

# Safety Test Report

Report No.: AGC10798220201ES01

PRODUCT DESIGNATION	:	True Wireless Bluetooth Earbuds
BRAND NAME	:	<b>F80</b>
MODEL NAME	:	F&D E4, T606, F&D E1, F&D E2
APPLICANT	:	SHENZHEN FENDA TECHNOLOGY Co., LTD
DATE OF ISSUE	:	Mar. 25, 2022
STANDARD(S)	:	EN 62368-1:2014+A11:2017
<b>REPORT VERSION</b>	:	V1.0
		Gonal Compliance (Shendard





	TEST REPOR EN 62368-1	RT		
Audio/video, information and communication technology equipment Part 1: Safety requirements				
Report No	AGC10798220201ES01			
Tested by (+ signature):	Dylon Yan	Rylon. Yan		
Reviewed by (+ signature)	Byron Wang	Byron Wang		
Approved by (+ signature)	Matte He (Authorized Officer)	Rylon, Yan Byron Way mette He		
Date of issue	 Mar. 25, 2022			
Contents	Total 65 pages			
Testing laboratory				
Name	Attestation of Global Compli	ance (Shenzhen) Co., Ltd.		
Address	: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China			
Testing location	Same as above.			
Applicant				
Name	SHENZHEN FENDA TECH	NOLOGY Co., LTD		
Address	Fenda Hi-Tech Park, Zhous ShenZhen, China	shi Road, Shiyan Street, Baoan District,		
Manufacturer				
Name	SHENZHEN FENDA TECH	NOLOGY Co., LTD		
Address:	Fenda Hi-Tech Park, Zhous ShenZhen, China	shi Road, Shiyan Street, Baoan District,		
Factory				
Name	SHENZHEN FENDA TECH	NOLOGY Co., LTD		
Address	Fenda Hi-Tech Park, Zhous ShenZhen, China	shi Road, Shiyan Street, Baoan District,		
Test specification				
Standard	EN 62368-1:2014+A11:201	7		
Test procedure	Type test			
Procedure deviation	N/A			
Non-standard test method	N/A			



Test Report Form/blank test report		
Test Report Form No	AGC62368A2	
TRF originator	AGC	
Master TRF	2018-09	
Test item		
Product designation	True Wireless Bluetoot	h Earbuds
Brand name:	<b>// F8</b> D	
Test model	F&D E4	
Series model	T606, F&D E1, F&D E2	1
Rating(s)	Input: 5.0V 0.5A Output: 5.0V 0.3A	
	(for charging base)	
Test item particulars		
Classification of use by	:	⊠ Ordinary person
		Instructed person
		Skilled person
		Children likely to be present
Supply Connection	:	AC Mains DC Mains
		External Circuit - not Mains connected
		- 🛛 ES1 🗌 ES2 🗌 ES3
Supply % Tolerance	·······	□ +10%/-10%
		<b>+20%/-15%</b>
		□ + <u></u> %/ - <u>%</u>
		⊠ None
Supply Connection – Type	·······	
		non-detachable supply cord
		appliance coupler
		direct plug-in
		mating connector
		D pluggable equipment type B -
		non-detachable supply cord
		appliance coupler
		<ul> <li>□ permanent connection</li> <li>□ mating connector ⊠ other: not mains connected</li> </ul>
Considered current rating of protective	device as part of	N/A
building or equipment installation	:	Installation location: 🗌 building; 🗌 equipment



Equipment mobility		:	movable     stationary     plug-in    rack	hand-hel [] hand-hel [] hand-hel [] hand-hel [] hand held held held held held held held hel	<u> </u>
Over voltage categor	y (OVC)				
				other: <u>no</u>	t mains connected
Class of equipment .			Class I	Class II	🛛 Class III
Access location		······	restricted ac	ccess location	🖾 N/A
Pollution degree (PD)	)		🗌 PD 1	🛛 PD 2	🗌 PD 3
Manufacturer's speci	fied maximum operating a	mbient	45°C		
IP protection class			🛛 IPX0 🗌 IP	>	
Power Systems			🗌 TN 🗌 TT		V <sub>L-L</sub>
Altitude during operat	tion (m)		🛛 2000 m or le	ess 🗌	m
Altitude of test labora	tory (m)		🛛 2000 m or le	ess 🗌	m
Mass of equipment (	<g)< td=""><td></td><td>⊠ &lt;1 kg</td><td></td><td></td></g)<>		⊠ <1 kg		
Test case verdicts					
Test case does not ap	oply to the test object	:	N (/A)		
Test item does meet the requirement			P(ass)		
Test item does not meet the requirement			F(ail)		
Testing					
Date of receipt of test item			Mar. 01, 2022		
Date of performance of test			Mar. 01, 2022 -	Mar. 24, 202	2
Attachments					
Attachment A		:	Photos of produ	uct	
<b>General remarks</b> This report shall not be reproduced except in full without the written approval of the testing laboratory. The test results presented in this report relate only to the item tested. "(See remark #)" refers to a remark appended to the report.				atory.	
"(See appended table)" refers to a table appended to the report.					
	t a point is used as the deci	imal separator.			
Report Revise Reco			<u> </u>	I	
Report Version	Revise Time	Issued Da	ite Valid	Version	Notes
V1.0	/	Mar. 25, 20	)22 \	/alid	Initial release

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#### **General product information**

The product consists of earphone charge base and earphone. All tests have been considered to both of them, Which is considered a transportable apparatus, and for dry location used only.

Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.

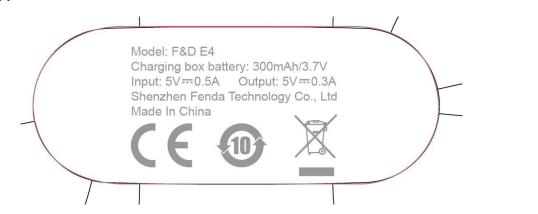
All models are identical except for model name.

The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 45°C.

#### Summary of testing

The product fulfils the requirements of EN 62368-1:2014+A11:2017.

## Copy of marking plates



Remark:

1) The CE marking and WEEE symbol (if any) should be at least 5mm and 7mm respectively in height.

2) The markings and instructions are the minimum requirements required by safety standard. For final production samples, the additional markings which do not give rise to misunderstanding may be added.

3) As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or mark and the postal address will be marked on the products before being place on the market.

4) Marking on the packaging or in a document accompanying the electrical equipment is only acceptable if it is not possible to place such markings on the product.

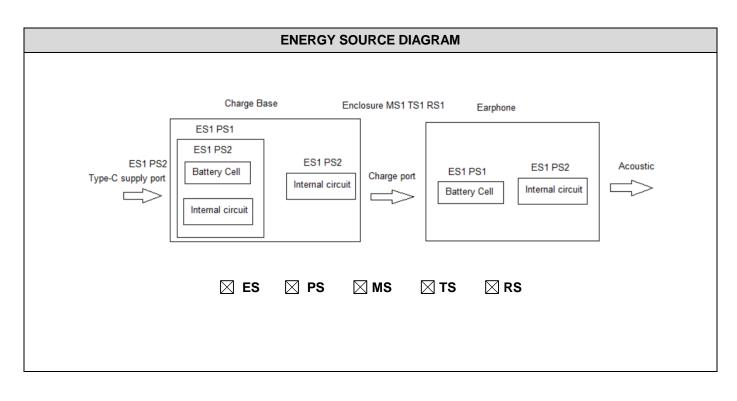


### ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms bas (Note 2: The identified classification e.g., ES2, TS1, should be body or its ability to ignite a combustible material. Any energy classification e.g. PS3, ES3.	e with respect to its ability to cause pain or injury on the
Electrically-caused injury (Clause 5):	
(Note: Identify type of source, list sub-assembly or circuit desi	anation and corresponding energy source
classification)	ghallon and concepting energy course
Example: +5 V dc input	ES1
Source of electrical energy	Corresponding classification (ES)
Internal circuit	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and correspon Example: Battery pack (maximum 85 watts):	ding energy source classification) PS2
Source of power or PIS	Corresponding classification (PS)
Earphone	
Internal circuit	PS2
Battery cell	PS1
Charging base	·
Type-C port	PS2
Internal circuit	PS2
Battery cell	PS2
Battery pack	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone of the component evaluation.) Example: Liquid in filled component	e or other chemical construction not addressed as part
Source of hazardous substances	Corresponding chemical
Complied with annex M	Li-ion
<b>Mechanically-caused injury (Clause 8)</b> (Note: List moving part(s), fan, special installations, etc. & cor Example: Wall mount unit	responding MS classification based on Table 35.) MS2
Source of kinetic/mechanical energy	Corresponding classification (MS)
Edges and corners	MS1
Equipment mass	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure	gy source classification based on type of part, location, TS1
Source of thermal energy	Corresponding classification (TS)
All accessible parts	TS1
<b>Radiation (Clause 10)</b> (Note: List the types of radiation present in the product and the Example: DVD – Class 1 Laser Product	e corresponding energy source classification.) RS1
Type of radiation	Corresponding classification (RS)



# ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE: LED indicator RS1 Acoustic Complied with Cl.10.6.5





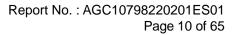
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part	Energy Source	Safeguards		
(e.g. Ordinary)	(ES3: Primary Filter circuit)	Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	ES1: All circuits	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part	Energy Source		Safeguards	
(e.g. mouse enclosure)	(PS2: 100 Watt circuit)	Basic	Supplementary	Reinforced
All internal combustible material and plastic enclosure	PS2: Internal circuit PS2: Type-C port PS2: Battery cell (Charging base)	<ol> <li>No ignition occurred.</li> <li>No parts exceeding 90% of its spontaneous ignition temperature.</li> </ol>	<ol> <li>PCB is complied with V-0 material;</li> <li>all other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material</li> <li>V-0 enclosure provided.</li> </ol>	N/A
All internal combustible material and plastic enclosure	PS1: Battery cell (earphone) PS1: Battery pack (Charging base)	N/A	N/A	N/A
7.1	Injury caused by hazardous	substances		
Body Part	Energy Source		Safeguards	
(e.g., skilled)	(hazardous material)	Basic	Supplementary	Reinforced
Ordinary person	Complied with annex M	N/A	N/A	N/A
8.1	Mechanically-caused injury	I		
Body Part	Energy Source		Safeguards	
(e.g. Ordinary)	(MS3:High Pressure Lamp)	Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	MS1: Edges and corners	N/A	N/A	N/A
Ordinary person	MS1: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn		•	
Body Part	Energy Source		Safeguards	
(e.g., Ordinary)	(TS2)	Basic	Supplementary	Reinforced
Ordinary person	TS1: Accessible plastic enclosure	N/A	N/A	N/A



Radiation				
Energy Source		Safeguards		
(Output from audio port)	Basic	Supplementary	Reinforced	
RS1: LED indicator	N/A	N/A	N/A	
Acoustics output(See Cl. 10.6.5)	N/A	N/A	N/A	
Supplementary Information:				
	Energy Source (Output from audio port) RS1: LED indicator Acoustics output(See Cl. 10.6.5) ation:	Energy Source (Output from audio port)       Basic         RS1: LED indicator       N/A         Acoustics output(See Cl. 10.6.5)       N/A	Energy Source (Output from audio port)     Safeguards       RS1: LED indicator     N/A     N/A       Acoustics output(See Cl. 10.6.5)     N/A     N/A	

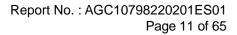
(1) See attached energy source diagram for additional details.

(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault





EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		Р
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	Р
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	Ρ
4.1.3	Equipment design and construction	No accessible part which could cause injury	Р
4.1.15	Markings and instructions	(See Annex F)	Р
4.4.4	Safeguard robustness	See below	Р
4.4.4.2	Steady force tests	(See Annex T.4)	Р
4.4.4.3	Drop tests	(See Annex T.7)	Р
4.4.4.4	Impact tests		N
4.4.4.5	Internal accessible safeguard enclosure and barrier tests		Ν
4.4.4.6	Glass Impact tests		Ν
4.4.4.7	Thermoplastic material tests	(See Annex T.8)	Р
4.4.4.8	Air comprising a safeguard		Ν
4.4.4.9	Accessibility and safeguard effectiveness	No damaged	Р
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	Р
4.6	Fixing of conductors		N
4.6.1	Fix conductors not to defeat a safeguard		Ν
4.6.2	10 N force test applied to		Ν
4.7	Equipment for direct insertion into mains socket - outlets		Ν
4.7.2	Mains plug part complies with the relevant standard	See above	Ν
4.7.3	Torque (Nm)	See above	Ν
4.8	Products containing coin/button cell batteries	No coin/button batteries used.	Ν
4.8.2	Instructional safeguard		N





	EN 62368-1				
Clause	Requirement – Test	Result - Remark	Verdict		
4.8.3	Battery Compartment Construction		Ν		
	Means to reduce the possibility of children removing the battery				
4.8.4	Battery Compartment Mechanical Tests		N		
4.8.5	Battery Accessibility		N		
4.9	Likelihood of fire or shock due to entry of conductive object	It's impossible entry of a conductive object from outside the equipment.	Р		

5	ELECTRICALLY-CAUSED INJURY		Р
5.2.1	Electrical energy source classifications	(See appended table 5.2)	Р
5.2.2	ES1, ES2 and ES3 limits	ES1	Р
5.2.2.2	Steady-state voltage and current:	(See appended table 5.2)	Р
5.2.2.3	Capacitance limits		Ν
5.2.2.4	Single pulse limits	No such single pulses with the EUT	Ν
5.2.2.5	Limits for repetitive pulses:	No such repetitive pulses with the EUT	Ν
5.2.2.6	Ringing signals	No such ringing signals with the EUT	Ν
5.2.2.7	Audio signals	See Annex E.1	Р
5.3	Protection against electrical energy sources	ES1	Ν
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		Ν
5.3.2.1	Accessibility to electrical energy sources and safeguards		Ν
5.3.2.2	Contact requirements		Ν
	a) Test with test probe from Annex V		Ν
	b) Electric strength test potential (V)		Ν
	c) Air gap (mm):		Ν
5.3.2.4	Terminals for connecting stripped wire		Ν
5.4	Insulation materials and requirements		Ν
5.4.1.2	Properties of insulating material		Ν
5.4.1.3	Humidity conditioning		Ν
5.4.1.4	Maximum operating temperature for insulating materials		Ν
5.4.1.5	Pollution degree:		



	EN 62368-1	1	
Clause	Requirement – Test	Result - Remark	Verdict
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		Ν
5.4.1.5.3	Thermal cycling		N
5.4.1.6	Insulation in transformers with varying dimensions		N
5.4.1.7	Insulation in circuits generating starting pulses		N
5.4.1.8	Determination of working voltage		N
5.4.1.9	Insulating surfaces		N
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N
5.4.1.10.2	Vicat softening temperature:		N
5.4.1.10.3	Ball pressure:		N
5.4.2	Clearances		N
5.4.2.2	Determining clearance using peak working voltage		N
5.4.2.3	Determining clearance using required withstand voltage		N
	a) a.c. mains transient voltage		
	b) d.c. mains transient voltage		
	c) external circuit transient voltage		
	d) transient voltage determined by measurement		
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N
5.4.2.5	Multiplication factors for clearances and test voltages		N
5.4.3	Creepage distances:		N
5.4.3.1	General		N
5.4.3.3	Material Group:		
5.4.4	Solid insulation		N
5.4.4.2	Minimum distance through insulation:		N
5.4.4.3	Insulation compound forming solid insulation		N
5.4.4.4	Solid insulation in semiconductor devices		N
5.4.4.5	Cemented joints		N
5.4.4.6	Thin sheet material		N
5.4.4.6.1	General requirements		N
5.4.4.6.2	Separable thin sheet material		N



	EN 62368-7		
Clause	Requirement – Test	Result - Remark	Verdict
	Number of layers (pcs)		N
5.4.4.6.3	Non-separable thin sheet material		N
5.4.4.6.4	Standard test procedure for non-separable thin sheet material		N
5.4.4.6.5	Mandrel test		N
5.4.4.7	Solid insulation in wound components		N
5.4.4.9	Solid insulation at frequencies >30 kHz		N
5.4.5	Antenna terminal insulation		N
5.4.5.1	General		N
5.4.5.2	Voltage surge test		N
	Insulation resistance (MΩ)		
5.4.6	Insulation of internal wire as part of supplementary safeguard:		N
5.4.7	Tests for semiconductor components and for cemented joints		N
5.4.8	Humidity conditioning		N
	Relative humidity (%):		
	Temperature (°C):		
	Duration (h)		
5.4.9	Electric strength test		N
5.4.9.1	Test procedure for a solid insulation type test		N
5.4.9.2	Test procedure for routine tests		N
5.4.10	Protection against transient voltages between external circuit		N
5.4.10.1	Parts and circuits separated from external circuits		N
5.4.10.2	Test methods		N
5.4.10.2.1	General		N
5.4.10.2.2	Impulse test:		N
5.4.10.2.3	Steady-state test:		N
5.4.11	Insulation between external circuits and earthed circuitry		N
5.4.11.1	Exceptions to separation between external circuits and earth		N
5.4.11.2	Requirements		N



#### Report No. : AGC10798220201ES01 Page 14 of 65

	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
	Rated operating voltage $U_{op}(V)$		
	Nominal voltage U <sub>peak</sub> (V)		
	Max increase due to variation U <sub>sp</sub>		
	Max increase due to ageing $\Delta \textbf{U}_{\text{sa}}$		
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		
5.5	Components as safeguards		Ν
5.5.1	General		N
5.5.2	Capacitors and RC units		N
5.5.2.1	General requirement		Ν
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N
5.5.3	Transformers		Ν
5.5.4	Optocouplers		N
5.5.5	Relays		Ν
5.5.6	Resistors		N
5.5.7	SPD's		Ν
5.5.7.1	Use of an SPD connected to reliable earthing		N
5.5.7.2	Use of an SPD between mains and protective earth		N
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable		N
5.6	Protective conductor		N
5.6.2	Requirement for protective conductors		N
5.6.2.1	General requirements		N
5.6.2.2	Colour of insulation		N
5.6.3	Requirement for protective earthing conductors		N
	Protective earthing conductor size (mm <sup>2</sup> ):		
5.6.4	Requirement for protective bonding conductors		Ν
5.6.4.1	Protective bonding conductors		N
	Protective bonding conductor size (mm <sup>2</sup> ):		—
	Protective current rating (A):		
5.6.4.3	Current limiting and over current protective devices		N
5.6.5	Terminals for protective conductors		N



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
5.6.5.1	Requirement		N
	Conductor size (mm <sup>2</sup> ), nominal thread diameter (mm)		N
5.6.5.2	Corrosion		N
5.6.6	Resistance of the protective system		N
5.6.6.1	Requirements		N
5.6.6.2	Test Method Resistance ( $\Omega$ ):		N
5.6.7	Reliable earthing		N
5.7	Prospective touch voltage, touch current and protective conductor current		N
5.7.2	Measuring devices and networks		N
5.7.2.1	Measurement of touch current:		N
5.7.2.2	Measurement of prospective touch voltage		N
5.7.3	Equipment set-up, supply connections and earth connections		N
	System of interconnected equipment (separate connections/single connection):		_
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts:		N
5.7.5	Protective conductor current		N
	Supply Voltage (V):		
	Measured current (mA):		
	Instructional Safeguard:		N
5.7.6	Prospective touch voltage and touch current due to external circuits		N
5.7.6.1	Touch current from coaxial cables		N
5.7.6.2	Prospective touch voltage and touch current from external circuits		N
5.7.7	Summation of touch currents from external circuits		N
	a) Equipment with earthed external circuits Measured current (mA):		N
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) :		N

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EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict
6	ELECTRICALLY- CAUSED FIRE		Р
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	Ρ
6.2.2.1	General	See the following details.	Р
6.2.2.2	Power measurement for worst-case load fault:	(See appended table 6.2.2)	Р
6.2.2.3	Power measurement for worst-case power source fault:	(See appended table 6.2.2)	Р
6.2.2.4	PS1:	(See appended table 6.2.2)	Р
6.2.2.5	PS2:	(See appended table 6.2.2)	Р
6.2.2.6	PS3:		Ν
6.2.3	Classification of potential ignition sources		Р
6.2.3.1	Arcing PIS:		Ν
6.2.3.2	Resistive PIS:	(See appended table 6.3.2)	Р
6.3	Safeguards against fire under normal operating and abnormal operating conditions		Р
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	Р
6.3.1 (b)	Combustible materials outside fire enclosure	No such materials used.	Ν
6.4	Safeguards against fire under single fault conditions		Р
6.4.1	Safeguard Method	The method of control of fire spread be used.	Р
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		Ν
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		Ν
6.4.3.1	General		Ν
6.4.3.2	Supplementary Safeguards	By equipment plastic fire enclosure.	Ν
	Special conditions if conductors on printed boards are opened or peeled	No such case happened.	Ν
6.4.3.3	Single Fault Conditions:		Ν
	Special conditions for temperature limited by fuse		Ν
6.4.4	Control of fire spread in PS1 circuits		Р



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
6.4.5	Control of fire spread in PS2 circuits		Р
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	Р
		PCB rated V-0;	
		Plastic enclosure rated V-0.	
6.4.6	Control of fire spread in PS3 circuit		Ν
6.4.7	Separation of combustible materials from a PIS		Ν
6.4.7.1	General		Ν
6.4.7.2	Separation by distance		Ν
6.4.7.3	Separation by a fire barrier		Ν
6.4.8	Fire enclosures and fire barriers	Equipment enclosure was evaluated as a fire enclosure.	Р
6.4.8.1	Fire enclosure and fire barrier material properties	See the following details.	Р
6.4.8.2.1	Requirements for a fire barrier	No such construction.	Ν
6.4.8.2.2	Requirements for a fire enclosure	Equipment fire enclosure was made of min. V-0 material.	Р
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See the following details.	Р
6.4.8.3.1	Fire enclosure and fire barrier openings	No openings.	Ν
6.4.8.3.2	Fire barrier dimensions	No barrier used.	Ν
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) :		Ν
	Needle Flame test		Ν
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm):		Ν
	Flammability tests for the bottom of a fire enclosure		Ν
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		Ν
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating:	Plastic enclosure rated V-0.	Р
6.5	Internal and external wiring		Р
6.5.1	Requirements		Р
6.5.2	Cross-sectional area (mm2):	(See appended tables 4.1.2)	
6.5.3	Requirements for interconnection to building wiring	No such interconnection to building wiring.	N



	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
6.6	Safeguards against fire due to connection to additional equipment		Ν	
	External port limited to PS2 or complies with Clause Q.1		Ν	

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		Р
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	Ν
7.3	Ozone exposure	No ozone production within the equipment.	N
7.4	Use of personal safeguards (PPE)	No such consideration.	N
	Personal safeguards and instructions:	See above.	
7.5	Use of instructional safeguards and instructions	No chemical-caused injuries, the instruction safeguard was not required.	Ν
	Instructional safeguard (ISO 7010):	(See Annex F)	
7.6	Batteries	Complied with Annex M	Р

8	MECHANICALLY-CAUSED INJURY		Р
8.1	General	See the following details.	Р
8.2	Mechanical energy source classifications	Edges and corners, classified as MS1	Ρ
		Equipment mass < 7 kg, classified as MS1	
8.3	Safeguards against mechanical energy sources	MS1	Ν
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	Р
8.4.1	Safeguards		Ν
8.5	Safeguards against moving parts		Ν
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		Ν
8.5.2	Instructional Safeguard		
8.5.4	Special categories of equipment comprising moving parts		Ν
8.5.4.1	Large data storage equipment		Ν



#### Report No. : AGC10798220201ES01 Page 19 of 65

	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
8.5.4.2	Equipment having electromechanical device for destruction of media		Ν
8.5.4.2.1	Safeguards and Safety Interlocks		Ν
8.5.4.2.2	Instructional safeguards against moving parts		Ν
	Instructional Safeguard:		_
8.5.4.2.3	Disconnection from the supply		N
8.5.4.2.4	Probe type and force (N):		N
8.5.5	High Pressure Lamps		N
8.5.5.1	Energy Source Classification		N
8.5.5.2	High Pressure Lamp Explosion Test		N
8.6	Stability	< 7 kg	N
8.6.1	Product classification		N
	Instructional Safeguard:		
8.6.2	Static stability		N
8.6.2.2	Static stability test		N
	Applied Force:		_
8.6.2.3	Downward Force Test		N
8.6.3	Relocation stability test		N
	Unit configuration during 10° tilt		_
8.6.4	Glass slide test		N
8.6.5	Horizontal force test (Applied Force):		N
	Position of feet or movable parts:		
8.7	Equipment mounted to wall or ceiling		N
8.7.1	Mounting Means (Length of screws (mm) and mounting surface):		Ν
8.7.2	Direction and applied force:		N
8.8	Handles strength		N
8.8.1	Classification		N
8.8.2	Applied Force:		N
8.9	Wheels or casters attachment requirements		N
8.9.1	Classification		N
8.9.2	Applied force:		—
8.10	Carts, stands and similar carriers	No such device provided within the EUT.	N



#### Report No. : AGC10798220201ES01 Page 20 of 65

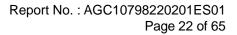
	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
8.10.1	General		Ν
8.10.2	Marking and instructions		N
	Instructional Safeguard:		—
8.10.3	Cart, stand or carrier loading test and compliance		N
	Applied force:		_
8.10.4	Cart, stand or carrier impact test		N
8.10.5	Mechanical stability		N
	Applied horizontal force (N):		_
8.10.6	Thermoplastic temperature stability (°C):		N
8.11	Mounting means for rack mounted equipment		N
8.11.1	General		N
8.11.2	Product Classification		N
8.11.3	Mechanical strength test, variable N:		N
8.11.4	Mechanical strength test 250N, including end stops		N
8.12	Telescoping or rod antennas:	No such device provided within the EUT.	N
	Button/Ball diameter (mm):	See above.	_

9	THERMAL BURN INJURY		Р
9.2	Thermal energy source classifications	All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 6.3.2, 9.0, B.2.6	Р
9.3	Safeguard against thermal energy sources	See above.	Р
9.4	Requirements for safeguards		Р
9.4.1	Equipment safeguard	Enclosure temperatures do not exceed TS1 limits.	Р
9.4.2	Instructional safeguard:		Ν

10	RADIATION		Р
10.2	Radiation energy source classification	LED is used as indicator.	Р
10.2.1	General classification		Р
10.3	Protection against laser radiation		N
	Laser radiation that exists equipment:		



Clause	Requirement – Test	Result - Remark	Verdict
01000	Normal, abnormal, single-fault:		N
	Instructional safeguard		
	Tool		
10.4	Protection against visible, infrared, and UV radiation		N
10.4.1	General		N
10.4.1.a)	RS3 for Ordinary and instructed persons:		N
10.4.1.b)	RS3 accessible to a skilled person		N
	Personal safeguard (PPE) instructional safeguard:		_
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1:		Ν
10.4.1.d)	Normal, abnormal, single-fault conditions::		Ν
10.4.1.e)	Enclosure material employed as safeguard is opaque		Ν
10.4.1.f)	UV attenuation:		Ν
10.4.1.g)	Materials resistant to degradation UV		Ν
10.4.1.h)	Enclosure containment of optical radiation:		Ν
10.4.1.i)	Exempt Group under normal operating conditions		Ν
10.4.2	Instructional safeguard:		Ν
10.5	Protection against x-radiation	No such x-radiation generated from the equipment.	Ν
10.5.1	X- radiation energy source that exists equipment :		Ν
	Normal, abnormal, single fault conditions		Ν
	Equipment safeguards:		Ν
	Instructional safeguard for skilled person:		Ν
10.5.3	Most unfavourable supply voltage to give maximum radiation:		
	Abnormal and single-fault condition:		Ν
	Maximum radiation (pA/kg):		Ν
10.6	Protection against acoustic energy sources		Р
10.6.1	General		Р
10.6.2	Classification		Ν
	Acoustic output, dB(A):		Ν
	Output voltage, unweighted r.m.s:		Ν





	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
10.6.4	Protection of persons		N	
	Instructional safeguards:		N	
	Equipment safeguard prevent ordinary person to RS2		—	
	Means to actively inform user of increase sound pressure:		—	
	Equipment safeguard prevent ordinary person to RS2		—	
10.6.5	Requirements for listening devices (headphones, earphones, etc.)	Headphone used	Р	
10.6.5.1	Corded passive listening devices with analog input		N	
	Input voltage with 94 dB(A) L <sub>Aeq</sub> acoustic pressure output:		—	
10.6.5.2	Corded listening devices with digital input	No digital input	N	
	Maximum dB(A):		_	
10.6.5.3	Cordless listening device		Р	
	Maximum dB(A):	Left: 87.37dBA	_	
		Right: 86.53dBA		
		Limit: ≤100dBA		

в	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		
B.2	Normal Operating Conditions See the following details.		Р
B.2.1	General requirements:	(See Test Item Particulars and appended test tables)	Р
	Audio Amplifiers and equipment with audio amplifiers:	Test according to requirements of annex E	Р
B.2.3	Supply voltage and tolerances		Ν
B.2.5	Input test:	(See appended table B.2.5)	Р
B.3	Simulated abnormal operating conditions		Р
B.3.1	General requirements:	(See appended table B.3&B.4)	Р
B.3.2	Covering of ventilation openings	No ventilation openings provided.	Ν
B.3.3	D.C. mains polarity test		Ν
B.3.4	Setting of voltage selector:	No setting of voltage selector within the EUT	N



	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
B.3.5	Maximum load at output terminals	No such terminals.	N	
B.3.6	Reverse battery polarity	Impossible reverse polarity by inherent design.	Ν	
B.3.7	Abnormal operating conditions as specified in Clause E.2.		Р	
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effectively.	Р	
B.4	Simulated single fault conditions		Р	
B.4.2	Temperature controlling device open or short- circuited		Ν	
B.4.3	Motor tests		Ν	
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		Ν	
B.4.4	Short circuit of functional insulation	See the following details.	Р	
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3 &B.4)	Р	
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3 &B.4)	Р	
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	Ν	
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		Р	
B.4.6	Short circuit or disconnect of passive components	(See appended table B.3 &B.4)	Р	
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N	
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	(See appended table B.3&B.4)	Р	
B.4.9	Battery charging under single fault conditions:	Complied with the annex M	Р	

С	UV RADIATION           Protection of materials in equipment from UV radiation         No such UV generated from the equipment.		N
C.1			N
C.1.2	Requirements		N
C.1.3	Test method		N
C.2	UV light conditioning test		N
C.2.1	Test apparatus		N



	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
C.2.2	Mounting of test samples		N	
C.2.3	Carbon-arc light-exposure apparatus		N	
C.2.4	Xenon-arc light exposure apparatus		N	

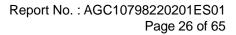
D	TEST GENERATORS		Ν
D.1	Impulse test generators	No such consideration.	Ν
D.2	Antenna interface test generator		Ν
D.3	Electronic pulse generator		Ν

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		Р
E.1	Audio amplifier normal operating conditions		Ν
	Audio signal voltage (V)		—
	Rated load impedance (Ω)	16Ω	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.3 &B.4)	Р

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND	INSTRUCTIONAL SAFEGUARDS	Р
F.1	General requirements	See the following details.	Р
	Instructions – Language:	English	
F.2	Letter symbols and graphical symbols	See the following details.	Р
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	Р
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	Р
F.3	Equipment markings		Р
F.3.1	Equipment marking locations	Equipment marking is located on the exterior surface and is easily visible.	Р
F.3.2	Equipment identification markings	See the following details.	Р
F.3.2.1	Manufacturer identification	See copy of marking plate.	
F.3.2.2	Model identification	See copy of marking plate.	
F.3.3	Equipment rating markings	See the following details.	Р
F.3.3.1	Equipment with direct connection to mains		Ν
F.3.3.2	Equipment without direct connection to mains	See above.	Р
F.3.3.3	Nature of supply voltage:		



EN 62368-1				
Clause	Requirement – Test	Result - Remark	Verdict	
F.3.3.4	Rated voltage:	5V		
F.3.3.5	Rated frequency:			
F.3.3.6	Rated current or rated power:	0.5A		
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	Ν	
F.3.4	Voltage setting device	No such device on the equipment.	Ν	
F.3.5	Terminals and operating devices	See below	Ν	
F.3.5.1	Mains appliance outlet and socket-outlet markings	No such devices on the equipment.	Ν	
F.3.5.2	Switch position identification marking	No such switch on the equipment.	Ν	
F.3.5.3	Replacement fuse identification and rating markings		Ν	
F.3.5.4	Replacement battery identification marking:		Ν	
F.3.5.5	Terminal marking location		Ν	
F.3.6	Equipment markings related to equipment classification	Class III	Ν	
F.3.6.1	Class I Equipment		Ν	
F.3.6.1.1	Protective earthing conductor terminal		Ν	
F.3.6.1.2	Neutral conductor terminal		Ν	
F.3.6.1.3	Protective bonding conductor terminals		Ν	
F.3.6.2	Class II equipment (IEC60417-5172)		Ν	
F.3.6.2.1	Class II equipment with or without functional earth		Ν	
F.3.6.2.2	Class II equipment with functional earth terminal marking		Ν	
F.3.7	Equipment IP rating marking	This equipment is classified as IPX0.		
F.3.8	External power supply output marking		Ν	
F.3.9	Durability, legibility and permanence of marking	See the following details.	Р	
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15 sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible.	Ρ	
F.4	Instructions	~ ~ ~	Р	
	a) Equipment for use in locations where children not likely to be present - marking		Ν	
	b) Instructions given for installation or initial use	Relevant safety caution texts and installation instruction are available.	Ρ	





	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
	c) Equipment intended to be fastened in place		N	
	d) Equipment intended for use only in restricted access area		N	
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N	
	f) Protective earthing employed as safeguard		N	
	g) Protective earthing conductor current exceeding ES 2 limits		N	
	h) Symbols used on equipment		N	
	i) Permanently connected equipment not provided with all-pole mains switch	The EUT is not a permanently connected equipment	N	
	j) Replaceable components or modules providing safeguard function		N	
F.5	Instructional safeguards		Р	
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		Р	

G	COMPONENTS		Р
G.1	Switches		N
G.1.1	General requirements	No such switch as disconnect devices provided within the equipment.	N
G.1.2	Ratings, endurance, spacing, maximum load		Ν
G.2	Relays		Ν
G.2.1	General requirements	No such relay provided within the equipment.	Ν
G.2.2	Overload test		Ν
G.2.3	Relay controlling connectors supply power		Ν
G.2.4	Mains relay, modified as stated in G.2		Ν
G.3	Protection Devices		Ν
G.3.1	Thermal cut-offs	No thermal cut-off provided within the equipment.	Ν
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	See above.	Ν



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)	See above.	N
G.3.1.2	Thermal cut-off connections maintained and secure	See above.	N
G.3.2	Thermal links		N
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link provided within the equipment.	N
G.3.2.1b)	Thermal links tested as part of the equipment	See above.	N
	Aging hours (H)	See above.	_
	Single Fault Condition	See above.	—
	Test Voltage (V) and Insulation Resistance ( $\Omega$ ) . :	See above.	_
G.3.3	PTC Thermistors	No PTC thermistor provided within the equipment.	N
G.3.4	Overcurrent protection devices		N
G.3.5	Safeguards components not mentioned in G.3.1 to	G.3.5	N
G.3.5.1	Non-resettable devices suitably rated and marking provided	No such component.	N
G.3.5.2	Single faults conditions		N
G.4	Connectors		N
G.4.1	Spacings	No such connector within the EUT	N
G.4.2	Mains connector configuration		N
G.4.3	Plug is shaped that insertion into mains socket- outlets or appliance coupler is unlikely		N
G.5	Wound Components		N
G.5.1	Wire insulation in wound components	No such component.	N
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N
G.5.1.2 b)	Construction subject to routine testing		N
G.5.2	Endurance test on wound components		N
G.5.2.1	General test requirements		N
G.5.2.2	Heat run test		N
	Time (s):		
	Temperature (°C)		
G.5.2.3	Wound Components supplied by mains		N
G.5.3	Transformers		N



#### Report No. : AGC10798220201ES01 Page 28 of 65

	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/- 2, and/or IEC62368-1)		N
	Position		
	Method of protection		—
G.5.3.2	Insulation		N
	Protection from displacement of windings:		
G.5.3.3	Overload test		N
G.5.3.3.1	Test conditions		N
G.5.3.3.2	Winding Temperatures testing in the unit		N
G.5.3.3.3	Winding Temperatures - Alternative test method		N
G.5.4	Motors		N
G.5.4.1	General requirements		N
	Position:		
G.5.4.2	Test conditions		N
G.5.4.3	Running overload test		N
G.5.4.4	Locked-rotor overload test		N
	Test duration (days):		
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N
G.5.4.5.2	Tested in the unit		N
	Electric strength test (V)		
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N
	Electric strength test (V)		
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N
G.5.4.6.2	Tested in the unit		N
	Maximum Temperature		N
	Electric strength test (V)		N
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N
	Electric strength test (V)		N
G.5.4.7	Motors with capacitors		N
G.5.4.8	Three-phase motors		N



#### Report No. : AGC10798220201ES01 Page 29 of 65

	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
G.5.4.9	Series motors		Ν
	Operating voltage		
G.6	Wire Insulation		N
G.6.1	General		N
G.6.2	Solvent-based enamel wiring insulation		N
G.7	Mains supply cords		N
G.7.1	General requirements		Ν
	Туре		
	Rated current (A):		
	Cross-sectional area (mm <sup>2</sup> ), (AWG):		
G.7.2	Compliance and test method		N
G.7.3	Cord anchorages and strain relief for non- detachable power supply cords		N
G.7.3.2	Cord strain relief		Ν
G.7.3.2.1	Requirements		Ν
	Strain relief test force (N):		
G.7.3.2.2	Strain relief mechanism failure		
G.7.3.2.3	Cord sheath or jacket position, distance (mm):		
G.7.3.2.4	Strain relief comprised of polymeric material		Ν
G.7.4	Cord Entry:		Ν
G.7.5	Non-detachable cord bend protection		Ν
G.7.5.1	Requirements		Ν
G.7.5.2	Mass (g):		
	Diameter (m):		
	Temperature (°C):		
G.7.6	Supply wiring space		Ν
G.7.6.2	Stranded wire		N
G.7.6.2.1	Test with 8 mm strand		N
G.8	Varistors	1	N
G.8.1	General requirements	No VDRs.	N
G.8.2	Safeguard against shock		N
G.8.3	Safeguard against fire	1	N
G.8.3.2	Varistor overload test:		N



	EN 62368-1	1	
Clause	Requirement – Test	Result - Remark	Verdict
G.8.3.3	Temporary overvoltage:		Ν
G.9	Integrated Circuit (IC) Current Limiters		Р
G.9.1 a)	Manufacturer defines limit at max. 5A.	Approve lithium battery charge and discharge management IC	Р
G.9.1 b)	Limiters do not have manual operator or reset		Ν
G.9.1 c)	Supply source does not exceed 250 VA		
G.9.1 d)	IC limiter output current (max. 5A)		
G.9.1 e)	Manufacturers' defined drift		
G.9.2	Test Program 1		Ν
G.9.3	Test Program 2		Ν
G.9.4	Test Program 3		Ν
G.10	Resistors		Ν
G.10.1	General requirements		Ν
G.10.2	Resistor test		Ν
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N
G.10.3.1	General requirements		Ν
G.10.3.2	Voltage surge test		Ν
G.10.3.3	Impulse test		Ν
G.11	Capacitor and RC units		Ν
G.11.1	General requirements		Ν
G.11.2	Conditioning of capacitors and RC units		Ν
G.11.3	Rules for selecting capacitors		Ν
G.12	Optocouplers		Ν
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results):		N
	Type test voltage Vini:		—
	Routine test voltage, Vini,b:		
G.13	Printed boards		Р
G.13.1	General requirements	See the following details.	Р



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements	Ρ
G.13.3	Coated printed boards	No coated printed board provided within the equipment.	Ν
G.13.4	Insulation between conductors on the same inner surface		Ν
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		Ν
	Distance through insulation:		Ν
	Number of insulation layers (pcs)		
G.13.6	Tests on coated printed boards		Ν
G.13.6.1	Sample preparation and preliminary inspection		Ν
G.13.6.2a)	Thermal conditioning		Ν
G.13.6.2b)	Electric strength test		Ν
G.13.6.2c)	Abrasion resistance test		Ν
G.14	Coating on components terminals		Ν
G.14.1	Requirements:	(See G.13)	Ν
G.15	Liquid filled components		Ν
G.15.1	General requirements		Ν
G.15.2	Requirements		Ν
G.15.3	Compliance and test methods		Ν
G.15.3.1	Hydrostatic pressure test		Ν
G.15.3.2	Creep resistance test		Ν
G.15.3.3	Tubing and fittings compatibility test		Ν
G.15.3.4	Vibration test		Ν
G.15.3.5	Thermal cycling test		Ν
G.15.3.6	Force test		Ν
G.15.4	Compliance		Ν
G.16	IC including capacitor discharge function (ICX)		Ν
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		Ν



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
b)	Impulse test using circuit 2 with Uc = to transient voltage		Ν
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		Ν
C2)	Test voltage		
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		Ν
D2)	Capacitance		
D3)	Resistance		

н	CRITERIA FOR TELEPHONE RINGING SIGNALS	N
H.1	General	N
H.2	Method A	N
H.3	Method B	N
H.3.1	Ringing signal	N
H.3.1.1	Frequency (Hz)	—
H.3.1.2	Voltage (V)	—
H.3.1.3	Cadence; time (s) and voltage (V):	—
H.3.1.4	Single fault current (mA):	—
H.3.2	Tripping device and monitoring voltage:	N
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with	Ν
H.3.2.2	Tripping device	N
H.3.2.3	Monitoring voltage (V)	

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION	Ν
	General requirements	Ν

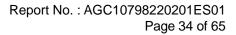
к	SAFETY INTERLOCKS		N
K.1	General requirements	No safety interlock provided within the equipment.	Ν
K.2	Components of safety interlock safeguard mechanism	(See Annex G)	Ν
K.3	Inadvertent change of operating mode		Ν



	EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict	
K.4	Interlock safeguard override		N	
K.5	Fail-safe		N	
	Compliance:	(See appended table B.4)	N	
K.6	Mechanically operated safety interlocks		N	
K.6.1	Endurance requirement		N	
K.6.2	Compliance and Test method:		N	
K.7	Interlock circuit isolation		N	
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location):		N	
K.7.2	Overload test, Current (A):		N	
K.7.3	Endurance test		N	
K.7.4	Electric strength test:	(See appended table 5.4.11)	N	

L	DISCONNECT DEVICES	Ν
L.1	General requirements	Ν
L.2	Permanently connected equipment	Ν
L.3	Parts that remain energized	Ν
L.4	Single phase equipment	Ν
L.5	Three-phase equipment	Ν
L.6	Switches as disconnect devices	Ν
L.7	Plugs as disconnect devices	Ν
L.8	Multiple power sources	Ν

м	EQUIPMENT CONTAINING BATTERIES AND TH	EIR PROTECTION CIRCUITS	Р
M.1	General requirements		Р
M.2	Safety of batteries and their cells		Р
M.2.1	Requirements		Р
M.2.2	Compliance and test method (identify method) :		Р
M.3	Protection circuits		Р
M.3.1	Requirements		Р
M.3.2	Tests		Р
	- Overcharging of a rechargeable battery	(See appended table Annex M)	Р





EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict
	- Unintentional charging of a non-rechargeable battery		Ν
	- Reverse charging of a rechargeable battery		Ν
	- Excessive discharging rate for any battery	(See appended table Annex M)	Р
M.3.3	Compliance:	No chemical leakage, no liquid spillage, no explosion, no emission of flame or expulsion of molten metal	Ρ
M.4	Additional safeguards for equipment containing secondary lithium battery		Р
M.4.1	General		Р
M.4.2	Charging safeguards		Р
M.4.2.1	Charging operating limits		Р
M.4.2.2a)	Charging voltage, current and temperature:	(See appended table Annex M.4)	Р
M.4.2.2 b)	Single faults in charging circuitry	(See appended table Annex M.4)	Р
M.4.3	Fire Enclosure	The fire enclosure used for equipment containing the secondary lithium battery, and complied with Cl. 6.4.5.2.	Ρ
M.4.4	Endurance of equipment containing a secondary lithium battery		Р
M.4.4.2	Preparation		Р
M.4.4.3	Drop and charge/discharge function tests		Р
	Drop	After test, Voltage difference less than 5% in 24H	Р
	Charge		Р
	Discharge		Р
M.4.4.4	Charge-discharge cycle test		Р
M.4.4.5	Result of charge-discharge cycle test	No fire, no explosion, and no hazards produced during tests.	Р
M.5	Risk of burn due to short circuit during carrying		Р
M.5.1	Requirement		Р
M.5.2	Compliance and Test Method (Test of P.2.3)		Ν
M.6	Prevention of short circuits and protection from other effects of electric current	Compliance with clause 7.3.6 in IEC 62133-2	Р
M.6.1	Short circuits		Р
M.6.1.1	General requirements		Р



EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict
M.6.1.2	Test method to simulate an internal fault		Р
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N
M.6.2	Leakage current (mA):		N
M.7	Risk of explosion from lead acid and NiCd batteries		N
M.7.1	Ventilation preventing explosive gas concentration		N
M.7.2	Compliance and test method		N
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N
M.8.1	General requirements		N
M.8.2	Test method		N
M.8.2.1	General requirements		N
M.8.2.2	Estimation of hypothetical volume Vz (m <sup>3</sup> /s):		
M.8.2.3	Correction factors:		
M.8.2.4	Calculation of distance d (mm)		
M.9	Preventing electrolyte spillage		N
M.9.1	Protection from electrolyte spillage		N
M.9.2	Tray for preventing electrolyte spillage		N
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)	Provided the instructions include battery charging, storage and transportation, and disposal and recycling.	Р

Ν	ELECTROCHEMICAL POTENTIALS	
	Metal(s) used	—

0	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES	
	Figures O.1 to O.20 of this Annex applied:	—

Р	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		Р
P.1	General requirements	No openings	Ν
P.2.2	Safeguards against entry of foreign object		Ν
	Location and Dimensions (mm)		_



EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict
P.2.3	Safeguard against the consequences of entry of foreign object		N
P.2.3.1	Safeguards against the entry of a foreign object		N
	Openings in transportable equipment		N
	Transportable equipment with metalized plastic parts:		N
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard):		N
P.3	Safeguards against spillage of internal liquids	No such construction.	N
P.3.1	General requirements		N
P.3.2	Determination of spillage consequences		N
P.3.3	Spillage safeguards		N
P.3.4	Safeguards effectiveness		N
P.4	Metallized coatings and adhesive securing parts	No such construction.	N
P.4.2 a)	Conditioning testing		N
	Tc (°C):		
	Tr (°C):		
	Ta (°C):		
P.4.2 b)	Abrasion testing:		N
P.4.2 c)	Mechanical strength testing		N

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING	
Q.1	Limited power sources	N
Q.1.1 a)	Inherently limited output	N
Q.1.1 b)	Impedance limited output	N
	- Regulating network limited output under normal operating and simulated single fault condition	N
Q.1.1 c)	Overcurrent protective device limited output	N
Q.1.1 d)	IC current limiter complying with G.9	N
Q.1.2	Compliance and test method	N
Q.2	Test for external circuits – paired conductor cable	N
	Maximum output current (A)	
	Current limiting method	



## Report No. : AGC10798220201ES01 Page 37 of 65

EN 62368-1			
Clause	Requirement – Test	Result - Remark	Verdict

R	LIMITED SHORT CIRCUIT TEST		Ν
R.1	General requirements	No such consideration.	N
R.2	Determination of the overcurrent protective device and circuit		Ν
R.3	Test method Supply voltage (V) and short-circuit current (A)).		Ν

S	TESTS FOR RESISTANCE TO HEAT AND FIRE	N
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	N
	Samples, material	—
	Wall thickness (mm)	—
	Conditioning (°C)	—
	Test flame according to IEC 60695-11-5 with conditions as set out	N
	- Material not consumed completely	Ν
	- Material extinguishes within 30s	N
	- No burning of layer or wrapping tissue	N
S.2	Flammability test for fire enclosure and fire barrier integrity	N
	Samples, material	—
	Wall thickness (mm)	
	Conditioning (°C)	
	Test flame according to IEC 60695-11-5 with conditions as set out	N
	Test specimen does not show any additional hole	N
S.3	Flammability test for the bottom of a fire enclosure	N
	Samples, material	_
	Wall thickness (mm)	—
	Cheesecloth did not ignite	N
S.4	Flammability classification of materials	N



	EN 62368-1		
Clause	Requirement – Test	Result - Remark	Verdict
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		Ν
	Samples, material		_
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		
	Test flame according to IEC 60695-11-20 with conditions as set out		Ν
	After every test specimen was not consumed completely		N
	After fifth flame application, flame extinguished within 1 min		N

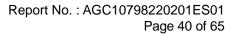
Т	MECHANICAL STRENGTH TESTS		Р
T.1	General requirements	See the following details.	Р
T.2	Steady force test, 10 N:		Ν
Т.3	Steady force test, 30 N:		Ν
T.4	Steady force test, 100 N:	(See appended table T.4)	Р
T.5	Steady force test, 250 N:		Ν
Т.6	Enclosure impact test		Ν
	Fall test		Ν
	Swing test		Ν
T.7	Drop test:	Complete equipment was dropped onto a horizontal surface from the height of 1000 mm for three times.	Р
T.8	Stress relief test:	(See appended table T.8)	Р
Т.9	Impact Test (glass)	No such glass provided within the equipment.	Ν
T.9.1	General requirements		Ν
T.9.2	Impact test and compliance		Ν
	Impact energy (J)		
	Height (m):		
T.10	Glass fragmentation test		Ν
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	Ν



EN 62368-1					
Clause	Clause Requirement – Test Result - Remark Verdict				
	Torque value (Nm)				

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION		N
U.1	General requirements	No CRT provided within the equipment.	N
U.2	Compliance and test method for non-intrinsically protected CRTs		N
U.3	Protective Screen:		N

v	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		Р
V.1	Accessible parts of equipment	Following the probes test specified in this annex except Figure V.3., V.4 and V.5 is not suitable.	Р
V.2	Accessible part criterion	No live parts can be accessible.	Р





	EN 62368-1		
Clause	Requirement – Test	Result – Remark	Verdict
(A)	ATTACHMENT TO TEST REPORT IE EUROPEAN GROUP DIFFERENCES AND NATIO udio/video, information and communication technology equip	ONAL DIFFERENCES	nts)
	CENELEC COMMON MODIFICATIONS (EN)		
1	NOTE Z1		Р
4.Z1	Protective devices included as integral parts of the equipment or as parts of the building installation:		N
	a) Included as parts of the equipment		Ν
	b) For components in series with the mains; by devices in the building installation		N
	c) For pluggable type B or permanently connected; by devices in the building installation		N
5.4.2.3.2.4	Interconnection with external circuit		N
10.2.1	Additional requirements in 10.5.1		N
10.5.1	RS1 compliance measurement conditions		Р
10.6.2.1	EN 71-1:2011, 4.20 and methods and distances		N
10.Z1	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz		N
G.7.1	NOTE Z1		Р

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	
4.1.15	Denmark, Finland, Norway and Sweden: Class I pluggable equipment type A marking	N
4.7.3	United Kingdom: Torque test socket-outlet BS 1363, and the plug part BS 1363.	N
5.2.2.2	Denmark: Warning for high touchcurrent	N
5.4.11.1 and Annex G	Finland and Sweden: Separation of the telecommunication network from earth	N
5.5.2.1	<b>Norway:</b> Capacitors rated for the applicable line-to-line voltage (230 V).	N
5.5.6	Finland, Norway and Sweden: Resistors used as basic safeguard or bridging basic insulation comply with G.10.1 and G.10.2.	N
5.6.1	Denmark: Protection for pluggable equipment type A; integral part of the equipment	N
5.6.4.2.1	Ireland and United Kingdom: The protective current rating is taken to be 13 A	N



Clause	Requirement – Test	Result – Remark	Verdict
5.6.5.1	Ireland and United Kingdom:		N
	Conductor sizes of flexible cords to be accepted by		
	terminals for equipment rated 10 A to 13 A		
5.7.5	Denmark:		N
	The installation instruction affixed to the equipment if		
	high protective conductor current		
5.7.6.1	Norway and Sweden:		N
	Television distribution system isolation text in user		
	manual		
5.7.6.2	Denmark:		N
	Warning for high touch current		
B.3.1	Ireland and United Kingdom:		N
and B.4	Tests conducted using an external miniature circuit		
	breaker or protective devices included as an integral part		
	of the direct plug-in equipment		
G.4.2	Denmark:		N
	Appliances rated ≤13 A provided with a plug according		
	to DS 60884-2-D1:2011.		
	Class I equipment provided with socket-outlets provided		N
	with a plug in accordance with standard sheet DK 2-1a		
	or DK 2-5a.		
	If a single-phase equipment having rated >13 A or poly-		N
	phase equipment provided with a supply cord with a		
	plug, plug in accordance with the standard sheets DK 6-		
	1a in DS 60884-2-D1 or EN 60309-2.		
	Mains socket outlets intended for providing power to		N
	Class II apparatus rated 2,5 A in accordance with DS		
	60884-2-D1:2011 standard sheet DKA 1- 4a.		
	Other current rating socket outlets in compliance with		N
	Standard Sheet DKA 1-3a or DKA 1-1c.		
	Mains socket-outlets with earth in compliance with DS		N
	60884-2-D1:2011 Standard Sheet DK 1- 3a, DK 1-1c,		
0.4.0	DK1-1d, DK 1-5a or DK 1-7a		
G.4.2	United Kingdom:		N
	The plug part of direct plug-in equipment assessed to		
G.7.1	BS 1363 United Kingdom:		N
G.7.1			IN
	Equipment fitted with a 'standard plug' in accordance		
	with the Plugs and Sockets etc (Safety) Regulations		
G.7.1	1994, Statutory Instrument 1994 No. 1768 Ireland:		N
9.7.1			IN
	Apparatus provided with a plug in accordance with		
	Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use		
G.7.2	Ireland and United Kingdom:		N
0.1.2	A power supply cord for equipment which is rated over		IN

#### ZC ANNEX ZC, NATIONAL DEVIATIONS (EN)

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	EN 62368-1		
Clause	Requirement – Test	Result – Remark	Verdict
10.5.2	<b>Germany:</b> Cathode ray tube intended for the display of visual images, authorization or application of type approval and marking.		Ν



4.1.2 T	ABLE: List of critical compo	nents			Р
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1</sup>
Earphone					
cell	Shenzhen Mitacbattery Technology Co., Ltd.	501012	3.7V, 40mAh Max charging current: 40mA Max discharging current: 40mA	IEC62133- 2:2017	IEC62133 Report No: TCT220307B0 11
PCB	Goldenmax International Technology (Hangzhou) Ltd	ILM-R1##	V-0, 130°C	UL796	UL E134893
Internal wire	Interchangeable	Interchangeable	Min. 28AWG, min. 80°C, min. 30V, VW-1	UL 758	UL
Plastic enclosure	Guangdong Aldex Advanced Plastics Co., Ltd.	PC-40(XX)	Min 0.5mm, V-0, 80°C	UL94	UL E493989
Speaker	DONGGUAN FUXIN ELECTRONIC CO., LTD.	RB-E07016F- 010AR- C1WL/WR	16Ω, 3mW	EN 62368-1	Tested with appliance
Charging base					
Battery	Shenzhen Mitacbattery Technology Co., Ltd.	402530	3.7V, 300mAh Max charging current: 300mA Max discharging current: 300mA	IEC62133- 2:2017	IEC62133 Report No: TCT220221B0 21
PCB	Goldenmax International Technology (Hangzhou) Ltd	ILM-R1##	V-0, 130°C	UL796	UL E134893
MCU	Shenzhen Siyuan Semiconductor Co., Ltd.	SY8821	5.5Vdc Max	IEC62368-1	Report No: CEPREI2008C B00130
Internal wire	Interchangeable	Interchangeable	Min. 28AWG, min. 80°C, min. 30V, VW-1	UL 758	UL
Plastic enclosure	Guangdong Aldex Advanced Plastics Co., Ltd.	C10(M)(f1)	Min 1.0mm, V-0, 80°C	UL94	UL E493989
Supplementary	information:				

4.8.4, 4.8.5	TABLE: Li	thium coin/button cell batteries	mechanical tests	Ν		
(The followi	The following mechanical tests are conducted in the sequence noted.)					
4.8.4.2	TABLE: Str	ress relief test				
Pa	Part Material Oven Temperature (°C) Comments					



4.8.4.3	TABLE: Ba	ttery replacement test		_	
Battery part n	0	:		—	
Battery Instal	lation/withdr	awal	Battery Installation/Removal Cycle	Comments	
			1		
			2		
			3		
			4		
			5		
			6		
			8		
			9		
			10		
4.8.4.4	TABLE: Dr	op test		—	
Impact	Area	Drop Distance	Drop No.	Observations	
			1		
			2		
			3		
4.8.4.5	TABLE: Im	pact			
Impacts pe	r surface	Surface tested	Impact energy (Nm)	Comments	
4.8.4.6	TABLE: Cr	ush test			
Test po	sition	Surface tested	Crushing Force (N)	Duration force applied (s)	
Supplementa	ry informatio	n:			

4.8.5	4.8.5         TABLE: Lithium coin/button cell batteries mechanical test result					
Test	position	Surface tested	Force (N)		ration force pplied (s)	



Supplementary information:

5.2	Table: 0	Classification of	electrical energy	sources			Р	
5.2.2.2	- Steady State	Voltage and Curr	ent conditions					
	Supply	Location (e.g.		I	Parameters			
No.	Voltage	circuit designation)	Test conditions	U (Vrms or Vpk)	l (Apk or Arms)	Hz	ES Class	
Earpho	ne							
			Normal					
1	5.0V	Internal circuit	Abnormal				ES1 (By	
			Single fault – SC/OC				declared)	
	- Full charged		Normal	4.2Vrms		DC		
		d cell	Abnormal					
2	cell		Single fault – SC/OC: B+ and B-, SC	4.2Vrms		DC	ES1	
Chargir	ng base					•		
			Normal					
1	5.0V	Internal circuit	Abnormal				ES1 (By	
	0.01		Single fault – SC/OC				declared)	
			Normal	4.2Vrms		DC		
	- Full charged	_	Abnormal					
2	battery	Battery	Single fault – SC/OC: P- and B-, SC	4.2Vrms		DC	ES1	

5.2.2.3	8 – Capacitan	ce Limits					
No.	Supply	Location (e.g. circuit	Test conditions	Param	eters	- ES Class	
NO.	Voltage	designation)	Test conditions	Capacitance, nF	Upk (V)	ES Class	
			Normal				
			Abnormal				
			Single fault – SC/OC				
5.2.2.4	I – Single Pul	ses					
No.	Supply Location (e.g. circuit	Test conditions	Param	eters	- ES Class		
110.	Voltage	designation)		Duration (ms) Upk (	V) Ipk (mA)	ES Class	

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Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



			Norr	nal	-	-				
			Abno	rmal	-	-				
						-				
5 – Repetit	ive	Pulses								
Supply		Location (e.g. circuit	Test con	ditiona			Paramet	ers		ES Class
Voltage		designation)	Test com	uillons	Off tim	ne (ms) Upk (V)		lpk (mA)		ES CIASS
			Norr	nal	-					
			Abno	rmal	•	-				
					-	-				
Test Conditions:										
Supplementary information: SC=Short Circuit, OC=Short Circuit										
5.4.1.4, 6.3.2, TABLE: Temperature measurem 9.0, B.2.6				ents						Р
	Su	pply voltage (V)	:		•		discharg	ing conditions;		—
	Am	nbient T <sub>min</sub> (°C)	:							—
	Am	nbient T <sub>max</sub> (°C)	:							
	Τrr	na (°C)	:	4	5.0	45.	0			
num meas	ure	d temperature T of par	rt/at:		T (°C)				Allo	owed T <sub>max</sub> (°C)
condition	No	:		á	a)	b)				
arphone										
al wire				47	7.9	46.	1			80
Battery surface			48	3.6	46.	6			Ref.	
PCB near U1			49	9.8	48.	2			130	
Plastic enclosure inside near PCB			46	6.7	45.	9			Ref.	
Right earphone										
Internal wire			47	7.8	46.	3			80	
y surface				48	3.3	46.	7			Ref.
near U1				49	9.6	48.	6			130
	Supply Voltage	Supply Voltage	Voltage       designation)             conditions:       Normal –         Abnormal –       Abnormal –         ementary information: SC=Short Cir          4, 6.3.2,       TABLE: Temperature m         2.6       Supply voltage (V)         Ambient T <sub>min</sub> (°C)       Ambient T <sub>max</sub> (°C)         Ambient T <sub>max</sub> (°C)       Tma (°C)         num measured temperature T of parameter       arphone         al wire       y surface         ear U1          enclosure inside near PCB         earphone       al wire         y surface          al wire          y surface          al wire          y surface          al wire          y surface          al wire          y surface	AbnoSingleSingleySupplyLocation (e.g. circuit designation)Test conditions:Image: Series of the se	Supply VoltageLocation (e.g. circuit designation)Test conditionsImage: Supply VoltageNormalAbnormalImage: Supply VoltageNormal – Abnormal – Abnormal – ementary information: SC=Short Circuit, OC=Short CImage: Supply Voltage (V)a) 5V b) FullImage: Supply Voltage (V)a) 5V 	AbnormalAbnormalSingle fault – SC/OCSingle fault – SC/OCSingle fault – Off timeSupply VoltageLocation (e.g. circuit designation)Test conditionsNormal AbnormalNormalOff timeAbnormalSingle fault – SC/OCOff timeAbnormal – Abnormal – SC/OCSingle fault – SC/OCOff timeAbnormal – SC/OCImage: Single fault – SC/OCImage: Single fault – SC/OCAbnormal – Abnormal – SC/OCImage: Single fault – SC/OCImage: Single fault – SC/OCSupply voltage (V)Image: Single fault – SC/OCImage: Single fault – Single f	$\begin{tabular}{ c c c } \hline Abnormal & & \\ \hline Single fault - & \\ \hline Single fault - & \\ \hline Sc/OC & \\ \hline \end{tabular} \\ \hline$	AbnormalSingle fault - SC/OCSupply VoltageLocation (e.g. circuit designation)Test conditions Test conditionsOff time (ms)Upk (V)AbnormalAbnormalAbnormalAbnormal - Abnormal - Abnormal - Abnormal - Abnormal - SC/OCSingle fault - SC/OCAbnormal - Abnormal - Abnormal - Bernentary information: SC=Short Circuit, OC=Short CircuitAbnormal - Abnormal - Bernentary information: SC=Short Circuit, OC=Short Circuita)5V, Only charging; b) Full charged battery discharg b)Ambient T <sub>min</sub> (°C)Ambient T <sub>min</sub> (°C)Ambien	AbnormalSupply VoltageLocation (e.g. circuit designation)Test conditions $Test conditions$ $Test conditions$ $Upk (V)$ Ipk (mA)NormalAbnormalAbnormalAbnormalAbnormalAbnormal -SC/OCAbnormal -SC/OCAbnormal -SC/OCAbnormal -SC/OCAbnormal -SC/OCAbnormalAbnormalAmbient Tomation: SC=Short Circuit, OC=Short CircuitSUpply voltage (V)Ambient T <sub>min</sub> (°C)Ambient T <sub>max</sub> (°C)	$ \begin{tabular}{ c c c } \hline \begin{tabular}{ c c c } \hline \begin{tabular}{ c c c } \hline \begin{tabular}{ c c } \hline \hline tab$

46.3

45.0

45.8

45.0

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Ref.

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Plastic enclosure inside near PCB

Ambient



For accessible part								
Plastic enclosure outside near PCB(Left earphone )			27.5	25.6			48	
Plastic enclosure outside near PCB (Right earphone)			27.2		25.4		48	
Ambient		2	25.0	25.0				
Supplementary information: *) Temper method.	erature limi	ts for windi	ng include	less 10K fo	or thermo	couple meas	surement	
Temperature T of winding:	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class		
	•		•	•	-		•	

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

Note 3: the test condition a,c,d refer to appended table B.2.5 for detail.

5.4.1.4, 6.3.2, 9.0, B.2.6		Р			
	Supply voltage (V):	<ul><li>c) 5V, Only ch</li><li>d) 5V, chargin</li><li>e) Full charge</li></ul>	tions; ging conditions	—	
	Ambient T <sub>min</sub> (°C):				_
	Ambient T <sub>max</sub> (°C):				—
	Tma (°C):	45.0	45.0	45.0	
Maximum meas	sured temperature T of part/at:		Allowed T <sub>max</sub> (°C)		
Test condition No.:		c)	d)	e)	
Charging base		·			
Internal wire		48.9	48.5	46.8	80
Battery surface		50.2	49.8	47.0	Ref
PCB near U1		54.2	53.8	49.9	130
Plastic enclosur	e inside near PCB	49.2	48.8	46.5	Ref.
Ambient		45.0	45.0	45.0	
For accessible part					
Plastic enclosur	Plastic enclosure outside near PCB		28.6	26.3	77
Ambient		25.0	25.0	25.0	

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Supplementary information: *) Temper method.	erature limi	ts for windi	ng include	less 10K fo	or thermoc	ouple measu	urement
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
Supplementary information:							
Note 1: Tma should be considered as directed by applicable requirement							
Note 2: Tma is not included in assess	sment of To	ouch Temp	eratures (0	Clause 9)			
Note 2: the test condition a sid refer t			C for data				

Note 3: the test condition a,c,d refer to appended table B.2.5 for detail.

5.4.1.10.3 TABLE: Ball pressure test of thermoplastics							
Allowed impression diameter (mm): < 2 mm					_		
Object/Part No./Material Manufacturer/trademark		Test temperature (°C)	t temperature (°C) Impression c				
Supplementa	Supplementary information:						

5.4.2.2, 5.4.2.4 **TABLE: Minimum Clearances/Creepage distance** Ν and 5.4.3 Required<sup>3</sup> Clearance (cl) and creepage Up U r.m.s. Frequency Required cl cr (mm)<sup>2</sup> distance (cr) at/of/between: (V) (kHz)<sup>1</sup> cl (mm) cr (mm) (mm) (V) -------------------

Supplementary information:

Note 1: Only for frequency above 30 kHz

Note 2: See table 5.4.2.4 if this is based on electric strength test

Note 3: Provide Material Group

5.4.2.3	TABLE: Minimum Clea	TABLE: Minimum Clearances distances using required withstand voltage						
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measure		cl (mm)		
Supplementary information:								

5.4.2.4	5.4.2.4 TABLE: Clearances based on electric strength test				
Test voltage	Test voltage applied between:         Required cl (mm)         Test voltage (kV) peak/ r.m.s. / d.c.         Breakc				

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Supplementary information:

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TAE	TABLE: Distance through insulation measurements					
Distance through insulation di at/of: (V) Frequency (kHz) Material Required DTI (mm)					DTI (mm)		
Supplementary information:							

5.4.9	TABLE: Electric strength tests	N					
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No			
Functional:							
Basic/supple	ementary:						
Reinforced:							
Routine Tes	Routine Tests:						
Supplement	Supplementary information:						

5.5.2.2	TABLE: Stored discharge on capacitors							
Supply Voltage (V), Hz Test Oper Location Conc (N,				Switch position On or off	Measured Voltage (after 2 seconds)	ES C	lassification	
Supplement	Supplementary information:							

Supplementary information:

X-capacitors installed for testing are:

□ bleeding resistor rating:

 $\Box$  ICX:

Notes:

A. Test Location:

Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations:

N - Normal operating condition (e.g., normal operation, or open fuse); S - Single fault condition

5.6.6.2	.6.6.2 TABLE: Resistance of protective conductors and terminations					
A	Accessible part Test current Duration Voltage drop Re					esistance (Ω)

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5.6.6.2 TABL	5.6.6.2 TABLE: Resistance of protective conductors and terminations						
Accessib	ble part -	Test current (A)	Duration (min)	Voltage drop (V)	R	esistance (Ω)	
Supplementary info	Supplementary information:						

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive pa	Ν	
Supply vol	tage:		—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
		1	
		2*	
		3	
		4	
		5	
		6	
		7	

## Supplementary Information:

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

[2] Earthed neutral conductor [Voltage differences less than 1% or more]

[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (\*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

6.2.2	Table: Electr	ical power sourc	es (PS) measurements	for classification		Р
Source	Description	Measurement	PS	Classification		
Earphone						
		Power (W) :				
5Vdc	5Vdc Internal circuit	V <sub>A</sub> (V) :			(1	PS2 by declared)
		I <sub>A</sub> (A) :			(-	,,
		Power (W) :	4.12			
4.2Vdc Bat	Battery cell	V <sub>A</sub> (V) :	2.88			PS1
		I <sub>A</sub> (A) :	1.43			



Charging ba	ase				
	5Vdc Internal circuit	Power (W) :			<b>D</b> 00
5Vdc		V <sub>A</sub> (V) :			PS2 (by declared)
Unoun	I <sub>A</sub> (A) :				
	4.2Vdc Battery pack	Power (W) :	8.82		
4.2Vdc		V <sub>A</sub> (V) :	2.73		PS1
		I <sub>A</sub> (A) :	3.23		
		Power (W) :	17.86	16.27	
4.2Vdc	Battery cell	V <sub>A</sub> (V) :	1.79	1.66	PS2
		I <sub>A</sub> (A) :	9.98	9.98	
Supplemen	tary Information	:			

(\*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)					
	Location Open circuit voltage After 3 s (Vp) Calculated value (Vp x Irms)					

Supplementary information:

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage ( $V_p$ ) and normal operating condition rms current ( $I_{rms}$ ) is greater than 15.

6.2.3.2	Table: Dete	PIS)	Р			
Circuit Loc	cation (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
-	-					Yes (by declared)

Supplementary Information:

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.



8.5.5	TABLE: High Pressure Lamp			N
Description		Values	Energy Source	Classification
Lamp type			—	
Manufacture	er:			
Cat no				
Pressure (co	old) (MPa):		MS	<u> </u>
Pressure (o	perating) (MPa)		MS_	
Operating ti	me (minutes)		_	
Explosion m	ethod			
Max particle	length escaping enclosure (mm):	N		<u></u>
Max particle	length beyond 1 m (mm)	MS_		<u> </u>
Overall resu	lt:			
Supplement	ary information:			

B.2.5	TABLE: Inpu	ut test						Р
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
5.0	0.301	0.5	1.505				Condition Battery cu earphone	rrent for
5.0	0.301	0.5	1.505				Condition Battery cu charging I	
4.2	0.098		0.41				Condition Battery cu earphone	rrent for
4.2	0.006		0.025				Condition	d

Note(s):

Condition a: The charge base and earphone was equipped with full discharged battery.

Condition b: The charge base was equipped with full discharged battery only.

Condition c: The charge base was equipped with full charged battery, and the earphone was equipped with full discharged battery.

Condition d: Discharge, the earphone was equipped with full charged battery.

B.3	TABLE: Ab	normal opera	ting condit	ion test	S					Р
Ambient temperature (°C)									—	
Power source for EUT: Manufacturer, model/type, output rating :										
Component No.										
The EUT was equipped with fully charged battery of earphone										



Speaker	S-C	4.2V	1h30min			Type J	Battery surface: 28.8, PCB near U1: 32.5, Enclosure: 27.7 Ambient: 25.0	Unit working abnormal. no damage and hazards. Battery current: 16mA	
Supplementar	Supplementary information:								

**B.4 TABLE:** Fault condition tests Ρ Ambient temperature (°C) .....: 23.0-25.0 Power source for EUT: Manufacturer, model/type, output rating .: Т-Component Fault Supply Test time Fuse Fuse Temp. Observation (°C) No. Condition voltage, (V) (ms) no. current. couple (A) The EUT was equipped with fully discharged battery of earphone Shut down immediately U1 Pin 6-7 S-C 5V 10min ----No damaged, no hazards. The EUT was equipped with fully charged battery of earphone Unit working Battery B- to normally. No S-C 4.2V 10min --------damaged, no Phazards. No fire, no Battery B+ to S-C 4.2V 10min ---------Rexplosion Shut down immediately U1 Pin 6-18 S-C 10min 5V -------No damaged, no hazards. The EUT was equipped with fully discharged battery of charging base Shut down immediately U1 Pin 1-2 S-C 5V 10min ----------No damaged, no hazards. The EUT was equipped with fully charged battery of charging base Shut down immediately S-C U1 Pin 2-8 4.2V 10min --------No damaged, no hazards. Unit working normally. No Battery B- to S-C 7h 5V -damaged, no Phazards.

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## Report No. : AGC10798220201ES01 Page 54 of 65

Battery B+ to B-	S-C	4.2V	10min					No fire, no explosion		
Supplementar	Supplementary information:									

Annex M	TABLE: Batt	eries								Ρ
The tests of A	nnex M are a	pplicable o	nly when app	ropriate bat	tery data is	not availab	ole			
Is it possible t	o install the b	attery in a r	everse polari	ty position?		:				
	Non-re	chargeable	batteries		R	Rechargeab	le batteries			
		arging	Un-		rging	Disch	arging	Reve	eversed charging	
	Meas.	Manuf.	intentional	Meas.	Manuf.	Meas.	Manuf.	Mea		Manuf.
Fambana	current	Specs.	charging	current	Specs.	current	Specs.	curre	ent	Specs.
Earphone									1	
Max. current during normal condition				31mA	40mA	6mA	40mA		-	
Max. current during fault condition				31mA	40mA	16mA	40mA			
Charging base	е									
Max. current during normal condition				296mA	300mA	98mA	300mA		-	
Max. current during fault condition				296mA	300mA	98mA	300mA			
	•									
Test results:									V	/erdict
- Chemical lea	aks						No leaks			Р
- Explosion of the battery							No explos	ion		Р
- Emission of flame or expulsion of molten metal							No emission			Р
- Electric strer	Electric strength tests of equipment after completion of tests									Р
Supplementa	ry information	:					1			



Annex M.4	Table: Add	litional safeguards for equ	uipment contai	ining seconda	ary lithium batte	eries P	
Battery	/Cell No.	Test conditions		Measuremen	ts	Observation	
Dattery	/Cell NO.	rest conditions	U	I (A)	Temp (C)	Observation	
Earphone							
501	1012	Normal	4.20	0.031	Cell body : 28.6°C Ambient: 25.0°C	The cell charging voltage does not exceed 4.2V and the battery charging current does not exceed 0.04A.	
501012		Single fault –SC		0.031	Cell body: 28.7°C Ambient: 25.0°C	The cell charging voltage does not exceed 4.2V and the battery charging current does not exceed 0.04A.	
Charging ba	ase	•					
402	2530	Normal	4.20	0.296	battery body: 30.2°C Ambient: 25.0°C	The cell charging voltage does not exceed 4.2V and the battery charging current does not exceed 0.3A.	
402530		Single fault –SC	4.19	0.296	battery body: 30.4°C Ambient: 25.0°C	The cell charging voltage does not exceed 4.2V and the battery charging current does not exceed 0.3A.	

Battery identification	Charging at T <sub>lowest</sub> (°C)	Observation	Charging at T <sub>highest</sub> (°C)	Observation			
Earphone							
Li-ion	0	Charging current: 9mA	45	Charging current: 0			
Charging base							
Li-ion	0	Charging current: 105mA	55	Charging current: 0			
Supplementary Information:							



Annex Q.1	TABLE: Circuits inte	ended for interc	onnection with	n building wirii	ng (LPS)	N		
Note: Measured UOC (V) with all load circuits disconnected:								
Output Circuit	Componente		I <sub>sc</sub>	(A)	S (VA)			
Output Circuit	Components	U <sub>oc</sub> (V)	Meas.	Limit	Meas.	Limit		
Supplementary Information:								
S-C=Short circ	cuit, O-C=Open circui	t						

T.2, T.3, T.4, T.5	TABLE: Steady	E: Steady force test						
Part/Location	n Mate	Material Thickness Force(N) Tes		) Test Duratio (sec)	n Observation			
Charging base								
Top enclosu	e Plas	tic Min. 1	.0 100	5	No damaged			
Side enclosu	re Plas	tic Min. 1	.0 100	5	No damaged			
Bottom enclosure Plastic		tic Min. 1	.0 100	5	No damaged			
Earphone		·	·	·	·			
Top enclosur	re Plas	tic Min. 0	.5 100	5	No damaged			
Side enclosu	re Plas	tic Min. 0	.5 100	5	No damaged			
Bottom enclos	ure Plas	tic Min. 0	.5 100	5	No damaged			
Supplementary	/ information:	I	I	I	1			

Т.6, Т.9	TAB	LE: Impact tests		Ν				
Part/Locatio	on	Material	Thickness (mm)	Vertical distance (mm)	Observation			
Supplementa	Supplementary information:							

Supplementary information:

T.7 1	TABLE: Drop tests				Р
Part/Locatio	n Material	Thickness (mm)	Drop Height (mm)	Observation	
Charging base		·	·		
Top enclosure	Plastic	Min. 1.0	1000	No damaged	
Side enclosure	e Plastic	Min. 1.0	1000	No damaged	
Bottom enclos	ure Plastic	Min. 1.0	1000	No damaged	
Earphone	·				



#### Report No. : AGC10798220201ES01 Page 57 of 65

Top enclosure	Plastic	Min. 0.5	1000	No damaged			
Side enclosure	Plastic	Min. 0.5	1000	No damaged			
Bottom enclosure	Plastic	Min. 0.5	1000	No damaged			
Supplementary information:							

Т.8 **TABLE: Stress relief test** Ρ Duration Part/Location Material Thickness Oven Observation (h) (mm) Temperature (°C) Charging base Completed Plastic enclosure 70 7 Min. 1.0 No damaged, no hazards. sample (for all sources) Earphone Completed Plastic enclosure 7 Min. 0.5 70 No damaged, no hazards. sample (for all sources) Supplementary information: For details refer to appended table 4.1.2.



Attachment A Photos of product



Fig.1 – overview



Fig.2 – overview

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100

Fig.4 - overview

200 JRF-D1005

80 06 R

02

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50

09

8 -8

1010





Fig.5 – open view

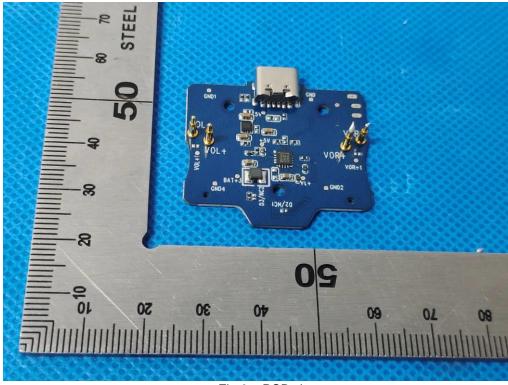


Fig.6 – PCB view

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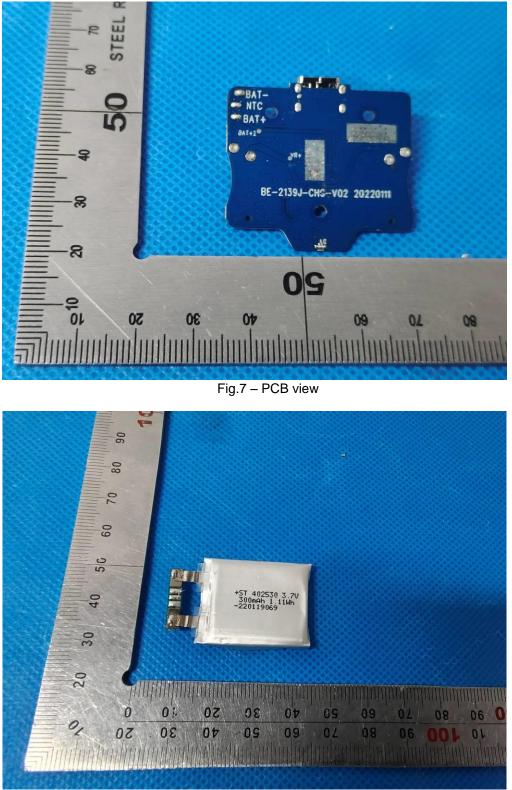


Fig.8 – battery view

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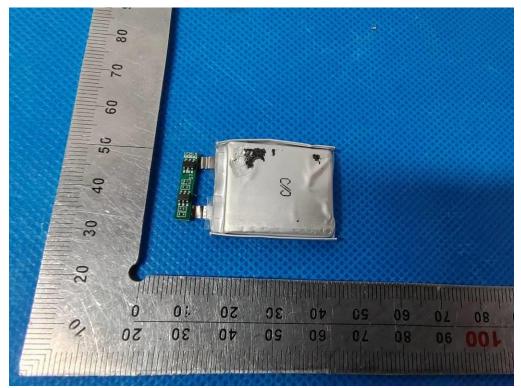


Fig.9 – battery view



Fig.10 – overview of earphone

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Fig.12 - open view of earphone

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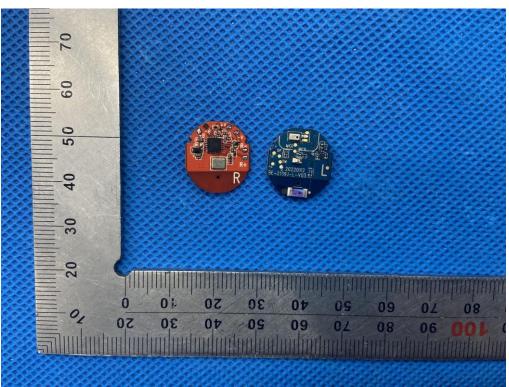


Fig.13 – PCB view of earphone

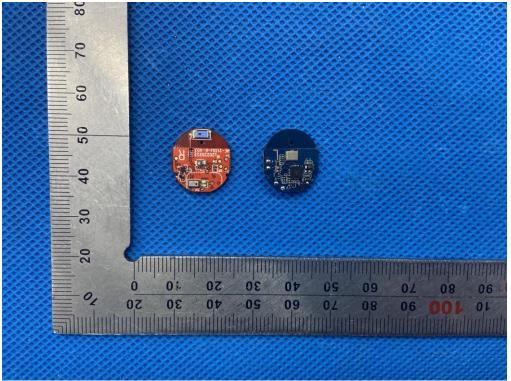


Fig.14 – PCB view of earphone

G



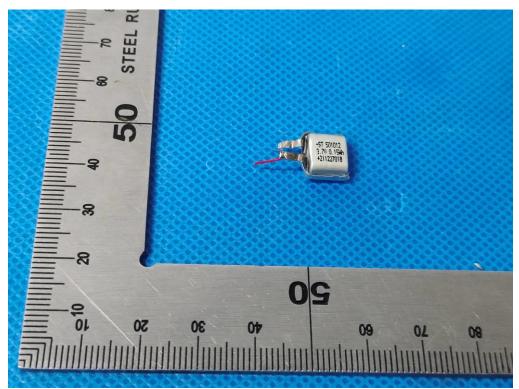


Fig.15 – battery view of earphone

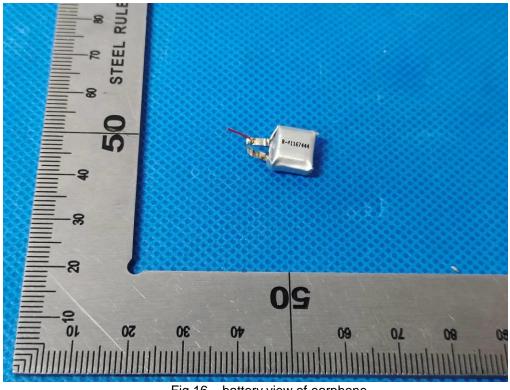


Fig.16 - battery view of earphone

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