	1.062	2.0	5.051	--	--	Max. Normal load. (Condition B)	
5Vdc	1.024	2.0	4.972	--	--	Max. Normal load. (Condition C)	
4.35Vdc	0.875	--	3.762	--	--	Max. Normal load. (Condition D)	
4.35Vdc	0.869	--	3.736	--	--	Max. Normal load. (Condition E)	
5Vdc	1.073	2.0	5.350	--	--	Max. Normal load. (Condition F)	



5Vdc	1.068	2.0	5.298	--	--	Max. Normal load. (Condition G)
------	-------	-----	-------	----	----	------------------------------------

Supplementary information:

Condition A: the unit was charged full discharged battery pack only.

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

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

Condition F: the unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and charged by charging base.

Condition G: the unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, communications and charged by charging base.

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
Input L and N	--	--	--	--

Note(s):

Test voltage:

2.2	TABLE: evaluation of voltage limiting components in SELV circuits	N/A
-----	--	-----

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
--	--	--	--
--	--	--	--
--	--	--	--

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
--	--
--	--

supplementary information:

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 voltage (V)	Required DTI (mm)	DTI (mm)
--		--	--	--	--	--
--		--	--	--	--	--
Supplementary information:						



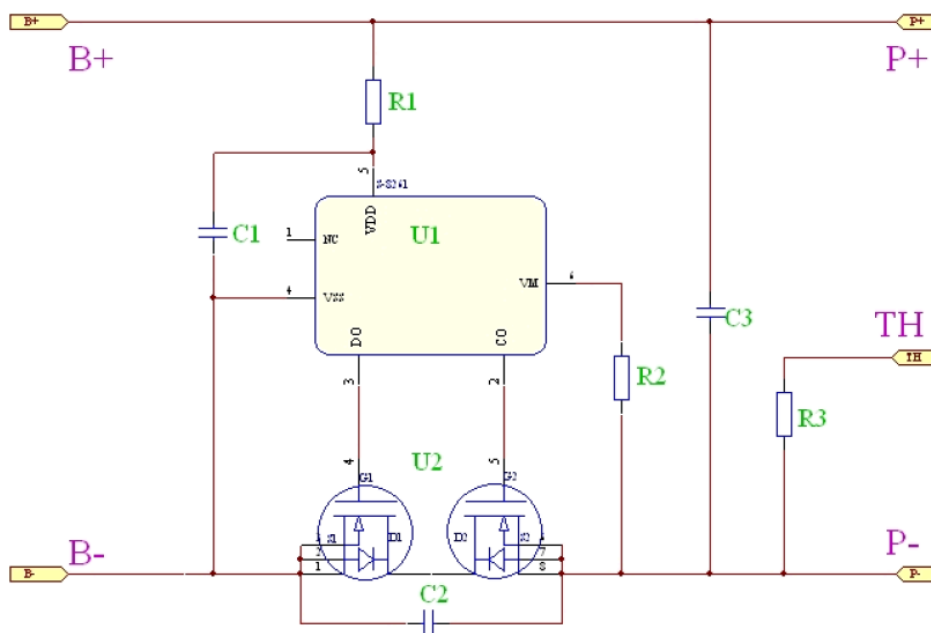
4.3.8	TABLE: Batteries								P	
The tests of 4.3.8 are applicable only when appropriate battery data is not available									N/A	
Is it possible to install the battery in a reverse polarity position?									N/A	
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional 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	--	--	--	1435 mA	2500 mA	875 mA	5000 mA	--	--	
Max. current during fault condition	--	--	--	1439 mA	2500 mA	875 mA	5000 mA	--	--	
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 –pin6 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 (5V)	Supplied by battery pack	Supplied by charging base (5V)	—		
	Ambient T _{min} (°C)	--	--	--	—		
	Ambient T _{max} (°C)	See below	See below	See below	—		
Maximum measured temperature T of part/at::		T (°C)			Allowed T _{max} (°C)		
		Condition B	Condition D	Condition F			
Test condition with Max. Load:		--	--	--	--		
Glass enclosure near Panel		58.55	56.72	--	65		
Key Pad		50.85	49.57	--	75		
Plastic enclosure outside near battery		53.25	52.42	--	75		
Battery body surface		56.60	55.57	--	60		
PCB near U101		69.10	66.22	--	130		
PCB near U4102		71.00	70.12	--	130		
PCB near input connector		64.00	59.92	--	130		
Charging base							
Plastic enclosure outside surface of top		--	--	53.00	75		
PCB near T1		--	--	65.90	130		
PCB near U1		--	--	76.10	130		
PCB near U3		--	--	69.00	130		
Ambient °C		45.00	45.00	45.00	--		
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): 45°C.

The power adapter test report No.: PT800206160416S-LD-001, specified maximum ambient temperature is 45°C through the linear computation.

Condition A: the unit was charged full discharged battery pack only.

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

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

Condition F: the unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, Wifi connection play video and charged by charging base.

Condition G: the unit was operated continuously with max. Brightness of LCD, Max. Volume of speaker, communications and charged by charging base.

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	Thicknes s (mm)	Flammabil ity 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
L/N to enclosure surface(with metal foil)		--	--	--
L/N to accessible terminal		--	--	--
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 S243	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.



EUT control board R357	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board L301	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
EUT control board U301 pin1-pin13	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
Battery control board U2 pin1-pin6	S-c	5Vdc	7h	--	--	Battery overcharges tests, no abnormal temperature, no abnormal current, and no hazard.
Battery control board U2 pin1-pin6	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	3Vdc	7h	--	--	Motor body surface temperature:56.7℃ Ambient:28.3℃ No hazard.
Speaker	S-c	5Vdc	2h	--	--	No hazard
Charging base						



EUT control board C1	S-c	5Vdc	7h	--	--	No abnormal temperature, no abnormal current, and no hazard.
EUT control board R14	S-c	5Vdc	7h	--	--	No abnormal temperature, no abnormal current, and no hazard.
EUT control board D12	S-c	5Vdc	7h	--	--	No abnormal temperature, no abnormal current, and no hazard.

supplementary information

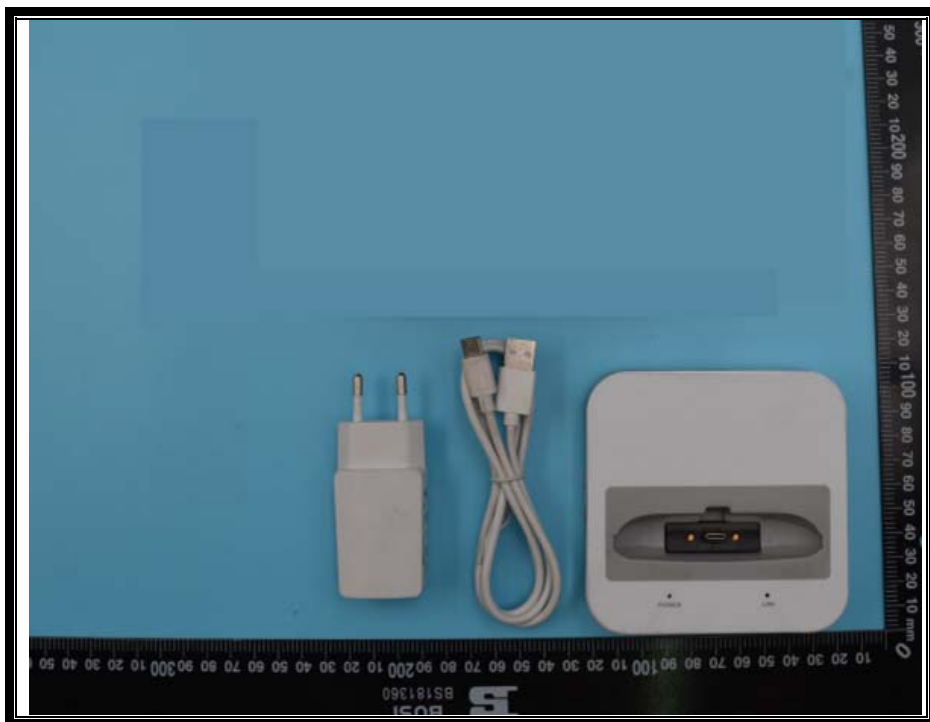
Note: In fault column, S-c=short-circuited, O-l=over-loaded.

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

1



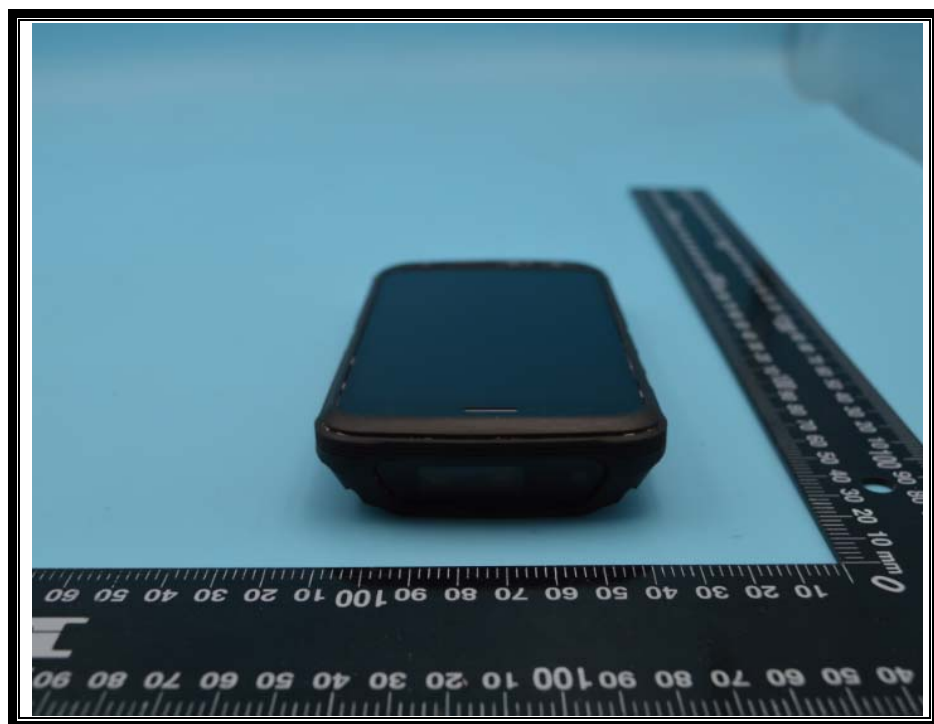
2



3



4



5



6



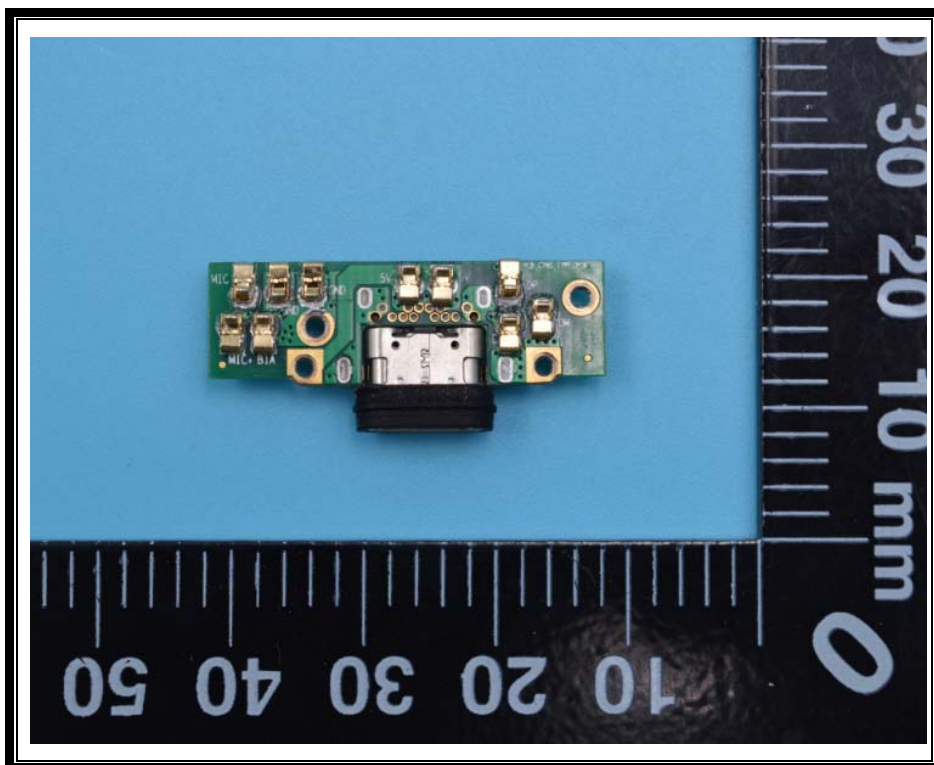
7



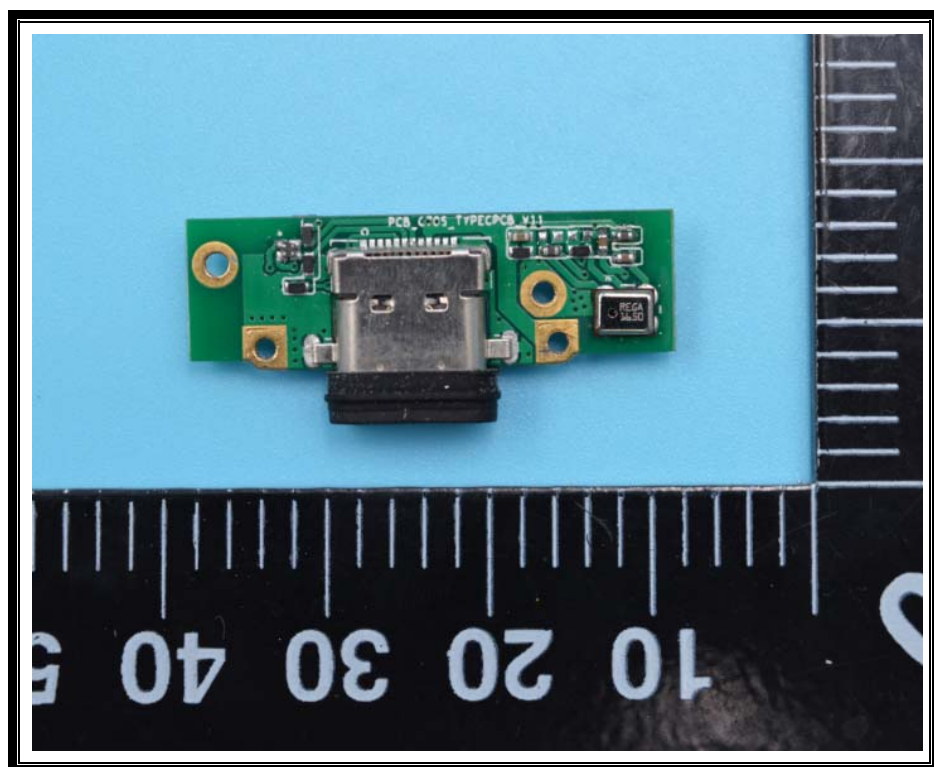
8



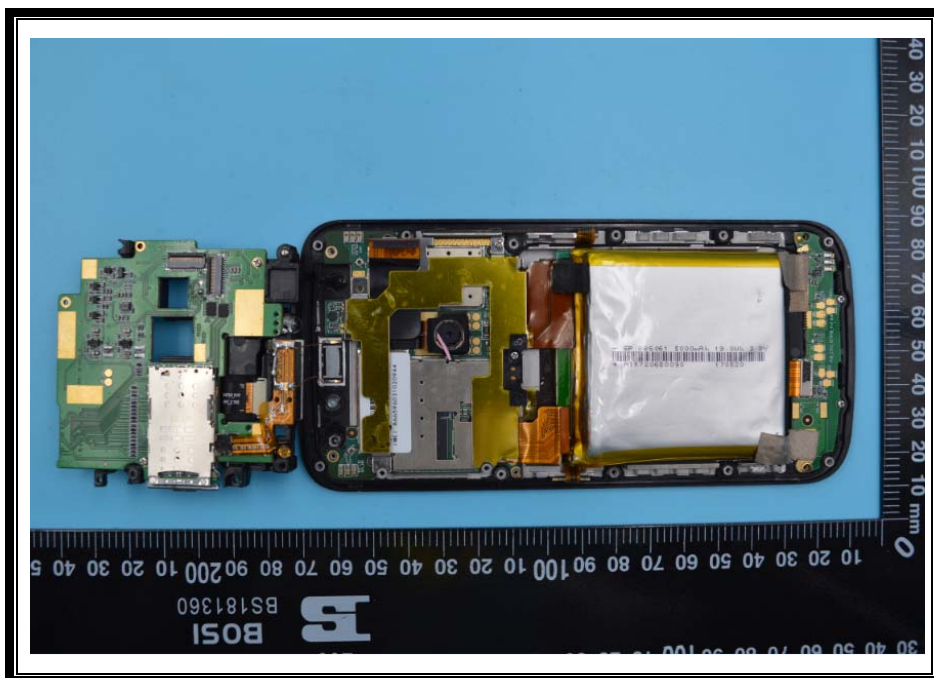
9



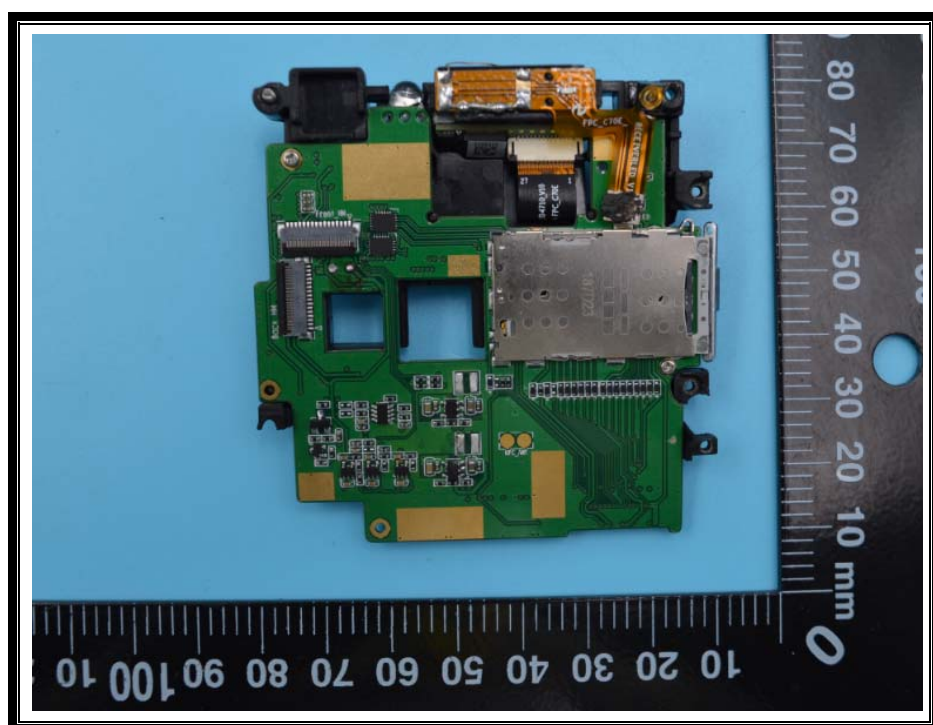
10



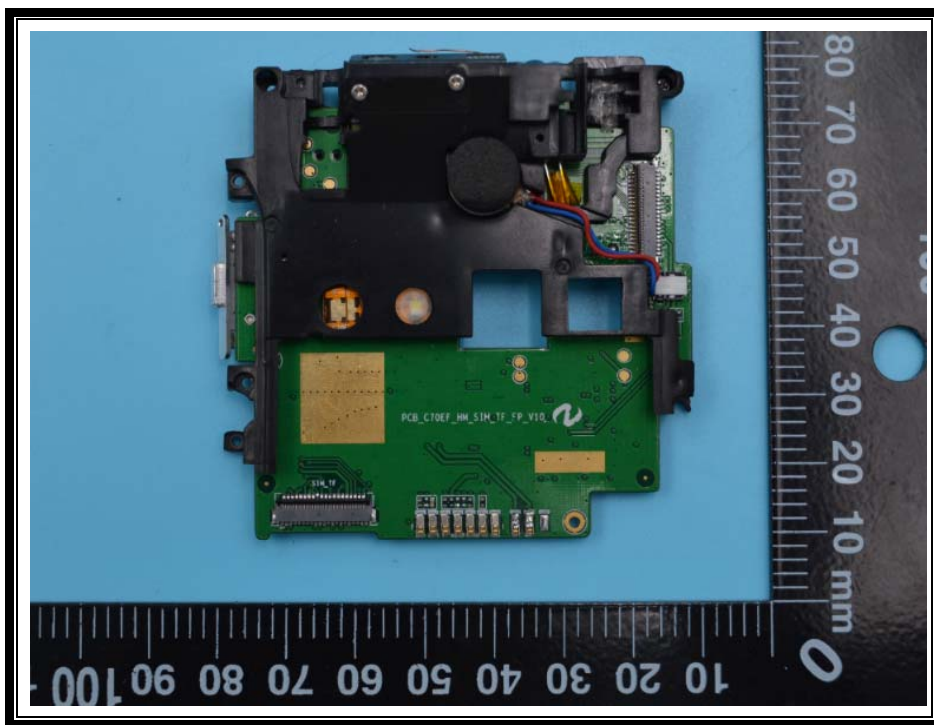
11



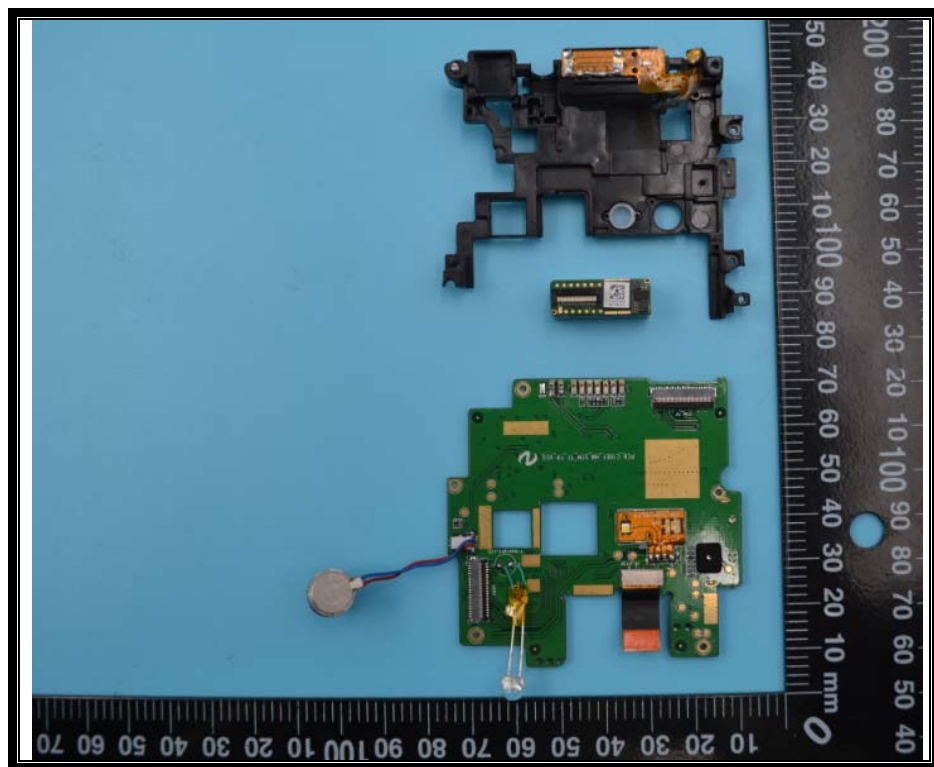
12



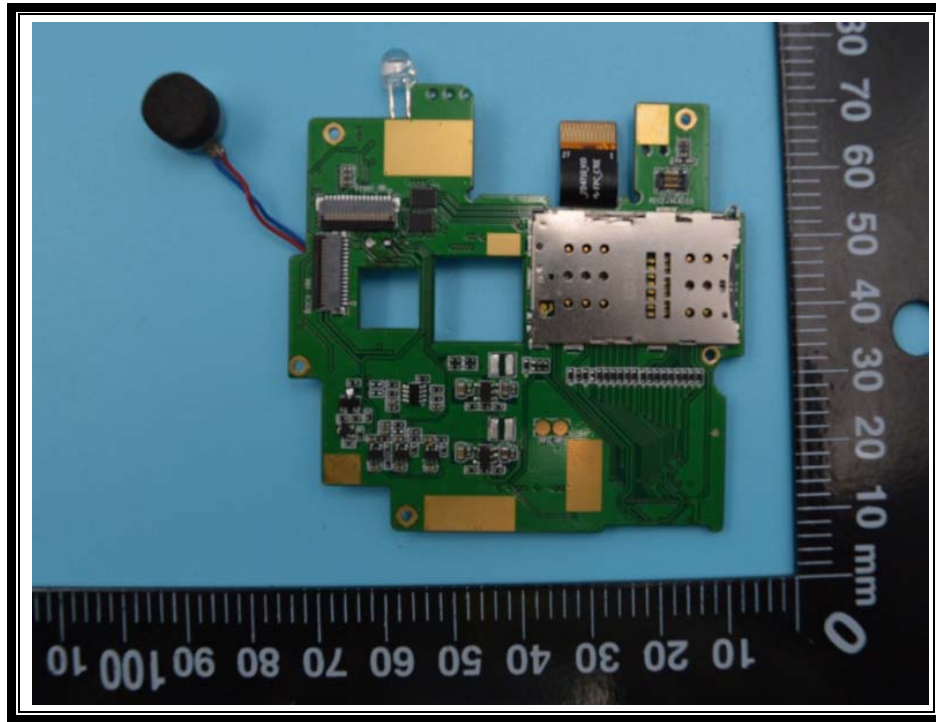
13



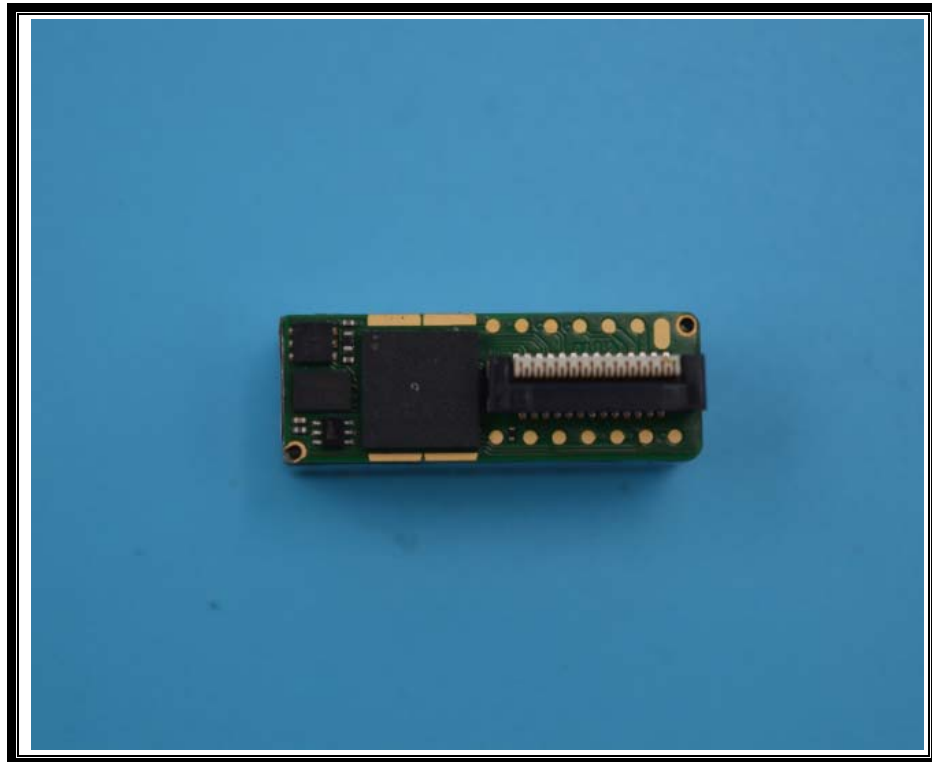
14



15



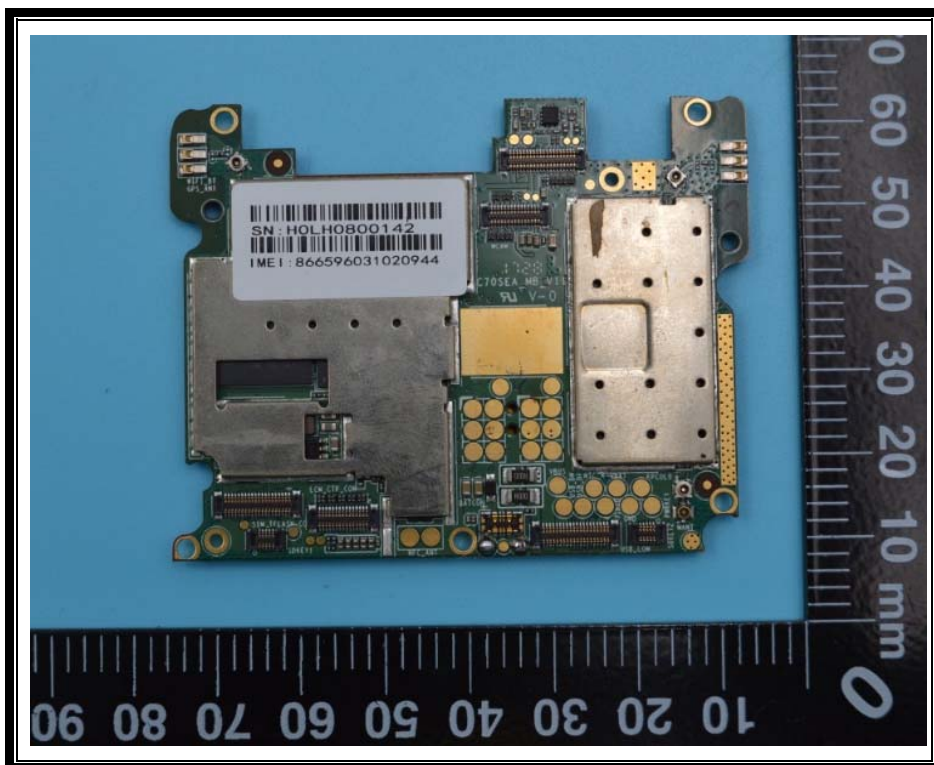
16



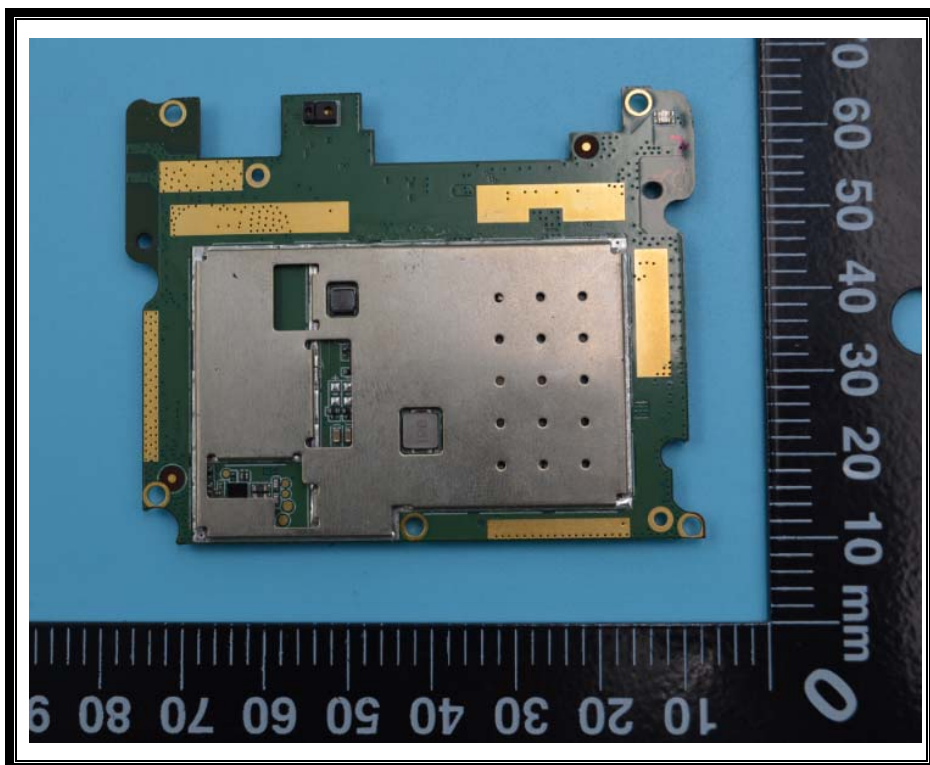
17



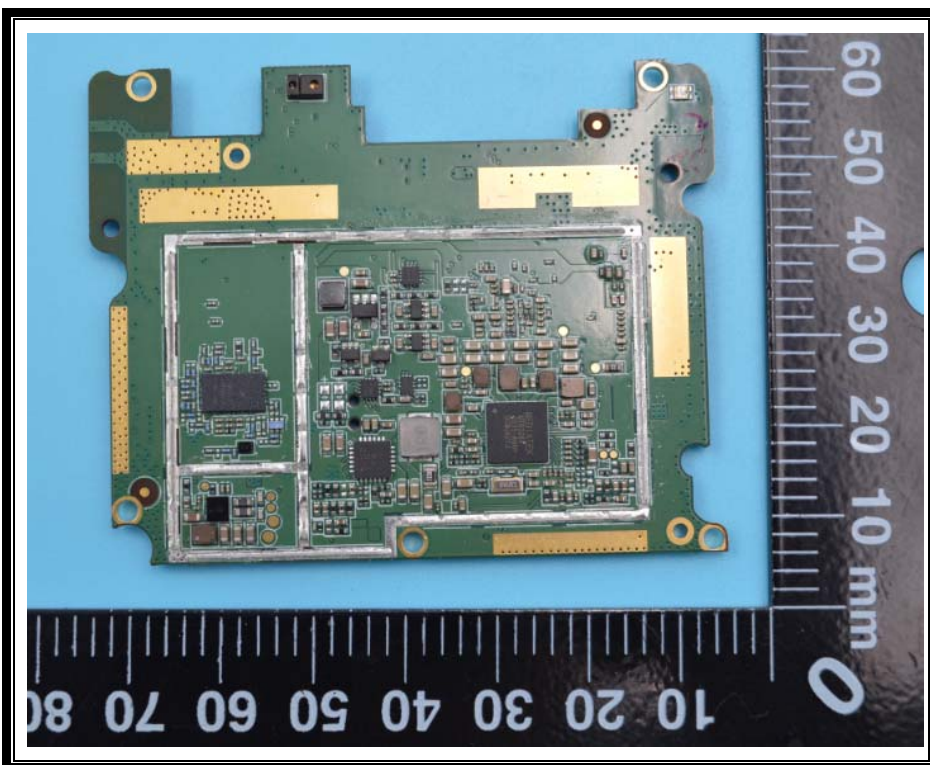
18



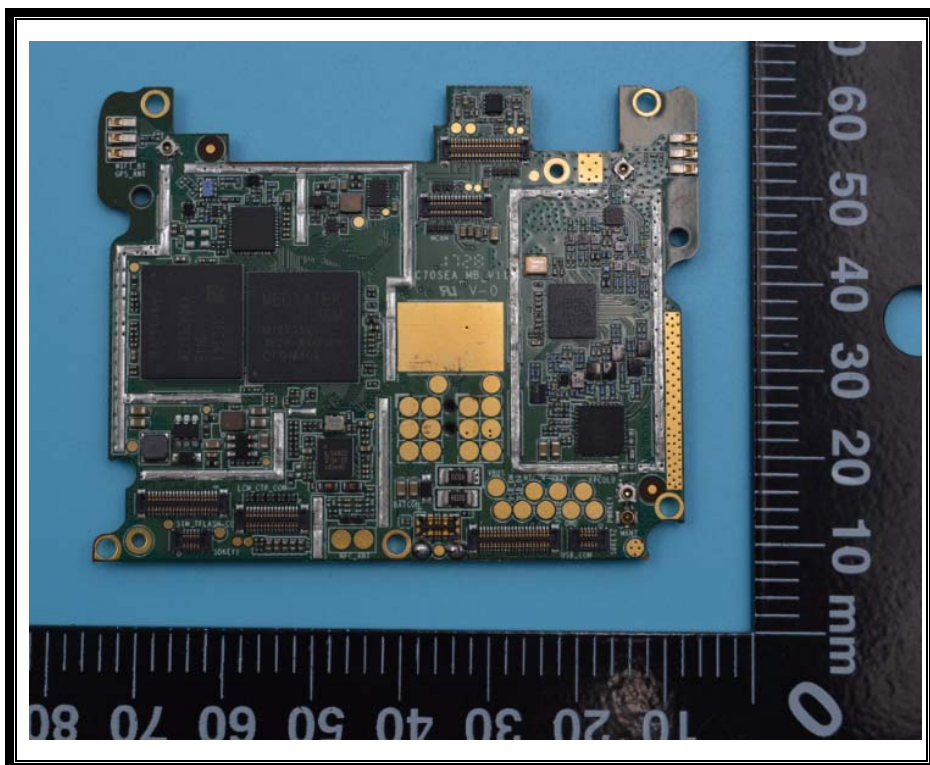
19



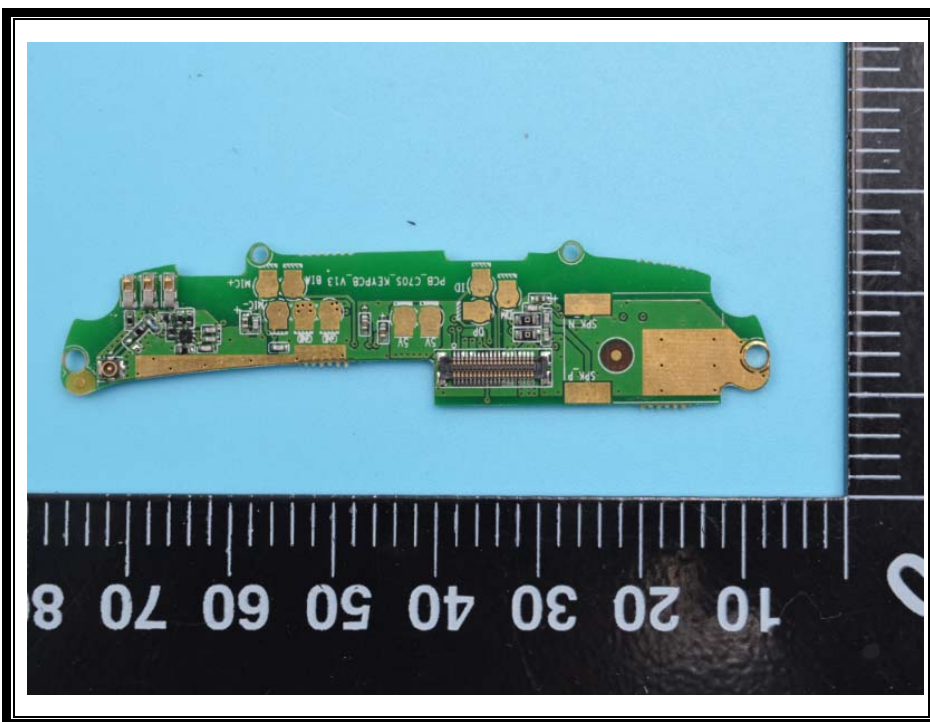
20



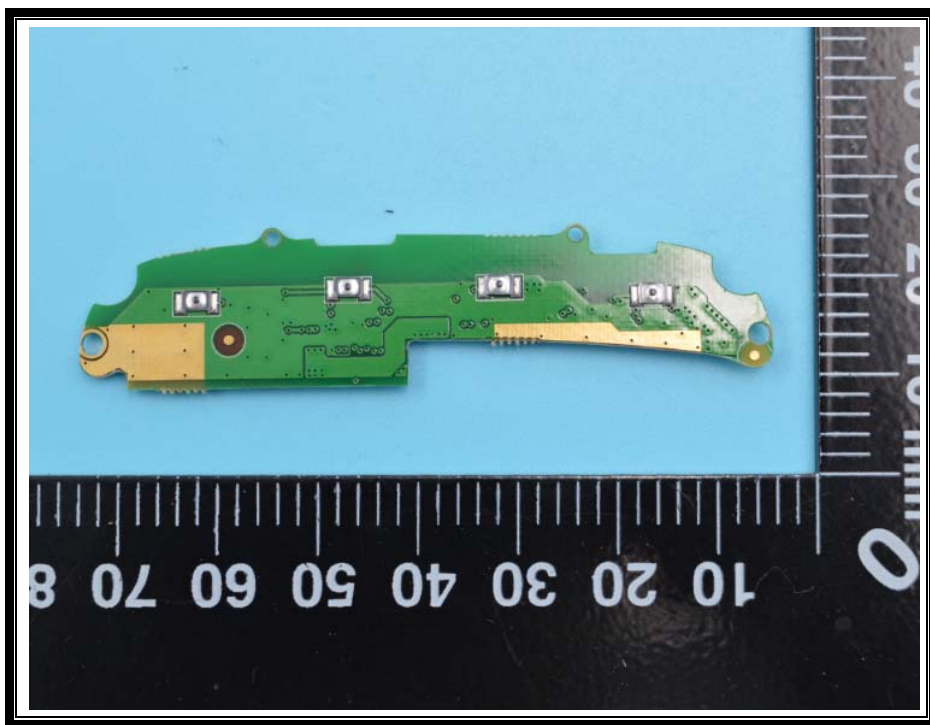
21



22



23





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 *****