





中国认可 国际互认 检验 INSPECTION CNAS IB0551



Report No.:

报告编号: HLDY20231108MSDS02

MATERIAL SAFETY DATA SHEET

材料安全数据表

Product Rechargeable Li-ion Cell 可充电锂离子电芯 产品 Type/Model IMR14500-500mAh 型号 **Issue Date** 2023-12-06 签发日期 **Validity** 2024-01-01 \sim 2024-12-31 有效期 Compiler 编写 Reviewer 审核 Houghon Xu **Approver** 批准

广州邦禾检测技术有限公司

Guangzhou MCM Certification & Testing Co., Ltd.



Material Safety Data Sheet

材料安全数据表

SECTION 1 - CH	HEMICAL AND COMPANY IDENTIFICATION
第1节一化学品和	1公司标识
Product	Rechargeable Li-ion Cell
产品	可充电锂离子电芯
Type/Model: 型号	IMR14500-500mAh
Parameter 参数	3.7V, 500mAh, 1.85Wh
	☑ Used in Portable Equipment 用于便携式设备
Usage	□ Used in Electric Vehicle 用于电动车辆
用途	□ Used in Energy Storage System 用于储能系统
	○ Others 其他
Company	Xinxiang Hongli Supply Source Technology Co.,Ltd.
公司	新乡市弘力电源科技有限公司
Address	West Section of Xinglong Road, Xinxiang Economic Development Zone, Xinxiang County,
地址	Xinxiang City, Henan, P.R.China
HEHL.	河南省新乡市新乡县新乡经济开发区兴隆路西段
Fax 传真	
Zip code 邮编	
E-mail 电子邮箱	760172564@qq.com
Emergency Telepho 0373-5632158	one 紧急联系电话

SECTION 2 - HAZARDS IDENTIFICATION

第2节一危害识别

Classification 分类:

This chemical is not considered hazardous by the Regulation (EC) No 1272/2008 (CLP). This product is an article which is a sealed battery and as such does not require an SDS per the Regulation (EC) No 1272/2008 (CLP) unless ruptured. The hazards indicated are for a ruptured battery.

该化学品不被法规(EC)No.1272/2008(CLP)认为是危险的。本产品为密封电池,因此,除非破裂,不需要SDS (EC) No.1272/2008 (CLP)。以下提到的危险是电池破裂造成的。

Acute toxicity – Oral	Category 4
急性毒性-口服	第4类
Acute toxicity - Dermal	Category 4
急性毒性-皮肤	第4类
Skin corrosion/irritation	Category 1B
皮肤腐蚀/刺激	第1B类
Serious eye damage/eye irritation	Category 2
严重眼睛损失/眼睛刺激	第2类
Skin sensitization	Category 1
皮肤致敏	第1类
Carcinogenicity	Category 2
致癌性	第2类
Specific target organ toxicity (repeated e 特异性靶器官毒性(重复暴露)	xposure) Category 1 第1类

GB/T 16483: 2008 01 Page 2 of 12 Pages



Label elements 标签要素:

Signal Word信号词:

Danger 危险

Hazard Statements 风险声明

	nazara etatemente y (1917) / 1			
H302	Harmful if swallowed. 吞食有害			
H312	Harmful in contact with skin. 与皮肤接触有害			
H332	Harmful if inhaled. 吸入有害			
H318	Causes serious eye damage. 对眼睛造成严重损害			
H317	May cause an allergic skin reaction. 可能导致皮肤过敏反应			
H350	May cause cancer. 可能致癌			
H371	May cause damage to organs. 可能对器官造成损害			
H335	May cause respiratory irritation. 可能引起呼吸道刺激			

Symbol标志



This product is an article which contains a chemical substance. Safety information is given for exposure to the article as solid. Intended use of the product should not result in exposure to the chemical substance, This is a battery. In case of rupture: the above hazards exist.

这个产品是一种含有化学物质的物品。安全信息是为了固体物质的暴露而提供。这是一个电池,本产品的预期用途不应导致化学物质暴露。万一破裂,上述危害存在。

GB/T 16483: 2008 01 Page 3 of 12 Pages



Precautionary Statements – Prevention

预防说明-预防

P201	Obtain special instructions before use. 在使用前获得特殊说明
P202	Do not handle until all safety precautions have been read and understood. 阅读和理解安全注意事项后再操作
P281	Use personal protective equipment as required. 按要求使用个人防护装备
P264	Wash face, hands and any exposed skin thoroughly after handling. 处理后彻底清洗脸、手和任何暴露的皮肤
P272	Contaminated work clothing should not be allowed out of the workplace. 不应让受污染的工作服离开工作场
P210	Keep away from heat/sparks/open flames/hot surfaces –no smoking. 远离热源/火花/明火/热表面——禁止吸烟
P270	Do not eat, drink or smoke when using this product. 使用本品时请勿吃、喝、吸烟

Precautionary Statements - Response

预防声明--响应

P301+ P330+ P308

If exposed or connected: Get medical advice/attention. Specific treatment(see supplemental first aid/instruction on this label).

如果暴露或接触: 求医/就医。特殊治疗(见标签上的补充急救/说明)

Skin: If on skin: wash with plenty of soap and water. Take off contaminated clothing and water before reuse, if skin irritation or rash occurs: get medical advice/attention if feel unwell.

皮肤:如果皮肤:用大量的肥皂和水清洗。如果出现皮肤刺激或皮疹,在重复使用前脱下受污染的衣服和水:如果感觉不适,请就医/就诊。

Eye: If in eyes: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell.

眼睛:如果进入眼睛:小心用水冲洗几分钟,取下隐形眼镜,如果存在且容易做到,继续冲洗;如果你感觉不舒服, 打电话给中毒中心或医生/医生

Inhalation: If inhalation: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician if you feel unwell.

吸入:如果吸入,如果呼吸困难,将患者转移到空气新鲜的地方,保持一个适合呼吸的姿势休息;如果出现呼吸道症状,如果感觉不适,呼叫解毒中心或医生/内科医生。

Ingestion: If swallowed: rinse mouth, do not induce vomiting, Call a POISON CENTER or doctor/physician if you feel unwell.

食入:如吞下:漱口,不要催吐。如果感觉不适,呼叫解毒中心或医生/内科医生。

Precautionary Statements – Storage

预防声明—存储

P405	Store locked up 加锁存储
------	-------------------------

Precautionary Statements - Disposal

预防声明-处置

P501	Dispose of contents/container to an approved waste disposal plant. 内容物/容器处理到经批准的废物处理工厂
	内谷物谷葡处理判红加强的成物处理工/

GB/T 16483: 2008 01 Page 4 of 12 Pages



Hazards not otherwise classified (HNOC) 未分类的危险

Not applicable 不适用

Other information 其他信息

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

对水生生物有害,可能对水生环境造成长期不利影响。

Interactions with other chemicals与其他化学物质的相互作用

Use of alcoholic beverages may enhance toxic effect.

使用酒精饮料可能会增强毒性作用

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENT 第3节一成分信息				
Ingredient	Molecular formula	CAS No.	Weigh	
成分	分子式	CAS 号	含量	
Lithium Manganite /锰酸锂	LiMn ₂ O ₄	12057-17-9	28-32%	
Aluminium /铝	Al	7429-90-5	2-3%	
Graphite /石墨	C ₂₄ X ₁₂	7782-42-5	10-15%	
Copper /铜	Cu	7440-50-8	4-5%	
Lithium Hexafluorophosphate /六氟磷酸锂	LiPF ₆	21324-40-3	2-3%	
Dimethyl Carbonate /碳酸二甲酯	C ₃ H ₆ O ₃	616-38-6	9-10%	
Ethylene Carbonate /碳酸乙烯酯	C ₃ H ₄ O ₃	96-49-1	4-6%	
Polyethylene /聚乙烯	(C ₂ H ₄) _n	9002-88-4	2-3%	
Iron /铁	Fe	7439-89-6	25-28%	

SECTION 4 - FIRST AID MEASURES

第4节一急救措施

Eye Exposure 眼睛接触:

In case of contact with eyes, flush with copious of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

如果与眼睛接触,用大量的水冲洗至少15分钟。用手指分开眼睑,确保充分的冲洗。寻求医生。

Skin Exposure 皮肤接触:

If the internal battery materials of an opened battery cell come into contact with skin, immediately flush with plenty of water or soap.

如果打开的电池的内部电池材料接触到皮肤,立即用大量的水或肥皂冲洗。

Inhalation Exposure 吸入:

If inhaled the internals of battery vomiting. Seeking Immediate medical attention.

如果吸入电池内部呕吐。立即就医。

Ingestion Exposure 吞咽:

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel. 如果吞咽,请就医。除非医务人员指示,否则不要催吐。

SECTION 5 - FIRE FIGHTING MEASURES

第5节一消防措施

Danger characteristic 危险特性:

Exposure to excessive heat can cause venting of the liquid electrolyte.

GB/T 16483: 2008 01 Page 5 of 12 Pages

MCM Technology & Service

Report No.: HLDY20231108MSDS02

暴露在过热的环境中会导致液体电解质的释放。

Battery may burst and release hazardous decomposition products when exposed to a fire situation.

当暴露在火灾环境中时,电池可能会爆裂并释放出危险的分解产物。

Hazardous combustion products 有害危险产物:

Corrosive and toxic gas may be emitted during fire.

着火期间可能会排放腐蚀性和有毒气体。

Fire-Fighting method 灭火措施:

The staff must equip with filtermask (full mask) or isolated breathing apparatus.

员工必须配备过滤器面罩或隔离式呼吸器。

The staff must wear the clothes which can defense the fire in the upwind direction.

工作人员必须穿能在逆风方向防火的衣服。

Remove the container to the open space as soon as possible.

尽快将容器移到空地上。

Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

把水喷在壁炉里的容器上, 使其降温, 直到熄灭。

Fire-Fighting media 灭火介质:

Plenty of water, dry chemical powder or carbon dioxide.

大量的水,干粉或二氧化碳。

SECTION 6 - ACCIDENTAL RELEASE MEASURES

第6节一意外泄漏措施

Emergency treatment 紧急处理:

If the battery material is released, remove personnel from area until the batteries cool down and fumes dissipate. 如果电池材料被释放,请将人员从该区域撤离,直到电池冷却和烟雾消散。

Provide maximum ventilation to clear out hazardous gases and avoid skin and eye contact or inhalation of vapors. 提供最大的通风以清除有害气体和避免皮肤和眼睛接触或吸入蒸汽。

Remove spilled liquid with absorbent and incinerate waste.

用吸收剂除去溢出的液体并焚烧废物。

SECTION 7 - HANDLING AND STORAGE

第7节一处理和储存

Handling 处理:

1. Do not allow battery terminates to contact each other, or contact with other metals.

不要让电池端子相互接触或与其他金属接触。

2. Do not put the cell or battery into a fire or heat it. Do not solder the cell directly. Do not use or leave the cell or battery in a place near fire or heaters.

不要将电芯或电池放入火中或加热。不要直接焊接电池。不要将电芯或电池放在靠近火源或加热器等地方。

3. Do not expose the battery to excessive physical shock or vibration.

不要让电池受到过度的物理冲击或振动。

4. Do not immerse, throw, and wet a battery in water.

不要将电池浸入水中、投掷或弄湿。

5. Short-circuiting should be avoided. Short circuit will reduce the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short- circuited battery can cause skin burn.

应避免短路。短路会降低蓄电池的寿命,并可能导致周围材料着火。与短路电池的物理接触会导致皮肤灼伤。

6. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

不应打开、销毁或焚烧电池,因为电池可能泄漏或破裂,并将密封容器中的成分释放到环境中。

7. Place the cell beyond the child packing and container.

将电池放置在儿童触及不到的地方。

GB/T 16483: 2008 01 Page 6 of 12 Pages



- 8. Do not connect the battery directly to an electric outlet or cigarette socket in a car. 不要将电池直接连接到汽车的电源插座或香烟插座上。
- 9. Be sure to use the specified charger for battery, and follow the charging instructions correctly. 请务必使用指定的蓄电池充电器,并正确遵循充电说明。
- 10. Do not mix old and new batteries together, neither with Ni-Cd, dry batteries or another manufacturer batteries or product.

不要将新旧电池混合在一起使用,也不要与镍镉电池、干电池或其他制造商的电池或产品混合使用。

Storage 储存:

- 1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks. 电池应与其他材料分开,并存放在不燃、通风良好、有洒水装置保护的结构中,墙壁和电池堆之间应有足够的间隙。
- 2. Keep the sample in the cool, dry and well-ventilated place (temperature: -20~30 °C, humidity: 45~85%). Do not exposure to direct sunlight for long periods. Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid.
 - 将样品置于阴凉、干燥、通风良好的地方(温度-20~30℃,湿度: 45~85%)。不要长时间暴露在阳光直射下。 远离火源和热源。不要用氧化剂和酸保存样品。
- 3. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling. 配备相应种类和数量的灭火器材。储存场所应配备适当的掩蔽材料,以便进行泄漏处理。
- 4. For rechargeable battery, charge the battery every 6 months to the amount specified by the manufacture, even if the battery is not used.
 - 对于可充电电池,即使不使用电池,也应每6个月将电池充电至制造商规定的电量。

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

第8节一暴露控制与个人防护措施

Engineering Control 工程控制:

Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place. 远离热源和明火。提供足够的局部排气。存放在阴凉干燥的地方。

Respiratory Protection 呼吸保护:

Not necessary under conditions of normal use. Wear self-contained breathing filtermask if the density exceed in the air. Wear breathing apparatus under the condition of emergency rescue or evacuation.

在正常使用条件下不需要。如果环境内气体密度超过空气中的密度,请佩戴自给式呼吸过滤器。在紧急救援或疏散的情况下,佩戴呼吸器。

Eyes Protection 眼睛保护:

Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery. 在正常使用条件下不需要。如果处理泄漏或破裂的电池,请戴上防护眼镜。

Skin and Body Protection 皮肤和身体保护:

Not necessary under conditions of normal use. Wear fireproofing, gas defense clothes in case of handling a leaking or ruptured battery.

在正常使用条件下不需要。在处理泄漏或破裂的电池时,穿上防火防毒服。

Hands Protection 手部保护:

Not necessary under conditions of normal use. Wear chemical resistant rubber glove.

在正常使用条件下不需要。耐磨耐化学腐蚀橡胶手套。

Other Protections 其他保护:

No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

工作场所禁止吸烟、就餐和饮水。保持良好的卫生习惯。

GB/T 16483: 2008 01 Page 7 of 12 Pages



SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES 第9节一理化性质		
Appearance 外观:	Green 绿色	
Physical state 状态:	Solid 固体	
Form 形状:	Cylindrical 圆柱形	
Odor 气味:	Odorless 无味	
Solubility 溶解度:	Insoluble in water 不溶于水	

SECTION 10 - STABILITY AND REACTIVITY

第10节一稳定性与反应性

Stability 稳定性:

Stable under normal temperature and pressure.

常温常压下稳定。

Distribution of Ban 禁配物:

Explosives, inflammables, strong oxidants and corrosives.

爆炸品、易燃物、强氧化剂和腐蚀剂。

Conditions to Avoid 应避免的条件:

Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature above 100°C, direct sunlight and high humidity, immerse in water or overcharge.

火源、热源、拆卸、外部短路、压碎、变形、100°C以上高温、阳光直射、高湿度、浸水或过充。

Hazardous Polymerization 危险聚合:

Will not occur.

不会发生。

Hazardous Decomposition Products 有害分解产物:

Metal oxides, carboxyl compound such as CO, CO₂, etc.

金属氧化物,碳化合物例如一氧化碳、二氧化碳,等等。

SECTION 11 - TOXICOLOGICAL INFORMATION

第11节一毒理学信息

Acute Toxicity 急性毒性:

No information is available.

没有可用的信息。

Sub-acute and Chronic Toxicity 亚急性和慢性毒性:

No information is available.

没有可用的信息。

Irritation Data 刺激性数据:

The internal battery materials may cause irritation to eyes and skin.

电池内部材料可能会对眼睛和皮肤造成刺激。

Sensitization 致敏作用:

The liquid in the battery may cause sensitization to some person.

电池中的液体可能会对某些人造成敏化。

Mutagenicity 致突变性:

No information is available.

没有可用的信息。

Carcinogenicity 致癌性:

No information is available.

没有可用的信息。

GB/T 16483: 2008 01 Page 8 of 12 Pages



Others 其他:

Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

由于该电池中的材料密封在罐体中,当按照指示使用电池时,接触电池组件的可能性可以忽略不计。但是,电池的技术或电气滥用可能会导致蓄电池内容物的释放。

SECTION 12 - ECOLOGICAL INFORMATION

第12节一生态信息

Eco-toxicity 生态毒性:

No information is available.

没有可用的信息。

Biodegradable 生物降解性:

No information is available.

没有可用的信息。

Mobility in soil 土壤流动性:

No information is available.

没有可用的信息。

Bioconcentration or biological accumulation 生物浓缩或生物积累:

No information is available.

没有可用的信息。

Other harmful effects 其他有害影响:

Don't abandon the battery into environment, may cause water or soil pollution.

不要将电池扔进环境中,可能造成水或土壤污染。

SECTION 13 - DISPOSAL CONSIDERATIONS

第13节一处置注意事项

Appropriate Method of Substance 物质处理方法:

The battery should be completely discharged prior to disposal in order to prevent short circuit.

为了防止短路, 在处理前应将蓄电池完全放电。

The battery contains recyclable materials, and it is suggested recycle.

电池含有可回收材料,建议回收利用。

Refer to National or Local regulations before handling.

操作前请参阅国家或地方法规。

Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in National or Local regulations of hazardous waste treatment and hazardous waste transportation.

电池的处理应由获得国家或地方法规的许可的具有危险废物处理和危险废物运输的专业处理公司进行。

SECTION 14 - TRANSPORT INFORMATION

第14节一运输信息

The battery has passed the test items of UN Manual of Test and Criteria Section 38.3, and Report No.: HLDY20231108U02.

电池已通过联合国《试验和标准手册》第38.3节的测试项目,报告编号: HLDY20231108U02。

GB/T 16483: 2008 01 Page 9 of 12 Pages



General packaging requirement 一般包装要求:

- The cells or batteries must be protected so as to prevent short circuits.
- · 电芯或电池必须加以保护,以防止短路。
- The cells or batteries or equipment must be packed in suitable strong outer packaging.
- 电芯或电池或设备必须包装在合适的坚固的外包装中。
 - If batteries contained in equipment, equipment must be secured against movement within the outer
- 3. packaging and be packed so as to prevent accidental activation.

如果电池包含在设备中,设备必须在外包装内固定,防止移动,并进行包装,以防止意外激活。

如果电池包含在设	备中,设备必须在外包装内固定,防止移动,并进行包装,以防止意外激活。			
•	ording to IATA-DGR 65 th Edition (Effective 1 January-31December 2024) 65版(2024年1月1日至12月31日生效)			
UN Number + PSN UN 3480, LITHIUM ION BATTERIES				
UN编号+运输专用名	UN 3480, 锂离子电池			
Hazard Class	Class 9			
危险等级	第九类危险品			
Packaging requirement 包装要求	Strong package, packaging according to PACKING INSTRUCTION 965, section IB 坚固包装,按照包装说明965 IB部分要求打包			
UN Number + PSN	UN 3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, or			
	UN 3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT			
UN编号+运输专用名	UN 3481, 锂离子电池与设备一起包装,或 UN 3481, 锂离子电池安装在设备中			
Hazard Class	Not restricted			
危险等级	不受限制			
Packaging requirement	Strong package, packaging according to PACKING INSTRUCTION 966/967, section II			
包装要求	坚固包装,按照包装说明966/967-II部分要求打包			
Sea transportation, acc	cording to IMO IMDG Code (Amend 41-2022)			
海运,依据IMO IMDG C	ode (Amend 41-2022)			
	UN 3480, LITHIUM ION BATTERIES, or			
LINI Niconala and DON	UN 3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, or			
UN Number + PSN	UN 3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT			
UN编号+运输专用名	UN 3480, 锂离子电池 或			
	UN 3481, 锂离子电池与设备一起包装, 或 UN 3481, 锂离子电池安装在设备中			
Hazard Class	Not restricted, according to sp188			
危险等级	不受限制,根据特殊条款188			
Package instruction	Strong package, Packaging in accordance to corresponding requirements of sp188			
包装说明	坚固包装,按照sp188相应要求进行包装			
EmS No.	FACI			
应急措施编号	F-A, S-I			
Road transportation, a	ccording to ADR-2023			
公路运输,依据ADR-20				
	UN 3480, LITHIUM ION BATTERIES, or			
LINI Niconale accide DON	UN 3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, or			
UN Number + PSN	UN 3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT			
UN编号+运输专用名	UN 3480, 锂离子电池 或			
	UN 3481, 锂离子电池与设备一起包装,或 UN 3481, 锂离子电池安装在设备中			
Hazard Class	Not restricted, according to sp188			
危险等级	不受限制,根据特殊条款188			
Package instruction	Strong package, Packaging in accordance to corresponding requirements of sp188			
包装说明	坚固包装,按照sp188相应要求进行包装			
	•			

GB/T 16483: 2008 01 Page 10 of 12 Pages



SECTION 15 - REGULATORY INFORMATION

第15节一监管信息

Dangerous Goods Regulation (DGR)

Recommendations on the Transport of Dangerous Goods Model Regulations

International Maritime Dangerous Goods (IMDG)

Occupational Safety and Health Act (OSHA)

Toxic Substances Control Act (TSCA)

Code of Federal Regulations (CFR)

Technical Instructions for the Safe Transport of Dangerous Goods

California Proposition 65

Superfund Amendments and Reauthorization Act Title III (302/311/312/313) (SARA)

Globally Harmonized System of Classification and Labeling of Chemicals(GHS)

In accordance with all Federal, State and local laws. 符合所有联邦、州和地方法律。

SECTION 16 - ADDITIONAL INFORMATION

第16节一附加信息

According standard 标准依据:

GB/T 16483-2008 Safety data sheet for chemical products Content and order of sections ISO 11014:2009(E) Safety data sheet for chemical products - Content and order of sections

Editing date 编辑日期:

2023-11-27

Department 编写机构:

Guangzhou MCM Certification & Testing Co., Ltd.

广州邦禾检测技术有限公司

Building 2 No. 45 Zhong Er Section of Shiguang Road, Zhongcun Street, Panyu District, Guangzhou City,

Guangdong Province, China.

Tel.: +86-20-3477 7662, 0086-020-3477 7662 中国 广东省广州市番禺区钟村街市广路钟二路段 45 号 2 栋

WEB: https://www.mcmtek.com Email: service@mcmtek.com

Other Information 其他信息:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damage of any third party or for last profits or any special, indirect, consequential or exemplary damages arising from using the above information.

上述资料被认为是正确的,但并非囊括全部,只作指引之用。我们不对此类信息的适销性或任何其他明示或暗示的 保证作出保证,并且我们不承担因使用此类信息而产生的任何责任。用户应自行调查,以确定信息是否适合其特定 用途。对于任何第三方的任何索赔、损失或损害,或因使用上述信息而产生的最后利润或任何特殊、间接、后果性 或惩戒性损害,我们概不负责。

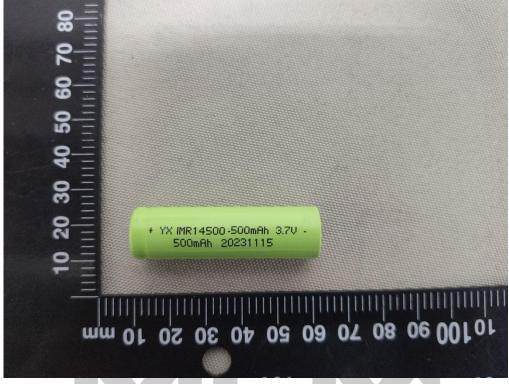
GB/T 16483: 2008 01 Page 11 of 12 Pages



Sample Reference Photo

样品照片

Model: IMR14500-500mAh





--End of the report--

GB/T 16483: 2008 01 Page 12 of 12 Pages



This certificate is responsible for testing sample only.

Please refer to this corresponding test report to get testing process and data.

Declaration of Conformity

Certification number: HPT-231113L1649

In accordance with the following Applicable Directives:

2014/30/EU

Electromagnetic Compatibility

The test results are traceable to the international or national standards.

Applicant: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County,

Jinhua City, Zhejiang Province

Manufacturer: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County,

Jinhua City, Zhejiang Province

Equipment under test: Game Boxing Disc

Trade Mark: N/A

Model number: QB01, QB02, QB03, QB04, QB05

Applied Standards and Test Reports

EN 55032:2015/A11:2020

Directive 2014/30/EU | EN 55035:2017/A11:2020

■EMC EN IEC 61000-3-2:2019+A1:2021

EN 61000-3-3:2013+A2:2021

HPT-231113L1649E

CE

Authorized by:

Note:

The certification is only valid for the equipment and configuration described, in conjunction with the test data detailed above. The CE mark as shown beside can be used, under the responsibility of the manufacturer, after completion of an EC Directive of Conformity and compliance with all relevant EC

Directive.

Manager

Issue date: Nov. 17, 2023





Shenzhen Huapin Testing Technology Co., Ltd.

Room 302, Comprehensive Building, Songbai Industrial Park, No.4, Yangyong Industrial Road, Tangxiayong Community, Yanluo Street, Bao'an District, Shenzhen. Tel.:0755-23143846 E-mail:hpt@hpt-lab.com.cn Web.:www.hpt-lab.com.cn This certification is for the exclusive use of HPT'S client and is provided pursuant to agreement between HPT and its client. HPT'S responsibility and liability are limited to the terms and conditions of the agreement. The Manufacturer should be responsible for the internal production control so that the products complied with the essential requirements of the above mentioned directive. certificate holder must notify all changes to the original certification laboratory of HPT.



EMC TEST REPORT

Client Information:

Applicant: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County, Applicant add.:

Jinhua City, Zhejiang Province

Brand Name: N/A

Product Information:

Product Name: Game Boxing Disc

> Model No .: **QB01**

Derivative model No.: QB02, QB03, QB04, QB05

> Wuyi Jinheng Household Goods Co., Ltd Manufacturer:

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County, Address:

Jinhua City, Zhejiang Province

EN 55032:2015/A11:2020 EN 55035:2017/A11:2020

Test Standard: EN IEC 61000-3-2:2019+A1:2021

EN 61000-3-3:2013+A2:2021

Test Date: Nov. 13, 2023 to Nov. 17, 2023 Issue Date: Nov. 17, 2023

PASS **Test Result:**

Shenzhen Huapin Testing Technology Co., Ltd.

Add.: Room 302, Comprehensive Building, Songbai Industrial Issued by:

Park, No 4, Yangyong Industrial Road, Tangxiayong Community,

YanluoStreet, Bao'an District, Shenzhen.

Test Engineer Rose Xiang

Reviewed by Arny Cai

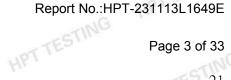
Approved by Ken Huang

RoseXiang Amy Cai

This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only



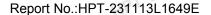
HPT	TEST
in the second se	Report No.:HPT-231113L1649E
Res Co. LTD	
	Page 2 of 33
	Hr.
TABLE OF OCCUPANT	UPTTES
TABLE OF CONTENT	Page
HPT I	TESTIN
TE3.	Page
1. VERSION	
2. GENERAL INFORMATION	5
2.1 Description of Device (EUT)	
2.2 Tested System Details	
2.3 Test Facility	
2.4 MEASUREMENT UNCERTAINTY	
2.5 Test Instrument Used	
3. CONDUCTED EMISSIONS	
3.1 Block Diagram Of Test Setup	
3.2 Limit	
3.3 Test procedure	
3.4 Test Result	
3.4 Test Result	93
4.1 Block Diagram Of Test Setup	
4.2 Limits	
4.2 Limits	12
4.4 Test Results	
5. HARMONIC CURRENT EMISSION TEST	
5.1 Block Diagram of Test Setup	
5.2 Test Standard	
5.3 Operating Condition of EUT	15
5.3.1 Setup the EUT as shown in Section 6.1	15
5.3.2 Turn on the power of all equipment	
5.3.3 Let the EUT work in test mode and test it	
5.4 Test Procedure	
5.5 Test Results	
6. VOLTAGE FLUCTUATIONS & FLICKER TEST	
6.1 Block Diagram of Test Setup	
6.2 Test Standard	
6.3 Operating Condition of EUT	
6.4 Test Procedure	
6.5 Test Results	
7. IMMUNITY TEST OF GENERAL THE PERFORMA	and the second s
8. ELECTROSTATIC DISCHARGE (ESD)	
8.1 Test Specification	
8.2 Block Diagram of Test Setup	
8.3 Test Procedure	
8.4 Test Results	
9. CONTINUOUS RF ELECTROMAGNETIC FIELD	
9.1 Test Specification	
9.2 Block Diagram of Test Setup	
HPI	TESI
9.2 Block Diagram of Test Setup	HPI





Page 3 of 33

HPT I	TESTII"
de l'Indiana de l'Article de l'	Report No.:HPT-231113L1649E
	Page 3 of 33
9.3 Test Procedure	
9.4 Test Results	
10. ELECTRICAL FAST TRANSIENTS/BURST (EFT)	
10.1 Test Specification	
10.2 Block Diagram of EUT Test Setup	
10.3 Test Procedure	
10.4 Test Results	22
11. SURGES IMMUNITY TEST	23
11.1 Test Specification	23
11.2 Block Diagram of EUT Test Setup	23
11.3 Test Procedure	
11.4 Test Result	23
12. CONTINUOUS INDUCED RF DISTURBANCES (C	CS) 24
12.1 Test Specification	
12.2 Block Diagram of EUT Test Setup	24
12.3 Test Procedure	
12.4 Test Result	
13. MAGNETIC FIELD IMMUNITY TEST	
13.1 Block Diagram of Test Setup	
13.2 Test Standard	
13.3 Severity Levels and Performance Criterion	
13.3.1 Severity level	
13.3.2 Performance criterion: B	
13.4 EUT Configuration on Test	
13.5 Operating Condition of EUT 13.6 Test Procedure 13.7 Test Results	
13.7 Tost Popults	20
14. VOLTAGE DIPS AND INTERRUPTIONS (DIPS)	27
14.1 Test Specification	27
14.1 Test Specification	27
14.3 Test Procedure	27
14.3 Test Procedure	27
15. EUT PHOTOGRAPHS	28
UPT TES	Pr.
ING H	HPT TEC
HPT TESTING HPT TESTING	TING
HPI	TTES!"
OT TES	HP'
HPT TESTING HPT TESTING HPT TESTING HPT TESTING	32







1. VERSION

TECHNOL	OG 100 UTD	HPT	Report No.:	HPT-231113L1649E
1. V	VERSION	HPT TESTING	HPT TESTING HPT TESTING	Page 4 of 33
	Report No.	Version	Description	Approved
-STINGH	HPT-231113L1649E	Rev.01	Initial issue of report	Nov. 17, 2023
PTTES	TING	44	TESTING	HPTTES
	HPT TES	JING	AP.	3
T TESTING		HPT TES !!	CTING HPT	HPT TESTIN
	HPT TESTING	-	HPT TESTING HI	3 HP.
TING	HAY		IDT TES	MITTER
T TESTING		HP	HPT TESTING HI	HPT TESTIN
	OT TEL	TING	HPT TESTING	
T TESTING		HPT TESTING	TING	HPT TESTIN
, ,	HPT TESTING		HPT TESTING HI	HPI
	HPT	HPT TESTING	UPTTES	
		HPT	TING	TESTIN

HPT TESTING HPT TESTING HPT TESTING HPT TESTING



2. GENERAL INFORMATION

2.1 Description of Device (EUT)

Game Boxing Disc

HPT TESTING EUT Trademark : N/A

> Model Number : QB01, QB02, QB03, QB04, QB05

All model's the function, software and electric circuit are the same, Model Difference

only with a product color and model named different.

: Input: DC5V from external circuit and DC3.7V from internal battery Power Supply

less than 108 MHz, the measurement shall only be made up to 1 GHz.

The highest frequency of the between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.

internal sources of the EUT is (less

between 500 MHz and 1 GHz, the measurement shall only be made up to 5

GHz.

than 108)MHz: above 1 GHz, the measurement shall be made up to 5 times the highest

frequency or 6 GHz, whichever is less.

Note: N/A

HPT TESTING 2.2 Tested System Details

None.

2.3 Test Facility

Shenzhen Huapin Testing Technology Co., Ltd.

Add.: Room 302, Comprehensive Building, Songbai Industrial Park, No 4, Yangyong Industrial Road, Tangxiayong Community, YanluoStreet, Bao'an District, Shenzhen.

2.4 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

		116
	Test item	Value (dB)
Conducted	d Emission (150K-30MHZ)	3.20
Radiated di	sturbance30MHz-1000MHz	4.80
Radiated dist	turbance1000MHz-6000MHz	5.10
PT TESTING	HPT TES	TING HP
Hr.		IDT TES

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



5	ING TECHN	101	UPT		iniG	1.	TEST III
MIN	TING TECHA	6. 19	G III	HPT	TESTIN	Report No.:HI	PT-231113L1649E
1	HP:	T V	-csTI	NG		UPT TESTIN	Page 6 of 33
		2.5 Test Instrument			TESTING		HPT TESTING
	Cond	ucted emissions To	est	70,	7.5	- G	3.5
	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
	11/10	LISN	R&S	ENV216	101471	Sep. 12 2023	Sep. 11 2024
	2	LISN	CYBERTEK	EM5040A	E185040014 9	Sep. 12 2023	Sep. 11 2024
	3	Test Cable	N/A	C01	N/A	Sep. 12 2023	Sep. 11 2024
	4	Test Cable	N/A	C02	N/A	Sep. 12 2023	Sep. 11 2024
	5	EMI Test Receiver	R&S	ESRP3	101946	Sep. 12 2023	Sep. 11 2024
	6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 12 2023	Sep. 11 2024

	6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 12 2023	Sep. 11 2024
	Radia	ated emissions Test	(966 chamber)			HPTTE	1170
OT TES	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
	1	Bilog Antenna	Schwarzbeck	VULB9168	00877	Sep. 12 2023	Sep. 11 2024
	2	Loop Antenna	SCHWARZBECK	FMZB1519B	014	Sep. 12 2023	Sep. 11 2024
	3	Test Cable	N/A	R-01	N/A	Sep. 12 2023	Sep. 11 2024
TTES	4	Test Cable	N/A	R-02	N/A	Sep. 12 2023	Sep. 11 2024
	5	EMI Test Receiver	R&S	ESCI7	101169	Sep. 12 2023	Sep. 11 2024
	6	Antenna Mast	EM	SC100_1	N/A	N/A	N/A
	7	Turn Table	EM	SC100	N/A	N/A	N/A
Tiv	8	Spectrum Analyzer	KEYSIGHT	9020A	MY5537083 5	Sep. 12 2023	Sep. 11 2024
	9	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	1541	Sep. 12 2023	Sep. 11 2024
TTES	10	Horn Antenna (18GHz-40GHz)	A.H. System	SAS-574	588	Sep. 12 2023	Sep. 11 2024
	11	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	N/A	Sep. 12 2023	Sep. 11 2024
	12	Amplifier (1GHz-40GHz)	quanjuda	DLE-161	097	Sep. 12 2023	Sep. 11 2024

Harmonic / Flicker Test

	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
	alie	Harmonic & Flicker	LAPLACE INSTRUMENTS	C2000A	311370	Sep. 12 2023	Sep. 11 2024
7	2	AC Power Source	LAPLACE INSTRUMENTS	C2000A	311370	Sep. 12 2023	Sep. 11 2024

Electrostatic discharge Test

	ootatio aloonal go	1000	100			
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	ESD TEST GENERATOR	HTEC	HESD16	N/A	Sep. 12 2023	Sep. 11 2024
TING	HPTTL	UPT TESTI	NG Pr	Die	HPT TESTING	ESTING

HPT TESTING HPT TESTING TESTING HPT TESTING TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn

HPT TESTING





HPT TESTING
C fiel-Continuous RF electromagnetic field disturbances Test (SMQ --- site)

6	THE					TES TES	Page 7 of 33
OT TES	Con	tinuous RF electrom	agnetic field disturba	ances Test (SN	MQ site)	Hh.	UPT TESTIN
		Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
	1	Signal Generator	R&S	SMT 06	832080/007	Sep. 12 2023	Sep. 11 2024
	2	Log-Bicon Antenna	Schwarzbeck	VULB9161	4022	Sep. 12 2023	Sep. 11 2024
7 1	3	Power Amplifier	AR	150W1000M 1	320946	Sep. 12 2023	Sep. 11 2024
	4	Microwave Horn Antenna	AR	AT4002A	321467	Sep. 12 2023	Sep. 11 2024
	5	Power Amplifier	AR	25S1G4A	308598	Sep. 12 2023	Sep. 11 2024

		G .	·	TESTI		HPT
Item	Kind of Equipment	age dips and interru Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
liline	Surge Generator	HTEC	HCOMPAC T5	202501	Sep. 12 2023	Sep. 11 2024
2	DIPS Generator	HTEC	HV1P16T	202101	Sep. 12 2023	Sep. 11 2024
3	EFT/B Generator	HTEC	HCOMPAC T5	202501	Sep. 12 2023	Sep. 11 2024
4	EFT/B Clamp	HTEC	H3C	N/A	Sep. 12 2023	Sep. 11 2024

For Magnetic Field Immunity Test

!	or magnetic rileiu	illilliullity 163t	101	7	- C-	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
LIAIG	Generator	HTEC	HFMG 100	202602	Sep. 12 2023	Sep. 11 2024
	JPT TESTI	JG.	NG HPT	TEST	ESTING	HAL
-in/G	1.0	TEST			UPT TO	

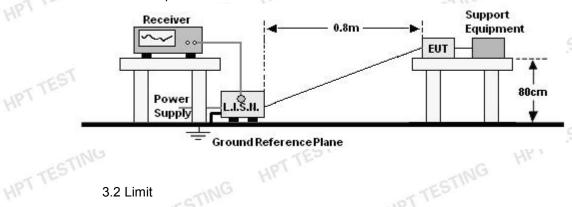
ail: hn* TING HPT TESTING HPT TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



3. CONDUCTED EMISSIONS

3.1 Block Diagram Of Test Setup

For mains ports:



3.2 Limit

Lim	it TING H	F. TESTING		HP
H	Limits for C	Conducted emissions at the mains ports	s of Class B MME	
	Frequency range	Limits dB(μV)		
	(MHz)	Quasi-peak	Average	
H	0,15 to 0,50	66 to 56*	56 to 46*	
	0,50 to 5	56	46	
	5 to 30	60	50	UP

Notes: 1. *Decreasing linearly with logarithm of frequency.

3.3 Test procedure

For mains ports:

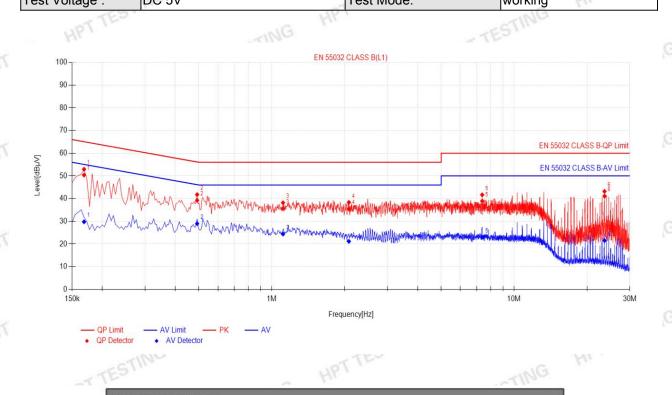
- a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

^{2.} The lower limit shall apply at the transition frequencies.



3.4 Test Result

HPT TEST	3.4 Test Result	TING HPT TES.	TESTING HP	HPT TEST	
		- 27179	ons at the Mains Ports Test Da		
	Temperature:	26 ℃	Relative Humidity:	54%	OLO
	Pressure:	1009hPa	Phase :	Line	
Hb.	Test Voltage :	DC 5V	Test Mode:	working	
	TES	,	HA	TING	_

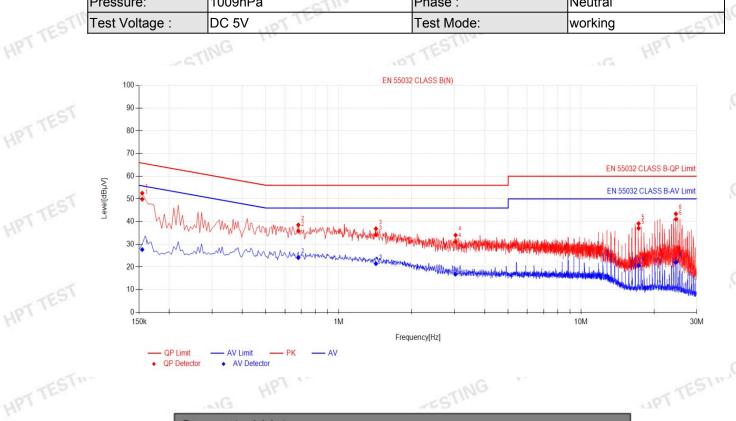


Suspected List									
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Detector	Туре	Verdict
1	0.168	42.42	52.92	10.50	65.06	12.14	PK	L1	PASS
2	0.492	31.28	41.78	10.50	56.13	14.35	PK	L1	PASS
3	1.113	27.67	38.17	10.50	56.00	17.83	PK	L1	PASS
4	2.0805	27.83	38.33	10.50	56.00	17.67	PK	L1	PASS
5	7.386	31.17	41.67	10.50	60.00	18.33	PK	L1	PASS
6	23.622	32.69	43.19	10.50	60.00	16.81	PK	L1	PASS

	[MHz]	Factor [dB]	Reading[dB µV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.168	10.50	39.87	50.37	65.06	14.69	19.30	29.80	55.06	25.26	PASS
2	0.492	10.50	28.73	39.23	56.13	16.90	18.48	28.98	46.13	17.15	PASS
3	1.113	10.50	25.12	35.62	56.00	20.38	13.89	24.39	46.00	21.61	PASS
4	2.0805	10.50	24.97	35.47	56.00	20.53	10.67	21.17	46.00	24.83	PASS
5	7.386	10.50	28.41	38.91	60.00	21.09	12.51	23.01	50.00	26.99	PASS
6	23.622 APT 11	10.50	30.61	41.11	60.00	18.89	11.03	21.53	50.00 EST	28.47	PASS



HPT	HPT TESTING HP	ING HPT	TESTING	Page 10 of 33
	Conducted emissions at t	he Mains Ports Test Da	ta	
Temperature:	26℃	Relative Humidity:	54%	
Pressure:	1009hPa	Phase :	Neutral	IG.
Test Voltage :	DC 5V	Test Mode:	working	ESTING

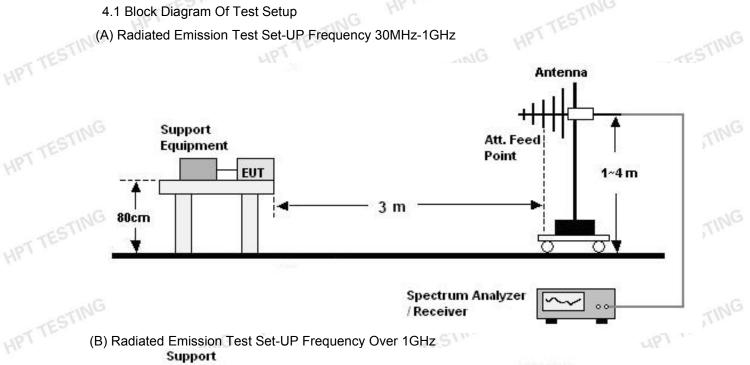


Suspected List											
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV]	Factor [dB]	Limit (dBµV)	Margin (dB)	Detector	Туре	Verdic		
1	0.1545	42.04	52.54	10.50	65.75	13.21	PK	N	PASS		
2	0.681	28.03	38.53	10.50	56.00	17.47	PK	N	PASS		
3	1.4235	26.36	36.86	10.50	56.00	19.14	PK	N	PASS		
4	3.0345	23.53	34.03	10.50	56.00	21.97	PK	N	PASS		
5	17.268	28.65	39.15	10.50	60.00	20.85	PK	N	PASS		
6	24.621	32.92	43.42	10.50	60.00	16.58	PK	N	PASS		

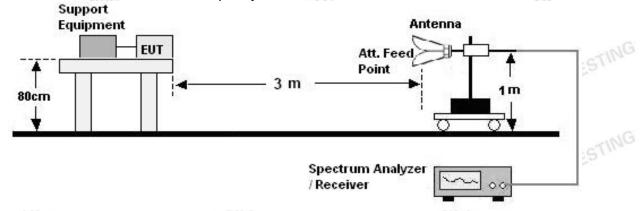
1 0.154	_	μV]	[dBµV]	[dBµV]	[dB]	[dBµV]	[dBµV]	[dBµV]	Margin [dB]	Verdict
	10.50	39.38	49.88	65.75	15.87	17.18	27.68	55.75	28.07	PASS
2 0.681	10.50	25.37	35.87	56.00	20.13	13.63	24.13	46.00	21.87	PASS
3 1.423	10.50	23.70	34.20	56.00	21.80	10.98	21.48	46.00	24.52	PASS
4 3.034	10.50	20.57	31.07	56.00	24.93	6.31	16.81	46.00	29.19	PASS
5 17.26	10.50	26.57	37.07	60.00	22.93	10.19	20.69	50.00	29.31	PASS
6 24.62	TESTINE	30.52	41.02	60.00	18.98	11.55	22.05	50.00	27.95	PASS



4. RADIATED EMISSIONS TEST



(B) Radiated Emission Test Set-UP Frequency Over 1GHz



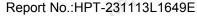
4.2 Limits

Liz	TEST	HPT TE	
Limits	HPI		
	Limits for ra	adiated disturbance of Class B MME	1
	Frequency (MHz)	Quasi-peak limits at 3m dB(μV/m)	-1G
	30-230	40	TESTING
	230-1000	47 HP	
Tai	12	-cTIIV	•

	Class B (a	-ING	
FREQUENCY (MHz)	Peak	Avg	TES'I"
1000-3000	70	50	
3000-6000	74	54	
ING HPT TES	TESTING	Hr.	TTESTING
TESTING	HPT		

HPT TESTING

A TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn





Page 12 of 33



4.3 Test Procedure

30MHz ~ 1GHz:

- a. The Product was placed on the nonconductive turntable 0.8 m above the ground in a semi anechoic chamber.
- b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

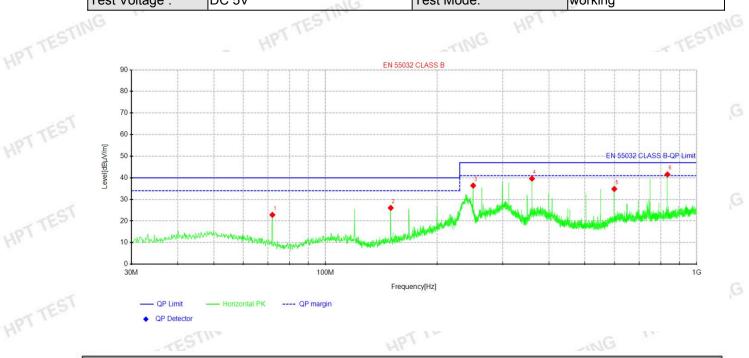
Above 1GHz:

- a. The Product was placed on the non-conductive turntable 0.8 m above the ground in a full anechoic chamber..
- b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- c. For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn



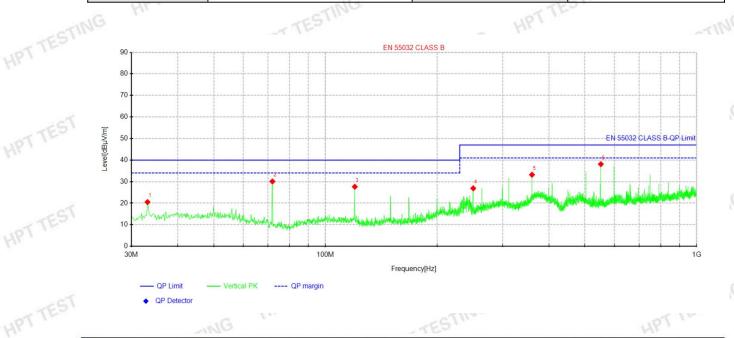
HUAP	HPT V	TTESTING	HPT .	Page 13 of 33
PT TES!	4.4 Test Results	TING	HPT TESTING	TESTING HPT TES
		Radiated	Emissions Test Data	2
OT TES	Temperature:	26 ℃	Relative Humidity:	60%
100	Pressure:	1009hPa	Phase :	Horizontal
	Test Voltage :	DC 5V	Test Mode:	working
-551	NG ,	JOT TESTIN	HPT HPT	STIN
OT TES		Hi	TING	TES



Susp	ected Data	List							
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	71.9525	38.28	22.84	-15.44	40.00	17.16	100	357	Horizontal
2	149.916	42.00	26.06	-15.94	40.00	13.94	100	6	Horizontal
3	249.947	49.05	36.40	-12.65	47.00	10.60	100	0	Horizontal
4	360.042	50.56	39.62	-10.94	47.00	7.38	100	315	Horizontal
5	599.996	40.09	34.83	-5.26	47.00	12.17	100	224	Horizontal
6	834.372	45.40	41.56	-3.84	47.00	5.44	100	122	Horizontal
	HPTIL	TING	HPT TES	TING	TES	riNG '	APT TES	Min	HPT TES



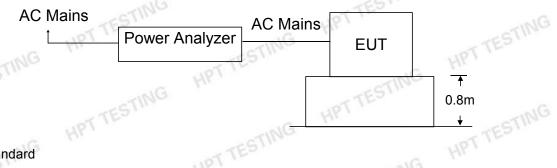
HUAPI		TIME	HPT TE	report No.:III 1-201	110210402
W. I	IPT	TESTIN	G HP	r TESTING Pa	ge 14 of 33
HPT TES!	OT TES	TING HP	HPT TESTING	-STING HP	TTES
71.		Radia	ted Emissions Test Data		(
TESTI	Temperature:	26 ℃	Relative Humidity:	60%	TESTING
Hb.1	Pressure:	1009hPa	Phase :	Vertical	1.
	Test Voltage :	DC 5V	Test Mode:	working	



Susp	ected Data	List							
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33.1525	34.72	20.52	-14.20	40.00	19.48	100	360	Vertical
2	71.9525	45.53	30.09	-15.44	40.00	9.91	100	56	Vertical
3	119.967	41.88	27.62	-14.26	40.00	12.38	100	262	Vertical
4	250.068	39.55	26.89	-12.66	47.00	20.11	100	227	Vertical
5	360.042	44.15	33.21	-10.94	47.00	13.79	100	341	Vertical
6	551.981	46.65	38.10	-8.55	47.00	8.90	100	360	Vertical
	HPT TE	STIL	HPT TES	TING	HPT I	ING 1	APT TES	riniG	TES



5. HARMONIC CURRENT EMISSION TEST5.1 Block Diagram of Test Setup



5.2 Test Standard

EN IEC 61000-3-2:2019+A1:2021

5.3 Operating Condition of EUT

- 5.3.1 Setup the EUT as shown in Section 6.1.
- 5.3.2 Turn on the power of all equipment.
- 5.3.3 Let the EUT work in test mode and test it.

5.4 Test Procedure

The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

5.5 Test Results

It's not exceed 75W, no need for tested





6. VOLTAGE FLUCTUATIONS & FLICKER TEST

6.1 Block Diagram of Test Setup

Same as Section 6.1.

6.2 Test Standard

EN 61000-3-3:2013+A2:2021

6.3 Operating Condition of EUT

Same as Section 5.3.. The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

Flicker Test Limit

Test items	Limits
Pst	1.0
dc	3.3%
dmax	4.0%
dt dt	Not exceed 3.3% for 500ms

6.4 Test Procedure

The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

6.5 Test Results

The EUT is powered by DC only. The test items is not applicable.

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



APT TESTING HPT TESTING 7. IMMUNITY TEST OF GENERAL THE PERFORMANCE CRITERIA

Product Standard	EN 55035:2017+A11:2020 clause 5
CRITERION A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
TTEST	During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.
CRITERION B	After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.
ING HITTEST	If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
CRITERION C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

all: hn+C TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



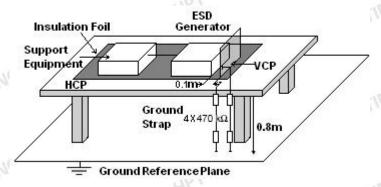
8. ELECTROSTATIC DISCHARGE (ESD)

8.1 Test Specification

Test Port : Enclosure port
Discharge Impedance : 330 ohm / 150 pF
Discharge Mode : Single Discharge

Discharge Period : one second between each discharge

8.2 Block Diagram of Test Setup



8.3 Test Procedure

- a. Electrostatic discharges were applied only to those points and surfaces of the Product that are accessible to users during normal operation.
- b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- c. The time interval between two successive single discharges was at least 1 second.
- d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the Product.
- e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the Product as fast as possible (without causing mechanical damage) to touch the Product. After each discharge, the ESD generator was removed from the Product and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- g. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the Product were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the Product.





TESTING TECH	Notogy Co. L.	STING HPT IS	TTOL	ESTING R		-231113L1649E
HP	I	HPT TESTING		UPT	TESTING.	Page 19 of 33
	8.4 Test Res	sults	HPTT	ESTING	TING	HPT TES!
STING	Discharge Method	Discharge Position	Voltage (±kV)	Min. No. of Discharge per polarity (Each Point)	Required Level	Performance Criterion
	HPT TE	Conductive Surfaces	4	10	ESTIBIG	А
	Contact Discharge	Indirect Discharge HCP	4	STING10	В	A
	HPT TE	Indirect Discharge VCP	4	10	ESTIBIG	А
	Air Discharge	Slots, Apertures, and Insulating Surfaces	8	STING10	В	A
	Note: N/A	37111	HPT	-1"	TESTING	
		TING HPT TES		ESTING HP		HPT TESTING
	HPT TE	STING	HPT	HPT	TESTING	
		HPT TES.				HPT TESTING
	HPT TE	STING OF TIME	HPT	~~~	TESTING	
	HPT TE	STING HPT TESTING		ESTING HPT		UPT TESTING
	HPT TES	STING	HPTT	-	TESTING	
		HPT TEST		TING HPT		



HPT TESTING 9. CONTINUOUS RF ELECTROMAGNETIC FIELD DISTURBANCES(RS)

9.1 Test Specification

Test Port Enclosure port

Step Size 1%

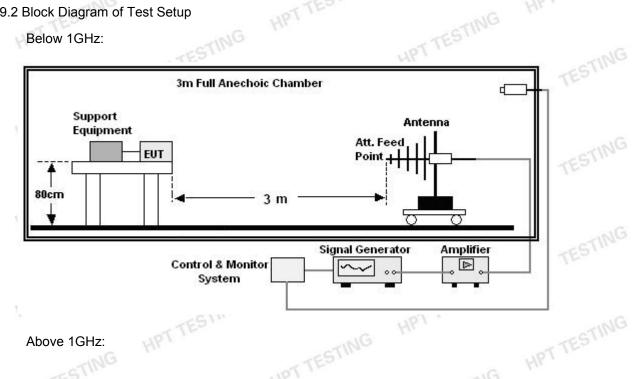
Modulation 1kHz, 80% AM

Dwell Time 1 second

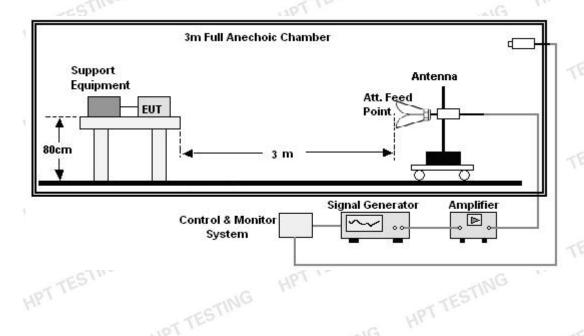
Polarization Horizontal & Vertical

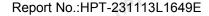
9.2 Block Diagram of Test Setup

Below 1GHz:



Above 1GHz:









9.3 Test Procedure

- a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the Product.
- b. The frequency range is swept from 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz, with the signal 80% amplitude modulated with a 1 kHz sine wave, and the step size was 1%.
- c. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to be able to respond, but should not exceed 5 s at each of the frequencies during the scan.
- d. The test was performed with the Product exposed to both vertically and horizontally polarized fields on each of the four sides.
 - e. For Broadcast reception function: Group 2 not apply in this test.

9.4 Test Results

HI			OTTE		.0
9.4 Test Results	HPT TES	-711	IG Hr.	TTEST	ING
Frequency	Position	Field Strength (V/m)	Required Level	Performance Criterion	
80 - 1000MHz, 1800MHz, 2600MHz, 3500MHz,	Front, Right, Back, Left	HPT3TESTIN	G A A LIPT TEST	NG A	ING
5000MHz	HPTTE	TESTIN	G M	HPT TEST	Illic

Note: N/A



10. ELECTRICAL FAST TRANSIENTS/BURST (EFT)

10.1 Test Specification

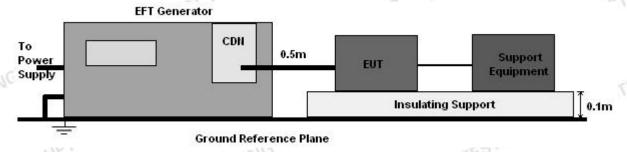
: input a.c. power port

Test Port Impulse Frequency 5 kHz Impulse Wave-shape 5/50 ns Burst Duration 15 ms **Burst Period** 300 ms

> **Test Duration** 2 minutes per polarity

10.2 Block Diagram of EUT Test Setup

For input a.c. power port:



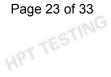
10.3 Test Procedure

- a. The Product and support units were located on a non-conductive table above ground reference plane.
- b. A 0.5m-long power cord was attached to Product during the test.

10.4 Test Results

The EUT is powered by DC only. The test items is not applicable.

TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn





11. SURGES IMMUNITY TEST

11.1 Test Specification

Test Port input a.c. power port

Wave-Shape. Open Circuit Voltage - 1.2 / 50 us

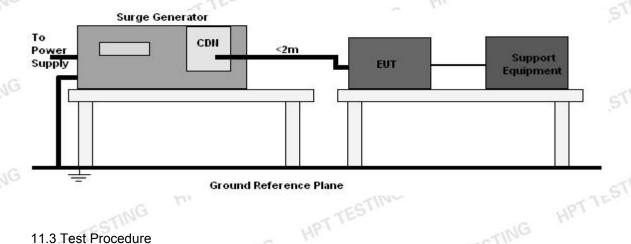
Short Circuit Current - 8 / 20 us

Pulse Repetition Rate 1 pulse / min.

0° / 90° / 180° / 270° Phase Angle

5 pulses (positive & negative) for each polarity Test Events

11.2 Block Diagram of EUT Test Setup



11.3 Test Procedure

- a. The surge is to be applied to the Product power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave.
- b. The power cord between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter). Interconnection line between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter).

11.4 Test Result

The EUT is powered by DC only. The test items is not applicable.



12. CONTINUOUS INDUCED RF DISTURBANCES (CS)

12.1 Test Specification

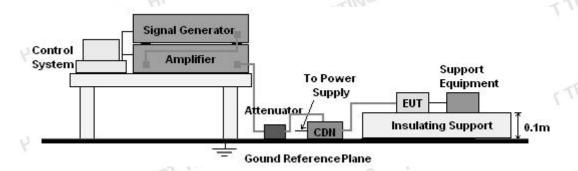
Test Port input a.c. power port

Step Size 1%

Modulation : 1kHz, 80% AM HPT TESTING **Dwell Time** 1 second

12.2 Block Diagram of EUT Test Setup

For input a.c. power port:



12.3 Test Procedure

For input a.c. power port:

- a. The Product and support units were located at a ground reference plane with the interposition of a
- 0.1 m thickness insulating support and the CDN was located on GRP directly.
- b. The frequency range is swept from 150 kHz to 10MHz, 10MHz to 30MHz, 30MHz to 80MHz with the signal 80% amplitude modulated with a 1 kHz sine wave, and the step size was 1% of fundamental.
- c. The dwell time at each frequency shall be not less than the time necessary for the Product to be able to respond.

12.4 Test Result

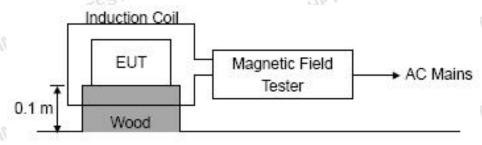
The EUT is powered by DC only. The test items is not applicable.

TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



13. MAGNETIC FIELD IMMUNITY TEST

13.1 Block Diagram of Test Setup



Ground Reference Support

13.2 Test Standard

EN 55035:2017+A11:2020, EN61000-4-8:2010 Severity Level 1 at 1A/m

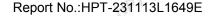
13.3 Severity Levels and Performance Criterion

13.3.1 Severity level

APT TES	13.3.1 Severity leve	Magnetic Field Strength A/m
	Level	Magnetic Field Strength Am
	1. HP	STING
OT TEST	2.	APT 3
417	3.	10 HPT TES
~1	4.	30
APT TES	5.	100
	X. HPT TE	Special
L	ING Fr.	TESTING

13.3.2 Performance criterion: B

- A. The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
- B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of







operating state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably except from the equipment if used as intended.

C. Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

13.4 EUT Configuration on Test

The configuration of EUT is listed in Section 2.9.

13.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.9 except the test set up replaced as Section 12.1.

13.6 Test Procedure

The EUT shall be subjected to the test magnetic field by using the induction coil of standard dimensions (1m*1m) and shown in Section 10.1. The induction coil shall then be rotated by 90° in order to expose the EUT to the test field with different orientations.

13.7 Test Results

The EUT is powered by DC only. The test items is not applicable.

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn

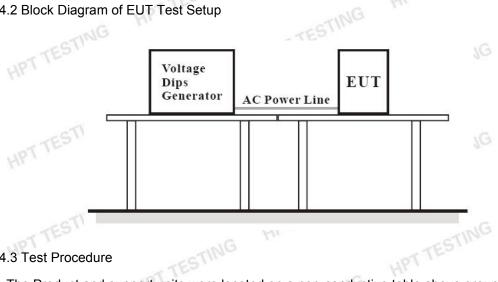


14. VOLTAGE DIPS AND INTERRUPTIONS (DIPS) 14.1 Test Specification

input a.c. power port Test Port

Phase Angle 0°, 180° 3 times Test cycle

14.2 Block Diagram of EUT Test Setup



14.3 Test Procedure

- a. The Product and support units were located on a non-conductive table above ground floor.
 b. Set the parameter of tests and then perfect the second conductive table above ground floor.
- b. Set the parameter of tests and then perform the test software of test simulator.
- c. Conditions changes to occur at 0 degree crossover point of the voltage waveform.

14.4 Test Result

The EUT is powered by DC only. The test items is not applicable.





EUT Photo 2





EUT Photo 3

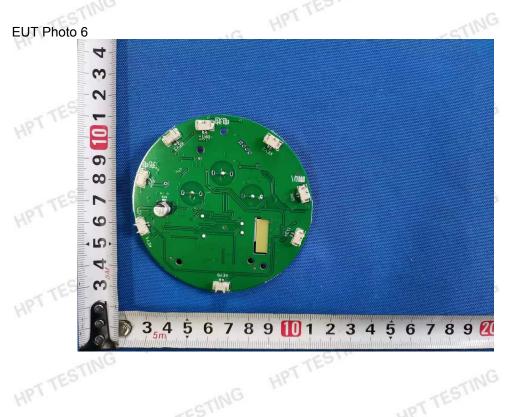


EUT Photo 4



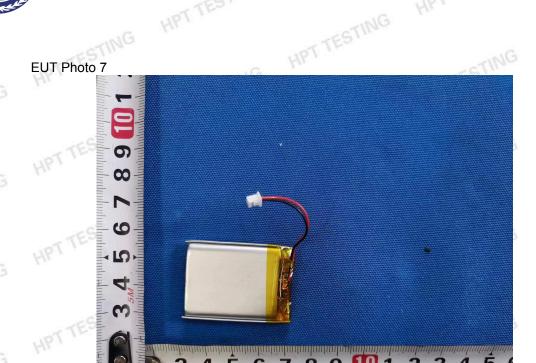








HPT TESTING



HPTTES



HPT TESTING 16. EUT TEST PHOTOGRAPHS









**** END OF REPORT ****



证书号第8335099号





外观设计专利证书

外观设计名称:游戏拳击盘

设 计 人: 汪超

专 利 号: ZL 2023 3 0421202.3

专利申请日: 2023年07月06日

专 利 权 人: 汪超

地 址: 321200 浙江省金华市武义县百花山工业区兰花路28号

授权公告号: CN 308316015 S

国家知识产权局依照中华人民共和国专利法经过初步审查,决定授予专利权,颁发外观设计 专利证书并在专利登记簿上予以登记。专利权自授权公告之日起生效。专利权期限为十五年,自 申请日起算。

专利证书记载专利权登记时的法律状况。专利权的转移、质押、无效、终止、恢复和专利权人的姓名或名称、国籍、地址变更等事项记载在专利登记簿上。

局长 申长雨 中公布



第1页(共2页)



证书号第8335099号

专利权人应当依照专利法及其实施细则规定缴纳年费。本专利的年费应当在每年07月06日前缴纳。未按照规定缴纳年费的,专利权自应当缴纳年费期满之日起终止。

申请日时本专利记载的申请人、设计人信息如下:申请人:

汪超

设计人:

汪超



This certificate is responsible for testing sample only.

Please refer to this corresponding test report to get testing process and data.

Declaration of Conformity

Certification number: HPT-231113L1650

In accordance with the following Applicable Directives:

2014/35/EU

Low Voltage Directive

The test results are traceable to the international or national standards.

Applicant: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County,

Jinhua City, Zhejiang Province

Manufacturer: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County,

Jinhua City, Zhejiang Province

Equipment under test: Game Boxing Disc

Trade Mark: N/A

Model number: QB01, QB02, QB03, QB04, QB05

Applied Standards and Test Reports

Directive 2014/35/EU

■LVD

EN IEC 62368-1:2020+A11:2020

HPT-231113L1650S



Authorized by:

Note:

The certification is only valid for the equipment and configuration described, in conjunction with the test data detailed above. The CE mark as shown beside can be used, under the responsibility of the manufacturer, after completion of an EC Directive of Conformity and compliance with all relevant EC Directive.

Manager

Issue date: Nov. 17, 2023

HPT APPROVED & ST.



Shenzhen Huapin Testing Technology Co., Ltd.

Room 302,Comprehensive Building,Songbai Industrial Park,No.4,Yangyong Industrial Road, Tangxiayong Community, Yanluo Street, Bao'an District, Shenzhen. Tel.:0755-23143846 E-mail:hpt@hpt-lab.com.cn Web.:www.hpt-lab.com.cn This certification is for the exclusive use of HPT'S client and is provided pursuant to agreement between HPT and its client. HPT'S responsibility and liability are limited to the terms and conditions of the agreement. The Manufacturer should be responsible for the internal production control so that the products complied with the essential requirements of the above mentioned directive. certificate holder must notify all changes to the original certification laboratory of HPT.



TEST REPORT IEC 62368-1

Audio/video, information and communication technology equipment Part 1: Safety requirements

Report Number....: HPT-231113L1650S

Date of issue....: Nov. 17, 2023

Total number of pages.....:

Testing Laboratory Name...... Shenzhen Huapin Testing Technology Co., Ltd.

Room 302, Comprehensive Building, Songbai Industrial Park, No 4, Address.....

Yangyong Industrial Road, Tangxiayong Community, YanluoStreet,

HPT

Bao'an District, Shenzhen.

Applicant's name.....: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County, Jinhua

City, Zhejiang Province

Test specification:

Standard....: EN IEC 62368-1:2020+A11:2020

Test procedure....: LVD

N/A Non-standard test method.....:

TRF template used.....: IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No....:: IEC62368 1E

UL(US) Test Report Form(s) Originator.....:

Master TRF..... Dated 2022-04-14

Copyright © 2022 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.

Test Item description Game Boxing Disc

Trade MarkN/A

Manufacturer...... Same as Applicant

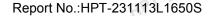
Ratings Input: 5V ===1A

Battery: 3.7Vdc, 500mAh

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn



	lu-	UPT		1.	-55711
isting	TECHNOLOGI	411	TESTIN	Report No.:HPT-	231113L1650S
APIW	1 8		HPT	TING	3.7
E E	IDT A			TESI	Page 2 of 75
63		TES !		HPI	CTING
OT TEL		HP	CTING		
HL.			IDT TES	10	Hr.
	UPT TES		Hr.	ESTING	
	Testing procedure and tes	sting location:		UPTTE	TING
	g processing and the	UPT			TESTINO
HPT	_ ING	1	TESTIN		HPT
	Testing Laboratory		Shenzhen Huapin Tes	ting Technology Co	., Ltd.
	Address		Room 302, Comprehen	sive Building, Songba	ai Industrial
	TING	TES!	Park, No 4, Yangyong I	_	
OT TES	.0	Hb.	Community, YanluoStre	eet, Bao'an District , S	Shenzhen.
Hr.	STING		INTTE	a)G	KIL
	LOT TES		His	-cstine	
	Date of Test	·····::	Nov. 10, 2023 to Nov. 1	7, 2023	, NG
	Llian	UPT	-mG		TESTIN
HPT	TING	4.	TESTIN		UPT
9.7	TESTIN		HPT	2.	
	HPI		3	tran GI	10
	Tested by (name + signa	ture):	Evan Guo	H	CTING
OTTES	.0	Hb.	Lvaii Guo		07753
Hr.	CTING		JOT TES	G	Hr.
	UPT TES		3 141	-inio	
	ING PI	TESTIN'	Testing	To least 1	ni NG
	Reviewed by (name + sig	anaturo) ·	Kavi Cai	Lev. C	TESTIN
HPT	Neviewed by (liame + sig	Jilatule)	Kevi Cai	<u> </u>	
	TESTI		를\ APPROVE		2007
	HPI		Tions *		-
	ING	TES!	**************************************	andre 1	O CTING
HPT TES	Approved by(name + sig	nature):	Lody Guo	your u	40 TESTING
Hr.	STING				
	OT TE		HPI	ESTIL	
	nIG Pi	ESTIN		HPT TES	TING
HPT TES	Man	HPT TESTING	-ING		-62
HPT	TING				HPI
9.5	TESTIN		HPT TES		9.5
	ING HPT TESTING	TIN		TESI	
HPT TES		HPT TESTING		HPT TESTING	HPT TESTING
OT TES	TING	Hr.	TESTING		OTTES
HL.					FIL.







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

-Attachment 1: National differences (European Group Differences and National Differences according to EN IEC 62368-1:2020+A11:2020), 21 pages.

Summary of testing: The product covered by this report has been testandard.	sted and complies with the applicable requirements of this
ests performed (name of test and test	Testing location:
clause):	See page 2 testing lab and location for details.
all applicable tests	HP.
NG FI	UPT TES
HPT	TING
CTING	TTEST
IDT TES	HPT
NG HI	HPT TES
HPT	TING
CTING	HPT TEST
UPT TES	3 HP
NG TESTIN	HPTTL
HPT	TING
CTING	TES! HP!
ummary of compliance with National Differ	ences (List of countries addressed):
uropean group differences and national differe	ences
HPT .	N IEC 62368-1:2020+A11:2020.

TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn

HPT TESTING

HPT TESTING

HPT TESTING



MG

NG

HPT TEST

HPT TEST

HPT TESTING

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Game Boxing Disc

Model: QB01
Input: 5V===1A

Battery: 3.7Vdc, 500mAh



Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County, Jinhua

City, Zhejiang Province

Made in China

Note:

NG

The above marking is the minimum requirements required by the safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be added.

- Height of CE mark at least 5mm, and height of WEEE mark at least 7mm.

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



Page 5 of 75 HPT TESTING



HAY!	ESTING	UPT
Test item particulars:	HPTTE	TING
Product group	: : 🛛 end product 🗌 built-in con	ponent
Classification of use by	: ⊠ Ordinary person⊠ Children lik	ely present
-ING FI	☐ Instructed person	HPT
TESTI	☐ Skilled person	TING
Supply connection		C mains
UPT TES	⋈ not mains connected:⋈ ES1 □ ES2 □ ES3	
Supply tolerance	:	C mains
Supply tolerance	+20%/-15%	
NG HP'	_ + %/ <i>-</i> %	
HPT TES	None Non	
Supply connection – type		FIF.
PTTEST	non-detachable supp	oly cord
ING HP	☐ appliance coupler ☐ direct plug-in	
UP	☐ pluggable equipment type B -	lly oord
TING	non-detachable supp	ly cord
INT TES	☐ appliance coupler	TING
NG HE	☐ permanent connection	
ryb.)	☐ mating connector⊠ other: No	connected to Ma
Considered current rating of protective device		☐ equipmer
INT TEST	⊠ N/A	- equipinei
Equipment mobility		☐ transporta
HPT	☐ direct plug-in ☐ stationary	for buildin
	othor:	/IE/rack-mounted
Overvoltage category (OVC)	: 🗆 OVC I	
NG TES		connected to Main ⊠ Class III
Class of equipment	: Class I Class II Not classified	
Special installation location		- LIFE .
UPT TES	☐ outdoor location☐	TIME
Pollution degree (PD)		☐ PD 3
Manufacturer's specified T _{ma}	: 25 °C Outdoor: minimum	□ PD 3 °C
IP protection class	: 🖂 IPX0 🗆 IP	MP,
Power systems	: TN TT IT Y	L-L
Altitude during operation (m)	: ⊠ IPX0	
(2)	: 2000 m or less m	TING HPT
Altitude of test laboratory (m)	: ⊠ 2000 m or less ⊔ m	ING HE
Mass of equipment (kg)	: \/Kg	Llia
ING HPT TES		
ING ING HPT TES	HPT TESTING HI	NG HPT"
	TING HPT TES	-ING HI
T 1 0755 00440040 5 11 10	A 11	

HPT TESTING







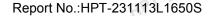
S S		UPT TES!	Report No.:HPT-	231113L16
4 5 PT *	CTING		OT TESTING	Page 6 o
	HPT TES!	-ING	Hr.	
Describle to at a Service variety		OTTEST	- AG	HPT
Possible test case verdicts - test case does not apply	100	NI/A	TESTING	
- test case does not apply - test object does meet the	LES.		HPT	
- test object does not meet	1	CTIL		UPT TE
Testing:	tille requirement	ı (ı alı)	TING	7.5
C. Fire	ESTING	Nov. 10, 2023	UPT TES!	
Date of receipt of test item	UP1		v 17 2022	
Date (s) of performance of	tests	100. 10, 2023 to 100	V. 17, 2023	Hb.
General remarks:	-cTING		TT TES	
"(See Enclosure #)" refers to	o additional informatio	n appended to the re	port.	TE
"(See appended table)" refer	rs to a table appended	to the report.		HPT
Throughout this report a [~ 500		CIP	
The related applicable CTL of	decisions have been co	onsidered and the req	uirements found fulfille	ed.
Manufacturer's Declaration	n per sub-clause 4.2.	of IECEE 02:	-1G	HBI
The application for obtaining includes more than one factor		Yes		
	cturer stating that the	Not applicable	HP7	
deciaration from the Manufa		1.0		
sample(s) submitted for eval	uation is (are)	TESTING	,	UPT TE
	uation is (are) ts from each factory	HPT TESTING	CTING	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory	HPT TESTING	HPT TESTING	
sample(s) submitted for eval representative of the product	uation is (are) ts from each factory	in the General prod	uct information section	
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory	in the General prod		
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory	-FSI		on.
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies)	Same as manufactu		HPJ
sample(s) submitted for eval representative of the product has been provided When differences exist; the Name and address of factors of the product information of the product i	uation is (are) ts from each factory ey shall be identified ory (ies):	Same as manufactu	rer. HPT TESTING	on.
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark	Same as manufactures: s: s 25°C, and apparatu	rer. s used in door only.	ON. HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except	Same as manufactures: s: s 25°C, and apparature to the comparent to the c	rer. s used in door only.	ON. HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except	Same as manufactures: s: s 25°C, and apparature to the comparent to the c	rer. s used in door only.	ON. HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except in the input circuit is ES1	Same as manufactures: s: s 25°C, and apparature to the comparent to the c	rer. s used in door only.	ON. HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except in the input circuit is ES1	Same as manufactures: s: s 25°C, and apparature cept for model name.	rer. s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except in the input circuit is ES1	Same as manufactures: s: s 25°C, and apparature cept for model name. and PS1.	rer. s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except	Same as manufactures: s: s 25°C, and apparature cept for model name. and PS1.	rer. s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model exc ne input circuit is ES1	Same as manufactures: s: s 25°C, and apparature to the comparent to the c	rer. s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model exc ne input circuit is ES1	s: s 25°C, and apparatucept for model name. and PS1.	s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model except in the input circuit is ES1	s: s 25°C, and apparatucept for model name. and PS1.	s used in door only.	HPT TE
sample(s) submitted for eval representative of the product has been provided	uation is (are) ts from each factory	s: s 25°C, and apparatucept for model name. and PS1.	s used in door only.	HPT TE
sample(s) submitted for evalue representative of the product representative of the same and address of factors. The specified Maximum at 2. All the models are identic 3. The client declared that the	uation is (are) ts from each factory ey shall be identified ory (ies): on and other remark ambient temperature is al to testing model exc ne input circuit is ES1	Same as manufactures: s: s 25°C, and apparature cept for model name. and PS1.	s used in door only.	HPT TE

TT TESTING HPT TESTING ATING HPT TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn



DI J	HPT TESTING HPT TE	UF	T TESTING	Page 7 of 7
TESTING	HPT TE	STING H	TING	HPT TEST
OVERVIEW OF ENERGY SOU	RCES AND SAFEGUARDS			
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source	Body Part		Safeguards	
(e.g. ES3: Primary circuit)	(e.g. Ordinary)	В	S	R
ES1: All circuits	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source	Material part		Safeguards	
(e.g. PS2: 100 Watt circuit)	(e.g. Printed board)	В	1 st S	2 nd S
PS2: Battery pack	Ordinary	Equipment safeguards	Equipment safeguards	N/A
7	Injury caused by hazardous s	substances		
Class and Energy Source	Body Part		Safeguards	
(e.g. Ozone)	(e.g., Skilled)	В	S	R
Battery pack	Ordinary	Complied with annex M	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source	Body Part		Safeguards	
(e.g. MS3: Plastic fan blades)	(e.g. Ordinary)	В	S	R
MS1: Edges and corners	Ordinary	N/A	N/A	N/A
MS1: Equipment mass	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source	Body Part		Safeguards	
(e.g. TS1: Keyboard caps)	(e.g., Ordinary)	В	S	R
TS1: Accessible parts	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source	Body Part		Safeguards	
(e.g. RS1: PMP sound output)	(e.g., Ordinary)	В	S	R
RS1: LED light	Ordinary	N/A	N/A	N/A
RS1: Acoustic energy	Ordinary	Instructional safeguard	N/A	N/A
Supplementary Information: "B" – Basic Safeguard; "S" – Su	pplementary Safeguard; "R" –	Reinforced Sat	feguard	3,00
We	IPT TES	STING HE		HPT TEST

TESTING HPT TESTING APT TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web : Http://www.hpt-lab.com.cn



HPT TES



NG



MG

ENERGY SOURCE DIAGRAM

Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings HPT TESTING

⊠ PS \boxtimes MS \boxtimes RS ⊠ ES

HPT TESTING

Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



CHNOLOGI		HPT I	Report No.:	HPT-231113L1650S
PT	APT TES!	UPT TESTING HP	IG HPT TESTI	Page 9 of 75
	CTING	IEC 6236	88-1	IG HPTTL
Clause	Requirement + Te	stG	Result - Remark	Verdict
nIG ,		7F5111	UPT	Uni

	CENEDAL DECLUDEMENTS		P
	GENERAL REQUIREMENTS	- XV	1
l.1.1	Acceptance of materials, components and subassemblies	TESTING	Р
1.1.2	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. See	TEST
	ESTING UPT TEST	also Annex G	1 ,
4.1.3	Equipment design and construction	Evaluation of safeguards regarding limiting the outputs to fulfil ES1 and protection in regard to risk of spread of fire,	P TTEST
	TTESTING HPT TES	mechanical and thermal burn injury considered.	
1.1.4	Specified ambient temperature for outdoor use (°C)	No outdoor equipment	N/A
¥.1.5	Constructions and components not specifically covered	TESTING HP	Р
1.1.8	Liquids and liquid filled components (LFC)	No such component used.	N/A
1.1.15	Markings and instructions	(See Annex F)	Р
1.4.3	Safeguard robustness	CTING	Р
1.4.3.1	General	UPT TES.	Р
1.4.3.2	Steady force tests	(See Clause T.5)	PST
1.4.3.3	Drop tests	(See Clause T.7)	Р
1.4.3.4	Impact tests	TESTIME	N/A
4.4.3.5	Internal accessible safeguard tests	The external enclosure cannot be opened without tool.	N/A
1.4.3.6	Glass impact tests	No glass used.	N/A
4.4.3.7	Glass fixation tests	INT TEST	N/A
Ilan	Glass impact test (1J)	NG HP	N/A
	Push/pull test (10 N)	HP	N/A
1.4.3.8	Thermoplastic material tests	(See Clause T.8)	Р
.4.3.9	Air comprising a safeguard	No such safeguard used	N/A
1.4.3.10	Accessibility, glass, safeguard effectiveness	100	N/A

AT TESTING TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



T	PT TESTING HPT TEST	Page	e 10 of 75
A STATE OF THE STA	HPT	ING TO	TEST
	IEC 62368-1	HI HI	
Clause	Requirement + Test	Result - Remark	Verdict
1.4.4	Displacement of a safeguard by an insulating liquid	MG HP.	N/A
1.4.5	Safety interlocks	No such component used.	N/A
4.5	Explosion	TESTING	Р
1.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	TEST
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	Р
12	No harm by explosion during single fault conditions	(See Clause B.4)	(TES)
1.6	Fixing of conductors	-INIG PA	N/A
- P	Fix conductors not to defeat a safeguard	TESTIN	N/A
No	Compliance is checked by test:	MG Hr.	N/A
1.7	Equipment for direct insertion into mains socket	-outlets	N/A
1.7.2	Mains plug part complies with relevant standard:	Not direct plug-in equipment	N/A
1.7.3	Torque (Nm):	HPT	N/A
1.8	Equipment containing coin/button cell batteries	ING	N/A
l.8.1	General	No such battery used.	N/A
1.8.2	Instructional safeguard:	UPT TES.	N/A
.8.3	Battery compartment door/cover construction	ING THE	N/A
	Open torque test	MG H	N/A
1.8.4.2	Stress relief test	TESTING	N/A
1.8.4.3	Battery replacement test	alG HP	N/A
1.8.4.4	Drop test	HE	N/A
1.8.4.5	Impact test	STING	N/A
1.8.4.6	Crush test	HPTTE	N/A
1.8.5	Compliance	ING	N/A
	30N force test with test probe	-ING FI	N/A
-1G Y	20N force test with test hook	OT TEST	N/A
1.9	Likelihood of fire or shock due to entry of condu	ctive object	N/A
l.10	Component requirements	HP	N/A
I.10.1	Disconnect Device	TESTING	N/A
1.10.2	Switches and relays	HPT	N/A
NG H	PT TESTING HPT TEST	ING HETTESTING HE	TTES



T &	PT TESTING HET TEST	Pag	e 11 of 75
ALL Y	HPT TES.	ING HE.	
	IEC 62368-1	ic H	27
Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICALLY-CAUSED INJURY	101,	PS
5.2	Classification and limits of electrical energy source	ces	Р
5.2.2	ES1, ES2 and ES3 limits	ESTING	Р
5.2.2.2	Steady-state voltage and current limits:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits:	No such capacitor	N/A
5.2.2.4	Single pulse limits	No single pulse	N/A
5.2.2.5	Limits for repetitive pulses:	No repetitive pulses	N/A
5.2.2.6	Ringing signals	No analogue telephone network ringing signals	N/A
5.2.2.7	Audio signals	(See Annex E.1)	Р
5.3	Protection against electrical energy sources	HPT TES	N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Only ES1 circuit can be accessed	N/A
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	TESTING	N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors	ING HPT	N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	TESTING H	N/A
ING F	Accessibility to outdoor equipment bare parts	HPT	N/A
5.3.2.2	Contact requirements	W _G	N/A
	Test with test probe from Annex V	TING	_
5.3.2.2 a)	Air gap – electric strength test potential (V):	PLATER	N/A
5.3.2.2 b)	Air gap – distance (mm):	NG H	N/A
5.3.2.3	Compliance	IG H	N/A
5.3.2.4	Terminals for connecting stripped wire	TESTING	N/A
5.4	Insulation materials and requirements	HP7	PcT
5.4.1.2	Properties of insulating material	WAG	Р
5.4.1.3	Material is non-hygroscopic	No such material used.	N/A
5.4.1.4	Maximum operating temperature for insulating materials:	See table 5.4.1.4	P
5.4.1.5	Pollution degrees:	- H	N/A
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	HPT TESTING	N/A
5.4.1.5.3	Thermal cycling test	MG ,	N/A
5.4.1.6	Insulation in transformers with varying dimensions	H	N/A



PT *	TTES HE.	UPT TES	Page 12 d
A STATE OF THE PARTY OF THE PAR	HPTTE	ING H	- 1
	IEC 62368-1		HP1
Clause	Requirement + Test	Result - Remark	Ver
5.4.1.7	Insulation in circuits generating starting pulses	WC Hb1	N/
5.4.1.8	Determination of working voltage:	The same of the sa	N/
5.4.1.9	Insulating surfaces	-59	N/
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	ING HPT	N
5.4.1.10.2	Vicat test:		ING HI N
5.4.1.10.3	Ball pressure test	TTES	N/
5.4.2	Clearances	NG HY	N
5.4.2.1	General requirements	160	N/
INIG H	Clearances in circuits connected to AC Mains, Alternative method	UPT TES	N/
5.4.2.2	Procedure 1 for determining clearance	ING	N/
	Temporary overvoltage:		INIG HI
5.4.2.3	Procedure 2 for determining clearance	TTES	N
5.4.2.3.2.2	a.c. mains transient voltage:	NG HP	-
5.4.2.3.2.3	d.c. mains transient voltage:	100	HP -
5.4.2.3.2.4	External circuit transient voltage	759	STING
5.4.2.3.2.5	Transient voltage determined by measurement:	HPT	_
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Inc	ING HPT N
5.4.2.5	Multiplication factors for clearances and test voltages	HPTTES	N.
5.4.2.6	Clearance measurement:	ING	HET N
5.4.3	Creepage distances		TING N
5.4.3.1	General	UPT TE	N/
5.4.3.3	Material group:	ING	_
5.4.3.4	Creepage distances measurement:		IN N
5.4.4	Solid insulation	TTES	N/
5.4.4.1	General requirements	NG HP.	N
5.4.4.2	Minimum distance through insulation:	160	HPTN
5.4.4.3	Insulating compound forming solid insulation	-59	STING N
5.4.4.4	Solid insulation in semiconductor devices	HPT	N
5.4.4.5	Insulating compound forming cemented joints	We	N/
5.4.4.6	Thin sheet material		N/



	PT TES		TESTING	Page	e 13 of 75
ALL Y	UPT TES!	.nlG	HPI		
	IEC 62368-1	Ilon		HP	7720
Clause	Requirement + Test	Result	- Remark		Verdict
5.4.4.6.1	TESTING		HPT		NI/A
	General requirements	MG		110	N/A
5.4.4.6.2	Separable thin sheet material		TING	25.	N/A
- 1G o o	Number of layers (pcs):		OTTEST		N/A
5.4.4.6.3	Non-separable thin sheet material	MG	Hr.		N/A
	Number of layers (pcs):	15.00		HP	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material:		INT TESTING		N/A
5.4.4.6.5	Mandrel test	NG	Hr.		N/A
5.4.4.7	Solid insulation in wound components	1000	26	HP	N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, <i>E</i> _P , <i>K</i> _R , <i>d</i> , <i>V</i> _{PW} (V)		UPT TESTING		N/A
luc	Alternative by electric strength test, tested voltage (V), K _R :	MG	h	HP.	N/A
5.4.5	Antenna terminal insulation		CTING	7.	N/A
5.4.5.1	General		UPT TES!		N/A
5.4.5.2	Voltage surge test	NG	Li		N/A
5.4.5.3	Insulation resistance (MΩ):		a)G	HR	N/A
V. 1.0.0	Electric strength test		TESTING		N/A
5.4.6	Insulation of internal wire as part of supplementary		HPT.		N/A
	safeguard	We	16	HP	111
5.4.7	Tests for semiconductor components and for cemented joints		UPT TESTING		N/A
5.4.8	Humidity conditioning	NG	1		N/A
	Relative humidity (%), temperature (°C), duration (h)		CTING	HP	_
5.4.9	Electric strength test		UPT TES		N/A
5.4.9.1	Test procedure for type test of solid insulation:	MG			N/A
5.4.9.2	Test procedure for routine test		a.G	HA	N/A
5.4.10	Safeguards against transient voltages from external circuits	No exte	ernal circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits	$M_{\mathcal{C}}$	15	- 17	N/A
5.4.10.2	Test methods		-in/G	HIL	N/A
5.4.10.2.1	General		TESTII-		N/A
5.4.10.2.2	Impulse test:	nIG.	Hr.		N/A
5.4.10.2.3	Steady-state test	la-		HP	N/A

TESTING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



E E	PT TESTING HIT TEST		Page 14 of 75
T W	TESTING	HPTTE	-671
	IEC 62368-1	ING	UPT TES.
Naa	7591	Decut Demand of TING	Mandiat
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.3	Verification for insulation breakdown for impulse	MG H	N/A
- 4 4 4	test	No such sincult	NI/A
5.4.11	Separation between external circuits and earth	No such circuit	N/A
5.4.11.1	Exceptions to separation between external circuits and earth	NG HP!	N/A
5.4.11.2	Requirements	Inc	N/A
- 47	SPDs bridge separation between external circuit	STING	N/A
NG H	and earth	HPT TES	
	Rated operating voltage U _{op} (V):	ING ,	_
	Nominal voltage U _{peak} (V):	-ING	- No.
ic H	Max increase due to variation ΔU_{sp} :	OTTEST	_
Mo	Max increase due to ageing ΔU _{sa} :	MG HF	_
5.4.11.3	Test method and compliance:		N/A
5.4.12	Insulating liquid	TESTING	N/A
5.4.12.1	General requirements	HPT	N/A
5.4.12.2	Electric strength of an insulating liquid:	lug.	N/A
5.4.12.3	Compatibility of an insulating liquid:	TING	N/A
5.4.12.4	Container for insulating liquid:	UPT TEST	N/A
5.5	Components as safeguards	ING	N/A
5.5.1	General	a)G	N/A
5.5.2	Capacitors and RC units	No such component	N/A
5.5.2.1	General requirement	ALG HP1	N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector:	TING	N/A
5.5.3	Transformers	UPT TES.	N/A
5.5.4	Optocouplers	No such Optocouplers	N/A
5.5.5	Relays	No such relays	N/A
5.5.6	Resistors	No such resistor	N/A
5.5.7	SPDs	No such SPD	N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable	TING.	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment	OTTEST	N/A
Mac	RCD rated residual operating current (mA):	MG Hr.	_
5.6	Protective conductor		N/A



T	APT TES	Page 15 of 75
A LANGE	HPT TES	
	IEC 62368-1	HPT
Clause	Requirement + Test Result - Remark	Verdict
5.6.2	Requirement for protective conductors	N/A
5.6	Protective conductor	N/A
5.6.2	Requirement for protective conductors	N/A
5.6.2.1	General requirements	N/A
5.6.2.2	Colour of insulation	N/A
5.6.3	Requirement for protective earthing conductors	N/A
1G Y	Protective earthing conductor size (mm²):	5/11/2
tuc	Protective earthing conductor serving as a reinforced safeguard	N/A
ING 1	Protective earthing conductor serving as a double safeguard	N/A
5.6.4	Requirements for protective bonding conductors	N/A
5.6.4.1	Protective bonding conductors	N/A
_ V	Protective bonding conductor size (mm²):	STIII _
5.6.4.2	Protective current rating (A):	N/A
5.6.5	Terminals for protective conductors	N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm):	N/A
lla	Terminal size for connecting protective bonding conductors (mm):	N/A
5.6.5.2	Corrosion	N/A
5.6.6	Resistance of the protective bonding system	N/A
5.6.6.1	Requirements	N/A
5.6.6.2	Test Method:	N/A
5.6.6.3	Resistance (Ω) or voltage drop:	N/A
5.6.7	Reliable connection of a protective earthing conductor	N/A
5.6.8	Functional earthing	N/A
ING T	Conductor size (mm²):	N/A
	Class II with functional earthing marking:	N/A
	Appliance inlet cl & cr (mm):	N/A
5.7	Prospective touch voltage, touch current and protective conducto	r current N/A
5.7.2	Measuring devices and networks	N/A
5.7.2.1	Measurement of touch current	N/A



NOTOGY.	TESTING THEST	Report No.:HPT	-231113L1650S
T	PTING	TESTING	Page 16 of 75
and the second	HPT TES!	ING HPI	
	IEC 62368-1	G	HPI
lause	Requirement + Test	Result - Remark	Verdict
.7.2.2	Measurement of voltage	ING HPI	N/A
.7.3	Equipment set-up, supply connections and earth connections	STING	N/A
.7.4	Unearthed accessible parts:	HPT TES	N/A
.7.5	Earthed accessible conductive parts	ING	N/A
.7.6	Requirements when touch current exceeds ES2 limits	TESTING	N/A
M.C.	Protective conductor current (mA):	HPT	N/A
	Instructional Safeguard:	11/10	N/A
.7.7	Prospective touch voltage and touch current associated with external circuits	TESTING	N/A
.7.7.1	Touch current from coaxial cables	NG HP	N/A
.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables	TING	N/A
.7.8	Summation of touch currents from external circuits	UPT TES	N/A
	a) Equipment connected to earthed external circuits, current (mA)	ING III	N/A
ig H	b) Equipment connected to unearthed external circuits, current (mA):	OTTESTING	N/A
.8	Backfeed safeguard in battery backed up suppli	es	N/A
	Mains terminal ES		N/A
LA ^T	Air gap (mm):	TESTING	N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS	CTING	Р
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	Р
6.2.3	Classification of potential ignition sources	ING THE	PST
6.2.3.1	Arcing PIS:	No arcing PIS existed	N/A
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	Р
6.3	Safeguards against fire under normal operating a conditions	nd abnormal operating	TEST
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C	(See appended table B.1.5 and B.3)	Р
ING P	for unknown materials:	HPT	

TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



	HPT	TING	TES"
	IEC 62368-1	one H	2 1
Clause	Requirement + Test	Result - Remark	Verdict
6.4	Safeguards against fire under single fault cond	itions	PS
6.4.1	Safeguard method	Method by control of fire spread applied, fire enclosure provided.	Р
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	ING HPT TES	P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	STING HE	N/A
6.4.3.1	Supplementary safeguards	UPT TES	N/A
6.4.3.2	Single Fault Conditions	TING	N/A
	Special conditions for temperature limited by fuse	- NG	N/A
6.4.4	Control of fire spread in PS1 circuits	TESTIN	Р
6.4.5	Control of fire spread in PS2 circuits	alg HP;	Ps
6.4.5.2	Supplementary safeguards	STITUTE	N/A
6.4.6	Control of fire spread in PS3 circuits	ESTING	N/A
6.4.7	Separation of combustible materials from a PIS	HPTTE	N/A
6.4.7.2	Separation by distance	STING	N/A
6.4.7.3	Separation by a fire barrier	TING	N/A
6.4.8	Fire enclosures and fire barriers	OTTEST	N/A
6.4.8.2	Fire enclosure and fire barrier material properties	TING	N/A
6.4.8.2.1	Requirements for a fire barrier	SIN H	N/A
6.4.8.2.2	Requirements for a fire enclosure	TESTING	N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	CTING HPT	N/A
6.4.8.3.1	Fire enclosure and fire barrier openings	-ING HI	N/A
6.4.8.3.2	Fire barrier dimensions	OTTEST	N/A
6.4.8.3.3	Top openings and properties	-NG PA	N/A
	Openings dimensions (mm)	57111	N/A
6.4.8.3.4	Bottom openings and properties	TESTING	N/A
ING ,	Openings dimensions (mm)	HPT	N/A
	Flammability tests for the bottom of a fire enclosu	re MS	N/A
_	Instructional Safeguard	TING	N/A
6.4.8.3.5	Side openings and properties	UPT TES	N/A
llan	Openings dimensions (mm)	ING	N/A



EFCHNO.	HPT	ING	TEST
1 Co		Report No.:HPT-	231113L1650S
PT &	PT TES	OT TESTING	Page 18 of 75
Real Property	HPT TES.	ING HP.	TEST
	IEC 62368-1	10	HPI
Clause	Requirement + Test	Result - Remark	Verdict
ulG ,	TEST	HPT	
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)	ING	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating:	OT TESTING	Р
6.4.9	Flammability of insulating liquid	MG PI	N/A
6.5	Internal and external wiring	lie.	HPTP
6.5.1	General requirements	TESTING	Р
6.5.2	Requirements for interconnection to building wiring	No such interconnection to building wiring.	N/A
6.5.3	Internal wiring size (mm²) for socket-outlets:	No socket-outlet used.	N/A
6.6	Safeguards against fire due to the connection to	additional equipment	Р
ING	UPT TES	NG HP1	-EST
7	IN HIDY CALLEED BY HAZABBOLIC CUBETANCE	26	T D

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	Р	
7.2	Reduction of exposure to hazardous substances	Р	
7.3	Ozone exposure	N/A	MG
7.4	Use of personal safeguards or personal protective equipment (PPE)	N/A	
	Personal safeguards and instructions:	_	1
7.5	Use of instructional safeguards and instructions	N/A	MG
Mar	Instructional safeguard (ISO 7010)		Mir
7.6	Batteries and their protection circuits	Р	

8	MECHANICALLY-CAUSED INJURY		PEST
8.2	Mechanical energy source classifications	alG HI	Р
8.3	Safeguards against mechanical energy sources	TESTING	Р
8.4	Safeguards against parts with sharp edges and o	orners	PST
8.4.1	Safeguards	HIL	N/A
	Instructional Safeguard	ESTING	N/A
8.4.2	Sharp edges or corners	Edges and corners of the enclosure are rounded.	P
8.5	Safeguards against moving parts	HI HI	N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	No moving part	N/A
	MS2 or MS3 part required to be accessible for the function of the equipment	UNG H	N/A

TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



T &	PT TES		OT TESTING	Page	19 of 75
Service Services	HPT TES!	, NG	Hb.		
	IEC 62368-1	110		HP	112
Clause	Requirement + Test	Result	- Remark		Verdict
IMG I.	Moving MS3 parts only accessible to skilled person	nIG	HPT		N/A
3.5.2	Instructional safeguard:	Win		HP	N/A
8.5.4	Special categories of equipment containing moving parts		OT TESTING		N/A
8.5.4.1	General	NG	Hr.		N/A
3.5.4.2	Equipment containing work cells with MS3 parts	11.0		HP	N/A
8.5.4.2.1	Protection of persons in the work cell		TESTING		N/A
3.5.4.2.2	Access protection override	526	HPT		N/A
8.5.4.2.2.1	Override system	Mes		UP	N/A
3.5.4.2.2.2	Visual indicator		CTING		N/A
8.5.4.2.3	Emergency stop system		UPT TES!		N/A
lin	Maximum stopping distance from the point of activation (m)	ING	410	HP	N/A
G H	Space between end point and nearest fixed mechanical part (mm):		PUTESTING		N/A
3.5.4.2.4	Endurance requirements	NG	His		N/A
	Mechanical system subjected to 100 000 cycles of operation	14.00	TING	HP	N/A
NG H	- Mechanical function check and visual inspection		. IDT TEST		N/A
llan	- Cable assembly:	MG	120		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		CTING	HP	N/A
3.5.4.3.1	Equipment safeguards		HPT TES		N/A
3.5.4.3.2	Instructional safeguards against moving parts:	MG	3.0		N/A
8.5.4.3.3	Disconnection from the supply		NG	H	N/A
3.5.4.3.4	Cut type and test force (N):		TESTIN		N/A
3.5.4.3.5	Compliance	n1G	Mr.		N/A
3.5.5	High pressure lamps	11.0		HP	N/A
16.	Explosion test:		ESTING		N/A
3.5.5.3	Glass particles dimensions (mm):		HPT		N/A
3.6	Stability of equipment	ING		. 10	N/A
3.6.1	General	MS1 ap	oplied for mass of ent.	M	N/A
ING	Instructional safeguard:	No requ	uired		N/A
3.6.2	Static stability	Wes		,10	N/A



PT	PT TESTING HPT	Pag	e 20 o
	HPT	ING	TE
	IEC 62368-1	-mG H	
Clause	Requirement + Test	Result - Remark	Verd
8.6.2.2	Static stability test:	ING HE	N/A
8.6.2.3	Downward force test	H	N/A
8.6.3	Relocation stability	TESTING	N/A
ING	Wheels diameter (mm):	HPT	_
	Tilt test	ING.	N/A
8.6.4	Glass slide test	CTING	N/A
8.6.5	Horizontal force test:	UPT TES!	N/A
8.7	Equipment mounted to wall, ceiling or other struc	eture	N/A
8.7.1	Mount means type:	Not mounted to wall, ceiling or other structure	N/A
8.7.2	Test methods	HPTTE	N/A
11-	Test 1, additional downwards force (N):	ING	N/A
e4	Test 2, number of attachment points and test force (N)	TESTING	N/A
ING	Test 3 Nominal diameter (mm) and applied torque (Nm)	ING HPT	N/A
8.8	Handles strength	ING H	N/A
8.8.1	General	No handle	N/A
8.8.2	Handle strength test	MG HP	N/A
	Number of handles:	HI	_
u)	Force applied (N):	TESTING	
8.9	Wheels or casters attachment requirements	HPT	N/A
8.9.2	Pull test	No such equipment	N/A
8.10	Carts, stands and similar carriers	TING	N/A
8.10.1	General	No such equipment	N/A
8.10.2	Marking and instructions	ING	N/A
8.10.3	Cart, stand or carrier loading test	ING H	N/A
- H	Loading force applied (N):	TESTING	N/A
8.10.4	Cart, stand or carrier impact test	ala HP	N/A
8.10.5	Mechanical stability	H	N/A
	Force applied (N):	ESTING	_
. 47		-4 7 P	
8.10.6	Thermoplastic temperature stability	HPI	N/A
8.10.6 8.11	Thermoplastic temperature stability Mounting means for slide-rail mounted equipmen	t (SRME)	N/A



ē ē	DT TES !! HP!		Page 21 of 75
I	TESTINE	HPT TES	1 ago 21 0170
	IEC 62368	F1ESTING	HPT TES!
Clause	Requirement + Test	Result - Remark	Verdict
3.11.2	Requirements for slide rails	VIG Hb1	N/A
	Instructional Safeguard	TESTING	N/A
3.11.3	Mechanical strength test	ESTING	N/A
3.11.3.1	Downward force test, force (N) applied	HPT 72	N/A
3.11.3.2	Lateral push force test	TESTING	N/A
3.11.3.3	Integrity of slide rail end stops	TING	N/A
3.11.4	Compliance	UPT TES	N/A
3.12	Telescoping or rod antennas	CTING	N/A
	Button/ball diameter (mm)	4E23	N

9	THERMAL BURN INJURY	Р
9.2	Thermal energy source classifications	
9.3	Touch temperature limits	Р
9.3.1	Touch temperatures of accessible parts (See appended table)	Р
9.3.2	Test method and compliance	UPT TPS
9.4	Safeguards against thermal energy sources	N/A
9.5	Requirements for safeguards	
9.5.1	Equipment safeguard	N/A
9.5.2	Instructional safeguard:	N/A
9.6	Requirements for wireless power transmitters	N/A
9.6.1	General	N/A
9.6.2	Specification of the foreign objects	N/A
9.6.3	Test method and compliance:	N/A
m/G	HE TESTING HET TES	
40	DADIATION	-60

TTES	10	RADIATION		L'ES
	10.2	Radiation energy source classification	-iniG Pri	Р
	10.2.1	General classification	OT TESTING	Р
	lilige	Lasers:	MG HY	_
(10	,G \	Lamps and lamp systems:	RS1 for Low power LED light RS1: Acoustic energy sources for earbuds	_
TES	Ulac	Image projectors:	ING H	_
\		X-Ray:	AR HP	_
	-1G Y	APT TE	JOT TESTIME	

TESTING TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



T	HPT TES. HPT	Page	e 22 of 75
A STATE OF THE PARTY OF THE PAR	UPT TES !!!	MG HPT .	
	IEC 62368-1	HI.	TTL
Clause	Requirement + Test	Result - Remark	Verdict
$M_{\mathbf{G}}$	Personal music player:	HPT	
10.3	Safeguards against laser radiation	INO HE	N/A
	The standard(s) equipment containing laser(s) comply	OT TESTING	N/A
10.4	Safeguards against optical radiation from lamps LED types)	and lamp systems (including	TEST
10.4.1	General requirements	STING	Р
NG	Instructional safeguard provided for accessible radiation level needs to exceed	ING HPT TEO	N/A
	Risk group marking and location:	Low power LED light used as Exempt Group.	Р
NG	Information for safe operation and installation	HPT	N/A
0.4.2	Requirements for enclosures	ING	N/A
	UV radiation exposure:	TING	N/A
10.4.3	Instructional safeguard:	UPTTES	N/A
0.5	Safeguards against X-radiation	ING	N/A
10.5.1	Requirements	HF.	N/A
	Instructional safeguard for skilled persons:	TESTINE	_
0.5.3	Maximum radiation (pA/kg):	IG HP1	
0.6	Safeguards against acoustic energy sources	HE	P
0.6.1	General	STING	Р
0.6.2	Classification	RS1	Р
	Acoustic output L _{Aeq,T} , dB(A):	L: 83.7dB, R: 85.5dB	TPS
	Unweighted RMS output voltage (mV):	TING	N/A
ıG.	Digital output signal (dBFS):	INT TEST	N/A
0.6.3	Requirements for dose-based systems	ING HI	N/A
0.6.3.1	General requirements	H.	N/A
0.6.3.2	Dose-based warning and automatic decrease	TESTINE	N/A
0.6.3.3	Exposure-based warning and requirements	"C HPT	N/A
	30 s integrated exposure level (MEL30)	MAN	N/A
	Warning for MEL ≥ 100 dB(A):	-cTING	N/A
	Measurement methods	HPT TES	N/A
0.6.4	Protection of persons	ING	N/A
0.6.4	Protection of persons		



CHNOLOGY	TING HPT I	Report No.:HP	PT-231113L1650S	
PI y	HPT TESTING HPT	UPT TESTING	Page 23 of 75	
*****	IEC 62368-1	STING IN	HPT TESTI	
Clause	Requirement + Test	Result - Remark	Verdict	
10.6.6	Requirements for listening devices (headphones, earphones, etc.)	STING HP1	N/A	
10.6.6.1	Corded listening devices with analogue input	-cTING	N/A	
ING 1	Listening device input voltage (mV)	WPT TES	N/A	
10.6.6.2	Corded listening devices with digital input	TING	N/A	
	Max. acoustic output L _{Aeq,T} , dB(A)	nIG	N/A	
10.6.6.3	Cordless listening devices	TESTING	Р	
Vie	Max. acoustic output L _{Aeq,T} , dB(A)	AR,	N/A	

В	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS General		P
B.1			
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	Р
B.2	Normal operating conditions	TESTING	Р
B.2.1	General requirements:	(See Test Item Particulars and appended test tables)	TEST
	Audio Amplifiers and equipment with audio amplifiers:	(See Annex E.1)	Р
B.2.3	Supply voltage and tolerances	IC HPT	N/A
B.2.5	Input test:	(See appended table B.2.5)	Р
B.3	Simulated abnormal operating conditions		Р
B.3.1	General	N/A	N/A
B.3.2	Covering of ventilation openings	ING	N/A
	Instructional safeguard::	-ING HA	N/A
B.3.3	DC mains polarity test	OT TEST	N/A
B.3.4	Setting of voltage selector	No such selector	N/A
B.3.5	Maximum load at output terminals	Hb.	N/A
B.3.6	Reverse battery polarity	No such battery used.	N/A
B.3.7	Audio amplifier abnormal operating conditions	HPT	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions:	ING HP	N/A
B.4	Simulated single fault conditions		Р
B.4.1	General	NG HP	PST
B.4.2	Temperature controlling device	No such part	N/A

TESTING TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



Blocked motor test 3.4.4 Functional insulation 3.4.4.1 Short circuit of clearances for functional insulation 3.4.4.2 Short circuit of creepage distances for functional insulation 3.4.4.3 Short circuit of functional insulation on coated printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short-circuit and interruption of passive components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.1 Protection of materials in equipment from UV radiation 3.4.2 Requirements 3.4.3 Test method 3.4.4 Nounting of test samples 3.4.5 Ni/A 3.4.6 Protection of materials in equipment from UV radiation 3.4.9 Requirements 3.4.9 Protection of materials in equipment from UV radiation 3.4.9 Protection of materials in equipment from UV radiation 3.4.0 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Ni/A 3.4.3 Test method 3.4.4 Test apparatus	3.4.3 3.4.4 3.4.4.1 3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8	Requirement + Test Blocked motor test Functional insulation Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	- Remark	HP	Verdict N/A N/A N/A N/A N/A N/A
Requirement + Test Result - Remark Verdict	3.4.3 3.4.4 3.4.4.1 3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8	Requirement + Test Blocked motor test Functional insulation Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	- Remark	HP HP	N/A N/A N/A N/A N/A N/A
Requirement + Test	3.4.3 3.4.4 3.4.4.1 3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Requirement + Test Blocked motor test Functional insulation Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	- Remark	HR HR	N/A N/A N/A N/A N/A N/A
Biocked motor test 3.4.4 Functional insulation 3.4.4.1 Short circuit of clearances for functional insulation 3.4.4.2 Short circuit of creepage distances for functional insulation 3.4.4.3 Short circuit of functional insulation on coated printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short-circuit or disconnection of passive components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Requirements 3.4.3 Test method 3.4.4 Requirements 3.4.5 Ni/A 3.4.9 Mounting of test samples 3.4.1 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Ni/A 3.4.3 Test method 3.4.4 Test apparatus 3.4.5 Ni/A 3.4.5 Protection and interruption of components 3.4.6 Ni/A 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.9 Protection of materials in equipment from UV radiation 3.4.0 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Ni/A 3.4.2 Requirements 3.4.3 Test method 3.4.3 Test method 3.4.4 Ni/A 3.4.5 Protection of materials in equipment from UV radiation 3.4.6 Protection of materials in equipment from UV radiation 3.4.7 Protection of materials in equipment from UV radiation 3.4.8 Protection of materials in equipment from UV radiation 3.4.9 Protection of materials in equipment from UV radiation 3.4.9 Protection of materials in equipment from UV radiation 3.4.0 Protection of materials in equipment from UV radiation 3.4.1 Protection of materials in equipment from UV radiation 3.4.2 Protection of materials in equipment from UV radiation	3.4.3 3.4.4 3.4.4.1 3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Blocked motor test Functional insulation Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	- Remark	HP HP	N/A N/A N/A N/A N/A N/A
3.4.4 Functional insulation N/A 3.4.4.1 Short circuit of clearances for functional insulation N/A 3.4.4.2 Short circuit of recepage distances for functional insulation N/A 3.4.4.3 Short circuit of recepage distances for functional insulation N/A 3.4.4.3 Short circuit of functional insulation on coated printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short circuit or disconnection of passive components N/A 3.4.7 Continuous operation of components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.1 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Requirements 3.4.3 Test method 3.4.4 Test apparatus 3.4.5 N/A 3.4.8 C.1.1 Test apparatus 3.4.9 N/A 3.4.9 Protection of materials in equipment from UV radiation 4.4.1 N/A 5.4.1 Test apparatus 5.4.2 N/A 5.4.1 Test apparatus 5.5.2 N/A 5.6.2 UV light conditioning test 5.6.2 UV light conditioning test 6.7.2 N/A 6.7.3 Carbon-arc light-exposure test 6.7.4 Xenon-arc light-exposure test 7.7.4 N/A 7.5 Impulse test generators 7.7.5 N/A 7.7 Impulse test generators 7.7.6 Antenna interface test generator 8.7.7 Antenna interface test generator 8.7.8 TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS 8.6 TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS 8.7 Electrical energy source classification for audio signals 8.7 Protection of place and protection of audio signals 9.7 Protection of place and protection of audio signals 9.8 Protection of place and protection of audio signals 9.9 Protection of place and protection of audio signals 9.0 Protection of place and protection of audio signals 9.0 Protection of place and protection of audio signals 9.0 Protection of place and protection of audio signals 9.0 Protection of place and protection of audio signals 9.0 Protection of place and protection of audio signals 9.0	3.4.4 3.4.4.1 3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Functional insulation Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	HPT TESTING HPT TESTING	HP	N/A N/A N/A N/A N/A
B.4.4.1 Short circuit of clearances for functional insulation N/A B.4.4.2 Short circuit of creepage distances for functional insulation N/A B.4.4.3 Short circuit of functional insulation on coated printed boards N/A B.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors N/A B.4.6 Short circuit or disconnection of passive components N/A B.4.7 Continuous operation of components N/A B.4.8 Compliance during and after single fault conditions N/A B.4.9 Battery charging and discharging under single fault conditions C UV RADIATION N/A C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2.1 Test apparatus N/A C.2.2 UV light conditioning test N/A C.2.3 Carbon-arc light-exposure test N/A C.2.4 Xenon-arc light-exposure test N/A D TEST GENERATORS N/A D.1 Impulse test generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electricial energy source (20) Rated load impedance (Ω) Cpen-circuit output voltage (V) Cpen-c	B.4.4.1 B.4.4.2 B.4.4.3 B.4.5 B.4.6 B.4.7 B.4.8 B.4.9	Short circuit of clearances for functional insulation Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions		HPT TESTING HPT TESTING	HR	N/A N/A N/A N/A
Short circuit of creepage distances for functional insulation 3.4.4.3 Short circuit of functional insulation on coated printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short circuit or disconnection of passive components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions C UV RADIATION C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.2.1 Test method N/A C.2.2 UV light conditioning test N/A C.2.1 Test apparatus C.2.2 Mounting of test samples C.2.3 Carbon-arc light-exposure test N/A D TEST GENERATORS N/A D.1 Impulse test generators N/A E IEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P Maximum non-clipped output power (W) Rated load impedance (Ω) C Redeficial in tubes N/A Rated load impedance (V) C CPIONIC Interception of functional insulation on coated printed boards N/A N/A N/A N/A N/A N/A N/A N/	3.4.4.2 3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Short circuit of creepage distances for functional insulation Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions		HPT TESTING HPT TESTING	HR	N/A N/A N/A
insulation 3.4.4.3 Short circuit of functional insulation on coated printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short circuit or disconnection of passive components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.1 Requirements 3.4.2 Requirements 3.4.3 Test method 3.4.4 Requirements 3.4.5 N/A 3.4.5 C.2.1 Test apparatus	3.4.4.3 3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Short circuit of functional insulation on coated printed boards Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions		HPT TESTING	HE	N/A N/A N/A
printed boards 3.4.5 Short-circuit and interruption of electrodes in tubes and semiconductors 3.4.6 Short circuit or disconnection of passive components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Protection of materials in equipment from UV radiation 3.4.1 Protection of materials in equipment from UV radiation 3.4.2 Requirements 3.4.3 Test method 3.4.4 Requirements 3.4.5 N/A 3.4.5 C.2 UV light conditioning test 3.4.6 N/A 3.4.7 Continuous operation of components 3.4.8 Conditions 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Conditions 3.4.9 Battery charging and discharging under single fault conditions 3.4.9 Conditions 3.4.0 Conditions 3.4.0 V/A 3.4.10 Protection of materials in equipment from UV radiation 3.4.10 N/A 3.4.2 Requirements 3.4.7 N/A 3.4.2 UV light conditioning test 3.4.3 N/A 3.4.3 Test method 3.4.4 N/A 3.4.2 UV light conditioning test 3.4.7 N/A 3.4.2 UV light conditioning test 3.4.8 N/A 3.4.9 Battery charging and after single fault conditions 3.4.9 N/A 3.4.9 Compliance during and after single fault conditions 3.4.9 N/A 3.4.9 Compliance during and after single fault conditions 3.4.9 N/A 3.4.9 Compliance during and after single fault conditions 3.4.9 N/A 3.4.9 Compliance during and after single fault conditions 3.4.9 N/A 3.4.9 V/A 3.4	3.4.5 3.4.6 3.4.7 3.4.8 3.4.9	Short-circuit and interruption of electrodes in tubes and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	W _G	HPT TESTING	HE	N/A N/A
and semiconductors B.4.6 Short circuit or disconnection of passive components B.4.7 Continuous operation of components B.4.8 Compliance during and after single fault conditions B.4.9 Battery charging and discharging under single fault conditions C. UV RADIATION C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2.1 Test apparatus C.2.2 UV light conditioning test N/A C.2.2 Mounting of test samples C.2.3 Carbon-arc light-exposure test N/A D. TEST GENERATORS N/A D.1 Impulse test generator N/A D.2 Antenna interface test generator N/A E ETST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P Maximum non-clipped output power (W) Rated load impedance (Ω) Open-circuit output voltage (V) — Open-circuit output voltage (V) — —	B.4.6 B.4.7 B.4.8 B.4.9	and semiconductors Short circuit or disconnection of passive components Continuous operation of components Compliance during and after single fault conditions	ING	HPT TESTING	HE	N/A
components 3.4.7 Continuous operation of components 3.4.8 Compliance during and after single fault conditions 3.4.9 Battery charging and discharging under single fault conditions C UV RADIATION N/A C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2.1 UV light conditioning test N/A C.2.2 UV light conditioning test N/A C.2.3 Carbon-arc light-exposure test N/A D TEST GENERATORS N/A D.1 Impulse test generator N/A D.2 Antenna interface test generator E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P Maximum non-clipped output power (W) Rated load impedance (Ω) Required fault conditions N/A N/A N/A N/A N/A N/A N/A D TEST GENERATORS N/A Rated load impedance (Ω) Rated load impedance (Ω) C Cpen-circuit output voltage (V) —— Open-circuit output voltage (V)	B.4.7 B.4.8 B.4.9	Components Continuous operation of components Compliance during and after single fault conditions	MG	HPT TESTING	- Al	
B.4.8 Compliance during and after single fault conditions B.4.9 Battery charging and discharging under single fault conditions C UV RADIATION C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2 UV light conditioning test N/A C.2.1 Test apparatus N/A C.2.2 Mounting of test samples N/A C.2.3 Carbon-arc light-exposure test N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator D.3 Electronic pulse generator E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P Maximum non-clipped output power (W) Rated load impedance (Ω) Open-circuit output voltage (V) — Open-circuit output voltage (V) N/A	B.4.8 B.4.9	Compliance during and after single fault conditions	MG	HPT	.0	N/A
Battery charging and discharging under single fault conditions C UV RADIATION N/A C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.2.1 Test method N/A C.2.2 UV light conditioning test N/A C.2.1 Test apparatus	3.4.9		Wo		.0	2015
conditions C UV RADIATION C.1 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2 UV light conditioning test N/A C.2.1 Test apparatus	ING "	2 /5		MG	HIL	N/A
C.1.2 Protection of materials in equipment from UV radiation N/A C.1.2 Requirements N/A C.1.3 Test method N/A C.2.2 UV light conditioning test N/A C.2.1 Test apparatus N/A C.2.2 Mounting of test samples N/A C.2.2 Mounting of test samples N/A C.2.3 Carbon-arc light-exposure test N/A C.2.4 Xenon-arc light-exposure test N/A D. TEST GENERATORS N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W) — Rated load impedance (Ω) — Open-circuit output voltage (V) —	С			HPT TESTIN		N/A
C.1.2 Requirements N/A C.1.3 Test method N/A C.2 UV light conditioning test N/A C.2.1 Test apparatus		UV RADIATION				N/A
C.1.3 Test method N/A C.2 UV light conditioning test N/A C.2.1 Test apparatus	C.1	Protection of materials in equipment from UV rac	liation	TING	4.0	N/A
C.2 UV light conditioning test C.2.1 Test apparatus	C.1.2	Requirements		UPT TES		N/A
C.2.1 Test apparatus: N/A C.2.2 Mounting of test samples N/A C.2.3 Carbon-arc light-exposure test N/A C.2.4 Xenon-arc light-exposure test N/A D. TEST GENERATORS N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	C.1.3	Test method	NG	45,		N/A
C.2.2 Mounting of test samples N/A C.2.3 Carbon-arc light-exposure test N/A C.2.4 Xenon-arc light-exposure test N/A D TEST GENERATORS N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	C.2	UV light conditioning test		"iG	HP	N/A
C.2.3 Carbon-arc light-exposure test N/A C.2.4 Xenon-arc light-exposure test N/A TEST GENERATORS N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	C.2.1	Test apparatus:		TESTING		N/A
C.2.4 Xenon-arc light-exposure test N/A TEST GENERATORS N/A D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	C.2.2	Mounting of test samples	as G	HPI		N/A
TEST GENERATORS D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS E.1 Electrical energy source classification for audio signals Maximum non-clipped output power (W)	C.2.3	Carbon-arc light-exposure test	Me		HP	N/A
D.1 Impulse test generators N/A D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS E.1 Electrical energy source classification for audio signals Maximum non-clipped output power (W)	C.2.4	Xenon-arc light-exposure test		STING		N/A
D.2 Antenna interface test generator N/A D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	D .	TEST GENERATORS				N/A
D.3 Electronic pulse generator N/A E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS P E.1 Electrical energy source classification for audio signals P Maximum non-clipped output power (W)	D.1	Impulse test generators	NG			N/A
E TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS E.1 Electrical energy source classification for audio signals Maximum non-clipped output power (W)	D.2	Antenna interface test generator		-ING	HA	N/A
E.1 Electrical energy source classification for audio signals Maximum non-clipped output power (W): Rated load impedance (Ω)	D.3	Electronic pulse generator		OT TESTING		N/A
Maximum non-clipped output power (W)	E ·	TEST CONDITIONS FOR EQUIPMENT CONTAININ	NG AUD	IO AMPLIFIERS		PST
Rated load impedance (Ω)	E.1	Electrical energy source classification for audio	signals		HP	Р
Open-circuit output voltage (V)	. 10	Maximum non-clipped output power (W):		ESTING		_
TING	ING M	Rated load impedance (Ω):		HPTTE		_
TING	9.5	Open-circuit output voltage (V)	Me	(5	.0	_
TES, AND THE STATE OF THE STATE		TESTING		HPT TESTING	FIL	



T	PT TES	Pag	e 25 of 75
ALLEY TO THE PROPERTY OF THE P	HPT TES!	ING HP1	
	IEC 62368-1	H.	2
Clause	Requirement + Test	Result - Remark	Verdict
IMG ,	Instructional safeguard:	G HPT	
E.2	Audio amplifier normal operating conditions	ING HI	Р
	Audio signal source type:	STING	<u> </u>
ING H	Audio output power (W):	HPTTES	
11.	Audio output voltage (V):	MG	
	Rated load impedance (Ω):	-ING HI	_
.c 4	100	OT TESTING	
ING	Requirements for temperature measurement	MG Hr.	P
E.3	Audio amplifier abnormal operating conditions	NOTENATIONAL	Р
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND I SAFEGUARDS	NSTRUCTIONAL	P
F.1 ^{C.}	General	HA	P
	Language:	English	_
F.2	Letter symbols and graphical symbols	TING	Р
F.2.1	Letter symbols according to IEC60027-1	UPTTEST	Р
F.2.2	Graphic symbols according to IEC, ISO or	ING FI	(PST
	manufacturer specific	HI HI	
F.3	Equipment markings	TESTING	Р
F.3.1	Equipment marking locations	IG HPI	Poll
F.3.2	Equipment identification markings	Ilan H	Р
F.3.2.1	Manufacturer identification:	(See copy of marking plate)	Р
F.3.2.2	Model identification	(See copy of marking plate)	Р
F.3.3	Equipment rating markings	ING	TPS
F.3.3.1	Equipment with direct connection to mains	ING H	N/A
F.3.3.2	Equipment without direct connection to mains	TESTIN	Р
F.3.3.3	Nature of the supply voltage:	(See copy of marking plate)	PST
F.3.3.4	Rated voltage:	(See copy of marking plate)	Р
F.3.3.5	Rated frequency	ESTING	N/A
F.3.3.6	Rated current or rated power	(See copy of marking plate)	Р
F.3.3.7	Equipment with multiple supply connections	Single supply connection	N/A
F.3.4	Voltage setting device	TING	N/A
F.3.5	Terminals and operating devices	UPT TEST	N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings	No mains appliance outlets or	N/A
		socket-outlets	1 1000



	HPT TES	ING HP	TEST
	IEC 62368-1	-ING HI	
Clause	Requirement + Test	Result - Remark	Verdict
3.5.2	Switch position identification marking	MG HF.	N/A
3.5.3	Replacement fuse identification and rating markings	No fuse used	N/A
NG H	Instructional safeguards for neutral fuse:	UPT TES.	N/A
3.5.4	Replacement battery identification marking:	No such battery on the equipment	N/A
3.5.5	Neutral conductor terminal	TESTING	N/A
3.5.6	Terminal marking location	HPTIL	N/A
3.6	Equipment markings related to equipment classification	ING HP	TPS
3.6.1	Class I equipment	Class III	N/A
3.6.1.1	Protective earthing conductor terminal:	HPT	N/A
3.6.1.2	Protective bonding conductor terminals	W _C	N/A
3.6.2	Equipment class marking:	TING	N/A
F.3.6.3	Functional earthing terminal marking:	UPTTES	N/A
F.3.7	Equipment IP rating marking	IPX0	N/A
3.8	External power supply output marking	HP HP	N/A
3.9	Durability, legibility and permanence of marking	See below	Р
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed for 15 sec. with a piece of cloth soaked with water. And then on different sample label was rubbed for 15 sec. with a piece of cloth soaked with the n-hexane. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	T TEST
4	Instructions	TESTING	Р
NG	a) Information prior to installation and initial use	HPT	P
	b) Equipment for use in locations where children not likely to be present	WR HE	N/A
14	c) Instructions for installation and interconnection	TESTING	N/A
ING	d) Equipment intended for use only in restricted access area	ING HPT.	N/A
	e) Equipment intended to be fastened in place	HI	N/A



T &	APT TESTING HPT TEST	TT TESTING	Page 27 of 75
Service Services	UPT TES	INIG HP	
	IEC 62368-1	lla.	HPT
Clause	Requirement + Test	Result - Remark	Verdict
MG ,	f) Instructions for audio equipment terminals	HPT	N/A
	g) Protective earthing used as a safeguard	NG	N/A
.c \	h) Protective conductor current exceeding ES2 limits	OT TESTING	N/A
MO	i) Graphic symbols used on equipment	MG HF.	PST
,	j) Permanently connected equipment not provided with all-pole mains switch	TING	N/A
ING F	k) Replaceable components or modules providing safeguard function	HPTTES	N/A
<u> </u>	Equipment containing insulating liquid	Un.	N/A
	m) Installation instructions for outdoor equipment	CTING	N/A
F.5	Instructional safeguards	UPTTES	N/A
G	COMPONENTS	400	C TEST
G.1	Switches	ING	N/A
G.1.1	General	No such component	N/A
G.1.2	Ratings, endurance, spacing, maximum load	VIG HL.	N/A
G.1.3	Test method and compliance	110	N/A
G.2	Relays	TESTING	N/A
G.2.1	Requirements	No such component	N/A
G.2.2	Overload test	We	N/A
G.2.3	Relay controlling connectors supplying power to other equipment	TESTING	N/A
G.2.4	Test method and compliance	NG HP	N/A
G.3	Protective devices	line.	HPTP
G.3.1	Thermal cut-offs	No such component	N/A
ING	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	NG HPT TE	N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)	STING	N/A
G.3.1.2	Test method and compliance	HPTTE	N/A
G.3.2	Thermal links	MG	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics	TESTING	N/A
ING .	b) Thermal links tested as part of the equipment	HPT .	N/A
G.3.2.2	Test method and compliance	lac	N/A



T	PT TESTING HPT TEST	TESTING	Page 28 of 75
Service Services	UPT TES	ING HP	
	IEC 62368-1	The Contract of the Contract o	HPT
Clause	Requirement + Test	Result - Remark	Verdict
G.3.3	PTC thermistors	NG HPT	N/A
G.3.4	Overcurrent protection devices	IUG.	N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4	UPT TESTING	N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided	ING B	N/A
G.3.5.2	Single faults conditions:	(See appended table B.4)	N/A
G.4	Connectors	G HPT	N/A
G.4.1	Spacings	No such component	N/A
G.4.2	Mains connector configuration	TING	N/A
G.4.3	Plug is shaped that insertion into mains socket- outlets or appliance coupler is unlikely	NG HPT TES	N/A
G.5	Wound components	114	N/A
G.5.1	Wire insulation in wound components	No such component	N/A
G.5.1.2	Protection against mechanical stress	HPT	N/A
G.5.2	Endurance test	IV _C	N/A
G.5.2.1	General test requirements	TING	N/A
G.5.2.2	Heat run test	UPTTES	N/A
1100	Test time (days per cycle):	ING TH	_
	Test temperature (°C):	, IG	HI.
G.5.2.3	Wound components supplied from the mains	TESTIN	N/A
G.5.2.4	No insulation breakdown	NG HP	N/A
G.5.3	Transformers	No such component used.	N/A
G.5.3.1	Compliance method:	ESTING	N/A
NG F	Position:	HPTTE	N/A
	Method of protection:	ING	N/A
G.5.3.2	Insulation	TING	N/A
JG H	Protection from displacement of windings:	OT TEST	
G.5.3.3	Transformer overload tests	ING H	N/A
G.5.3.3.1	Test conditions	and the second	N/A
G.5.3.3.2	Winding temperatures	TESTING	N/A
G.5.3.3.3	Winding temperatures - alternative test method	IC HPT	N/A
G.5.3.4	Transformers using FIW	Wes	N/A



HPT A	PT TESTING HI	UPT TESTING	Page 29 o
ALLE TO THE PARTY OF THE PARTY	HPTTL	ING Pr	TE
	IEC 62368-1	-1G	Hb1
Clause	Requirement + Test	Result - Remark	Verd
G.5.3.4.1	General	aG HP	N//
	FIW wire nominal diameter:	110	HP T
G.5.3.4.2	Transformers with basic insulation only	-ESTING	N//
G.5.3.4.3	Transformers with double insulation or reinforced insulation	ING HPT TE	N//
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core	TESTING	N//
G.5.3.4.5	Thermal cycling test and compliance	-C HPT	N/A
G.5.3.4.6	Partial discharge test	We	N/A
G.5.3.4.7	Routine test	CTING	N//
G.5.4	Motors	No such component used.	N/A
G.5.4.1	General requirements	NG	N//
G.5.4.2	Motor overload test conditions	, alG	N/A
G.5.4.3	Running overload test	TESTING	N/A
G.5.4.4.2	Locked-rotor overload test	"IG HPI	N/A
	Test duration (days):	line	HP -
G.5.4.5	Running overload test for DC motors	CSTING	N/A
G.5.4.5.2	Tested in the unit	HPTTE	N//
G.5.4.5.3	Alternative method	MG	N//
G.5.4.6	Locked-rotor overload test for DC motors	TING	N//
G.5.4.6.2	Tested in the unit	OTTEST	N//
llan	Maximum Temperature:	NG H	N//
G.5.4.6.3	Alternative method	16	N/A
G.5.4.7	Motors with capacitors	TESTING	N/A
G.5.4.8	Three-phase motors	IC HPT	N//
G.5.4.9	Series motors	We.	N/A
	Operating voltage	-cTING	_
G.6	Wire Insulation	HPT TES	N/A
G.6.1	General	MG	N/A
G.6.2	Enamelled winding wire insulation	anG.	N/A
G.7	Mains supply cords	TESTING	N/A
G.7.1	General requirements	NG HY	N/A
	Туре:	No such mains supply cords	HP -



HPT	PT TESTING HE.	HPT TESTING	Page 30 o
	HPT	ING	TE
	IEC 62368-1	,,,,,G	Hr.
Clause	Requirement + Test	Result - Remark	Verd
G.7.2	Cross sectional area (mm² or AWG):	NG HP	N/A
G.7.3	Cord anchorages and strain relief for non- detachable power supply cords	TING	N/A
G.7.3.2	Cord strain relief	UPT TES	N/A
G.7.3.2.1	Requirements	NG D.	N/A
	Strain relief test force (N):	alG	N//
G.7.3.2.2	Strain relief mechanism failure	TESTING	N//
G.7.3.2.3	Cord sheath or jacket position, distance (mm):	NG HP	N/A
G.7.3.2.4	Strain relief and cord anchorage material	luc.	N//
G.7.4	Cord Entry	STING	N/A
G.7.5	Non-detachable cord bend protection	HPTTES	N//
G.7.5.1	Requirements	MG ,	N//
G.7.5.2	Test method and compliance	-ING	N//
ING H	Overall diameter or minor overall dimension, <i>D</i> (mm)	IG HPT TESTING	_
	Radius of curvature after test (mm):	Mic	HP -
G.7.6	Supply wiring space	-STING	N//
G.7.6.1	General requirements	HPTTES	N/A
G.7.6.2	Stranded wire	ING	N//
G.7.6.2.1	Requirements	-in/G	N//
G.7.6.2.2	Test with 8 mm strand	OT TESTING	N//
G.8	Varistors	NG HP	N/A
G.8.1	General requirements	No such component	N/A
G.8.2	Safeguards against fire	TESTING	N/A
G.8.2.1	General	HPT	N/A
G.8.2.2	Varistor overload test	Me	N/A
G.8.2.3	Temporary overvoltage test	TING	N//
G.9	Integrated circuit (IC) current limiters	UPT TEST	N/A
G.9.1	Requirements	No such component	N//
	IC limiter output current (max. 5A):	-1G	HB
14	Manufacturers' defined drift:	TESTING	
G.9.2	Test Program	VICE HBJ.	N/A
G.9.3	Compliance	Inc	N/A



T	PT TESTING HPT TEST	TESTING	Page 31 of 75
ALLEY TO THE PROPERTY OF THE P	UPT TEST	NG HP1	
	IEC 62368-1	lla	HPTTL
Clause	Requirement + Test	Result - Remark	Verdict
G.10	Resistors	HPT	N/A
G.10.1	General	No such component	N/A
G.10.1	Conditioning	TVO Such component	N/A
G.10.2	Resistor test	UPT TES,	N/A
G.10.3 G.10.4	Voltage surge test	MG Fr.	N/A
	CT102	a)G	Mr.
G.10.5	Impulse test	TESTINE	N/A
G.10.6	Overload test	HP1	N/A
G.11	Capacitors and RC units	ING	N/A
G.11.1	General requirements	No such component	N/A
G.11.2	Conditioning of capacitors and RC units	UPT TES!	N/A
G.11.3	Rules for selecting capacitors	MG F	N/A
G.12	Optocouplers	- G	N/A
H	Optocouplers comply with IEC 60747-5-5 with specifics	No such component	N/A
ING	Type test voltage V _{ini,a} :	IC Hb1.	
	Tes-	MG	LIP -
0.40	Routine test voltage, V _{ini, b}	CTING	—
G.13	Printed boards	UPT TES.	Р
G.13.1	General requirements	NG TI	PST
G.13.2	Uncoated printed boards	, 1G	HPIP
G.13.3	Coated printed boards	TESTING	N/A
G.13.4	Insulation between conductors on the same inner surface	NG HPT	N/A
G.13.5	Insulation between conductors on different surfaces	(Un	N/A
0.10.0	Distance through insulation:	CTING	N/A
ING P	Number of insulation layers (pcs):	HPT TES	11//
G.13.6	Tests on coated printed boards	MG	N/A
G.13.6.1	Sample preparation and preliminary inspection	-ING	N/A
G.13.6.2	Test method and compliance	or TESTING	N/A
G.13.0.2 G.14		NG HY'	N/A
G.14 G.14.1	Coating on components terminals	110	N/A
G.14.1 G.15	Requirements Pressurized liquid filled components	-ESTING	N/A N/A
G.15 G.15.1	ars)	HPTTE	
-	Requirements	MG .	N/A
G.15.2	Test methods and compliance	-21G	N/A



PT &	PT TES HE		UPT TESTING	Page	32 of 75
A LANGE	HPT TES	-ING	Hr.		
	IEC 62368-	1ES	J.G.	HP	,
Clause	Requirement + Test	Result	- Remark		Verdict
G.15.2.1	Hydrostatic pressure test	ING	HPT		N/A
G.15.2.2	Creep resistance test	TEST INC		HP	N/A
G.15.2.3	Tubing and fittings compatibility test		ESTING		N/A
G.15.2.4	Vibration test		HPTTE		N/A
G.15.2.5	Thermal cycling test	-ESTING		. 10	N/A
G.15.2.6	Force test	100	TING	1,11	N/A
G.15.3	Compliance		IPT TEST		N/A
G.16	IC including capacitor discharge function (I	CX)	1,21	-	N/A
G.16.1	Condition for fault tested is not required	LES!	za Ga	HE	N/A
H	ICX with associated circuitry tested in equipmer	nt	TESTING		N/A
ING	ICX tested separately	a)G	Hb,		N/A
G.16.2	Tests	TESTING		HP	N/A
ug H	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test	:	OT TESTING		_
llan	Mains voltage that impulses to be superimpose	ed on:	40	HP	_
ug H	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test		JOT TESTING		_
G.16.3	Capacitor discharge test	TING	43,		N/A
1	CRITERIA FOR TELEPHONE RINGING SIGN	IALS			N/A
1.1	General		TESTING		N/A
H.2	Method A	::16	HP		N/A
H.3	Method B	rESTING		4P	N/A
H.3.1	Ringing signal		STING		N/A
H.3.1.1	Frequency (Hz)	:	HPT TES		_
1.3.1.2	Voltage (V)	-CING	- N. C.		_
H.3.1.3	Cadence; time (s) and voltage (V)	15.	-ING	Ply	_
H.3.1.4	Single fault current (mA):	:	OT TESTING		_
H.3.2	Tripping device and monitoring voltage	-ING	Hk.		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage	restill	CTING	HP	N/A
1.3.2.2	Tripping device		HPT TED		N/A
H.3.2.3	Monitoring voltage (V)	TING	3.		N/A
	PT TESTING HPT	LES.	HPTTESTING	H	*



T	APT TESTING HIT TEST	Pag	ge 33 of 75
REAL PORTION OF THE PROPERTY O	HPT TES	ING Hr.	
	IEC 62368-1	III.	PI
Clause	Requirement + Test	Result - Remark	Verdict
JG -	INSULATED WINDING WIRES FOR USE WITHOU	JT INTERLEAVED INSULATION	N/A
J.1	General	H	N/A
	Winding wire insulation:	STING	_
ING P	Solid round winding wire, diameter (mm):	HPTTE	N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm²):	IMG H	N/A
J.2/J.3	Tests and Manufacturing	TESTING	
K	SAFETY INTERLOCKS	. 101	N/A
K.1	General requirements		N/A
	Instructional safeguard:	ESTING	N/A
K.2	Components of safety interlock safeguard mech	nanism	N/A
K.3	Inadvertent change of operating mode	UNG	N/A
K.4	Interlock safeguard override	TING	N/A
K.5	Fail-safe	UPT TEST	N/A
K.5.1	Under single fault condition	ING PI	N/A
K.6	Mechanically operated safety interlocks	NG P	N/A
K.6.1	Endurance requirement	TESTINE	N/A
K.6.2	Test method and compliance	IG HPI	N/A
K.7	Interlock circuit isolation	Liller H	N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements	WT TESTING	N/A
luc	In circuit connected to mains, separation distance for contact gaps (mm)	ING H	N/A
\	In circuit isolated from mains, separation distance for contact gaps (mm)	OT TESTING	N/A
ING	Electric strength test before and after the test of K.7.2	UNG HE.	N/A
K.7.2	Overload test, Current (A):	CTING	N/A
K.7.3	Endurance test	UPT TES	N/A
K.7.4	Electric strength test	ING	N/A
L	DISCONNECT DEVICES		N/A
	General requirements	Not connected to Mains supply	N/A
L.1	Permanently connected equipment	HPI	N/A
L.1 L.2	Permanently connected equipment	4.11.1	- C - 3 1



T	PT TESTING HPT TEST	Page	e 34 of 75
A SALVE	HPT TES!	ING HP!	
	IEC 62368-1	HE	7
Clause	Requirement + Test	Result - Remark	Verdict
L.4	Single-phase equipment	NG HPT	N/A
L.5	Three-phase equipment	INC.	N/A
L.6	Switches as disconnect devices	STING	N/A
Lo7G	Plugs as disconnect devices	HPTTE	N/A
L.8	Multiple power sources	MG ,	N/A
	Instructional safeguard:	-iniG Hr	N/A
M	EQUIPMENT CONTAINING BATTERIES AND THE	EIR PROTECTION CIRCUITS	Р
M.1	General requirements	,NG	- TES
M.2	Safety of batteries and their cells	HF	Р
M.2.1	Batteries and their cells comply with relevant IEC	The battery pack complies with	Р
ING	standards:	IEC 62133-2:2017. (See appended table 4.1.2)	TEST
VI.3	Protection circuits for batteries provided within the equipment	-STING HI	Р
M.3.1	Requirements	HPTTES	Р
M.3.2	Test method	MG .	(TPS)
	Overcharging of a rechargeable battery	-ING H	Р
ic H	Excessive discharging	OTTEST	Р
Mic	Unintentional charging of a non-rechargeable battery	ING HE	N/A
ING H	Reverse charging of a rechargeable battery	Can't be reversed according to the design of enclosure and connector	N/A
M.3.3	Compliance	Wa	Р
M.4	Additional safeguards for equipment containing battery	a portable secondary lithium	Р
M.4.1	General	alG HP	PST
M.4.2	Charging safeguards	See below	Р
M.4.2.1	Requirements	ESTING	Р
M.4.2.2	Compliance:	Complied	P
M.4.3	Fire enclosure:	Plastic enclosure considered as fire enclosure.	P
W.4.4	Drop test of equipment containing a secondary lithium battery	HPT TESTING	Р
M.4.4.2	Preparation and procedure for the drop test	MG	TPS\



PT &	PT TES.	UPT TESTING	Page 35 o
market by	HPTTE	ING H	
	IEC 62368-1	G	HALL
Clause	Requirement + Test	Result - Remark	Verd
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%)::	ING HE	HPT T
M.4.4.4	Check of the charge/discharge function	CTING	F
M.4.4.5	Charge / discharge cycle test	UPT TES	F
M.4.4.6	Compliance	ING	TE
M.5	Risk of burn due to short-circuit during carrying	.a.G	PAR F
M.5.1	Requirement	TESTING	F
M.5.2	Test method and compliance	NG HP	E
M.6	Safeguards against short-circuits	1100	HPTT
M.6.1	External and internal faults	Evaluated in IEC 62133-2	F
M.6.2	Compliance	HPTTES	F
M.7	Risk of explosion from lead acid and NiCd batter	ries	N/
M.7.1	Ventilation preventing explosive gas concentration	-ING	N/
- P	Calculated hydrogen generation rate:	OT TESTING	N.
M.7.2	Test method and compliance	ING Hr.	N/
	Minimum air flow rate, Q (m ³ /h)	110	N/
M.7.3	Ventilation tests	TESTING	N/
M.7.3.1	General	HPT	N/
M.7.3.2	Ventilation test – alternative 1	W.	N/
	Hydrogen gas concentration (%)	TING	N/
M.7.3.3	Ventilation test – alternative 2	UDT TEST	N/
Mo	Obtained hydrogen generation rate:	ING HI	N/
M.7.3.4	Ventilation test – alternative 3	- \G	N/
	Hydrogen gas concentration (%)	TESTING	N/
M.7.4	Marking:	AB I	N/
M.8	Protection against internal ignition from externa with aqueous electrolyte	I spark sources of batteries	N/
M.8.1	General	UPT TEST	N/
M.8.2	Test method	ING PI	N,
M.8.2.1	General	- G	N/
M.8.2.2	Estimation of hypothetical volume V_Z (m ³ /s):	TESTING	_
M.8.2.3	Correction factors:	HP.	_
M.8.2.4	Calculation of distance d (mm)	line	HP -
	TTES!" HP?	TING	



	PT TESTING HPT TEST	Pag	ge 36 of 75
	OT TESTING	HPT	
	IEC 62368-1	ING	PTTES
Clause	Requirement + Test	Result - Remark	Verdict
NG Y	TESTING	result - remark	Verdict
М.9	Preventing electrolyte spillage	ING	N/A
M.9.1	Protection from electrolyte spillage	-miG Y	N/A
M.9.2	Tray for preventing electrolyte spillage	TESTING	N/A
M.10	Instructions to prevent reasonably foreseeable misuse	ING HP	PTTEST
	Instructional safeguard ::	-ING P	Р
N	ELECTROCHEMICAL POTENTIALS		N/A
Vic	Material(s) used:	NG AL.	_
)	MEASUREMENT OF CREEPAGE DISTANCES AN	ID CLEARANCES	N/A
	Value of <i>X</i> (mm):	ESTING	_
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECT	'S	N/A
P.1	General	luc.	N/A
P.2	Safeguards against entry or consequences of en	ntry of a foreign object	N/A
P.2.1	General	OTTES	N/A
2.2.2	Safeguards against entry of a foreign object	No openings	N/A
	Location and Dimensions (mm):	, C Y	
P.2.3	Safeguards against the consequences of entry of a foreign object	UPT TESTING	N/A
P.2.3.1	Safeguard requirements	ING IN	N/A
.2.3.1	The ES3 and PS3 keep-out volume in Figure P.3	i. A	N/A
	not applicable to transportable equipment	TESTING	IN/A
ING ,	Transportable equipment with metalized plastic parts:	ING HPT	N/A
P.2.3.2	Consequence of entry test:	"NG Y	N/A
P.3	Safeguards against spillage of internal liquids	TESTING	N/A
P.3.1	General	alG HP1	N/A
P.3.2	Determination of spillage consequences	1/100	N/A
P.3.3	Spillage safeguards	ESTING	N/A
P.3.4	Compliance	HPTTE	N/A
P.4	Metallized coatings and adhesives securing part	S	N/A
P.4.1	General	-ING P	N/A
P.4.2	Tests	OTTEST	N/A
line	Conditioning, T _C (°C)	MG Hr	
	Duration (weeks)	, P	6
- 1		STING	



T	HPT TESTING HPT TEST	Pa	ge 37 of 75
A LANGE	UPTTEST	API.	
	IEC 62368-1	Han	PTTE
Clause	Requirement + Test	Result - Remark	Verdict
_1G	CIRCUITS INTENDED FOR INTERCONNECTION	WITH DING WIDING	NI/A
Q 0.4	100	WITH BUILDING WIRING	N/A N/A
Q.1 Q.1.1	Limited power sources	TING	
Q.1.1	Requirements	UPTTES	N/A
Mo	a) Inherently limited output	ING PI	N/A
	b) Impedance limited output	Y C	N/A
	c) Regulating network limited output	TESTING	N/A
MG	d) Overcurrent protective device limited output	HPT	N/A
	e) IC current limiter complying with G.9	ING	N/A
Q.1.2	Test method and compliance:	(See appended table Q.1)	N/A
ING	Current rating of overcurrent protective device (A)	HPTTEST	N/A
Q.2	Test for external circuits – paired conductor cable	ING K	N/A
	Maximum output current (A):	TESTING	N/A
MG	Current limiting method:	HP1	_
R	LIMITED SHORT CIRCUIT TEST	1610	N/A
R.1	General	ETING	N/A
R.2	Test setup	HPT TES	N/A
11	Overcurrent protective device for test:	ING	
R.3	Test method	, NG Y	N/A
	Cord/cable used for test:	TESTIN	
R.4	Compliance	WG Hb,	N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE	Mar.	N/A
S.1	Flammability test for fire enclosures and fire bar where the steady state power does not exceed 4		N/A
110-	Samples, material	We	_
	Wall thickness (mm):	NG Y	(2
	Conditioning (°C):	TESTING	
MG	Test flame according to IEC 60695-11-5 with	G HPT	N/A
	conditions as set out	ING .	IWA
	- Material not consumed completely	-cTING '	N/A
NG	- Material extinguishes within 30s	UPT TES	N/A
11.0	- No burning of layer or wrapping tissue	ING	N/A
S.2	Flammability test for fire enclosure and fire barri	ier integrity	N/A



I	PT TESTING HPT TEST	TESTING	Page 38 of 75
Service Services	HPT TES	ING HP	
	IEC 62368-1		HPT
Clause	Requirement + Test	Result - Remark	Verdict
MG	Samples, material:	NG HP	
	Wall thickness (mm):	114	HIP _
U.	Conditioning (°C):	TESTING	
5.3	Flammability test for the bottom of a fire enclosu	ire HPT	N/A
3.3.1	Mounting of samples	10/13	N/A
3.3.2	Test method and compliance	TING	N/A
NG H	Mounting of samples	HPT TES!	
100	Wall thickness (mm)	ING	_
6.4	Flammability classification of materials	NG	N/A
6.5	Flammability test for fire enclosure materials of	TESTING	N/A
No	equipment with a steady state power exceeding 4 000 W	MG Hr,	TESTIN
	Samples, material:		461
H	Wall thickness (mm):	TESTING	
MG .	Conditioning (°C):	IG HPT	
T	MECHANICAL STRENGTH TESTS	NG	P
.1 S	General	-67110-	Р
1.2	Steady force test, 10 N:	HPT TES	N/A
· · 2	Steady force test, 30 N	MG ,	N/A
.4 `.4	Steady force test, 100 N:	-ING	N/A
.50	Steady force test, 250 N:	(See appended table T.5)	P
7.6	Enclosure impact test	(Coo appointed table 1.0)	TESTI
	Fall test		Р
U	Swing test	TESTING	Р
NG T	Drop test:	(See appended table T.7)	PeT
·.8	Stress relief test	(coo appended table in)	P
·.9	Glass Impact Test:	CTING	N/A
7.10	Glass fragmentation test	HPT TES	N/A
17	Number of particles counted	W _G	N/A
	Test for telescoping or rod antennas	ING	N/A
.11		-c511	



	APT TESTING HPT TESTING	Page	39 c
» ««LE	HPTTE	IG Pr	- 11
	IEC 62368-1	AG HP	1
Clause	Requirement + Test	Result - Remark	Ver
U	MECHANICAL STRENGTH OF CATHODE RAY TUBE AGAINST THE EFFECTS OF IMPLOSION	ES (CRT) AND PROTECTION	N/
U.1	General	CTING	N/
ING Y	Instructional safeguard :	UPT TES	N/
U.2	Test method and compliance for non-intrinsically pr	rotected CRTs	N/
U.3	Protective screen	NG HI	N.
V	DETERMINATION OF ACCESSIBLE PARTS	2114	F
V.1	Accessible parts of equipment	ig hr.	Æ
V.1.1	General	HF	1,4
V.1.2	Surfaces and openings tested with jointed test probes	UPT TESTING	N/
V.1.3	Openings tested with straight unjointed test probes	JG Fi	N/
V.1.4	Plugs, jacks, connectors tested with blunt probe	NG HP	N
V.1.5	Slot openings tested with wedge probe	TESTING	N.
V.1.6	Terminals tested with rigid test wire	IG HP1	F
V.2	Accessible part criterion	HF	17
X	ALTERNATIVE METHOD FOR DETERMINING CLEAR CIRCUITS CONNECTED TO AN AC MAINS NOT EXC RMS)		N/
	Clearance:	HF	N.
Υ	CONSTRUCTION REQUIREMENTS FOR OUTDOOR	ENCLOSURES	N.
	General	HPT	N.
Y.1G	Resistance to UV radiation	10	N.
Y.1 Y.2	Resistance to corrosion	TING	N/
11/10	Resistance to corrosion	TES	N/
Y.2 Y.3	Resistance to corrosion		
Y.2 Y.3	Resistance to corrosion	IG HP1	N
Y.2 Y.3 Y.3	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to	IG HP1	77
Y.2 Y.3 Y.3 Y.3.1 Y.3.2	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by:	IG HPT TESTING HE	N.
Y.3 Y.3 Y.3.1	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by: Test apparatus	IG HPT TESTING HE	N.
Y.2 Y.3 Y.3.1 Y.3.1 Y.3.2 Y.3.3	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by: Test apparatus Water – saturated sulphur dioxide atmosphere	IG HPT TESTING HE	N.
Y.2 Y.3 Y.3.1 Y.3.2 Y.3.3 Y.3.4	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by: Test apparatus Water – saturated sulphur dioxide atmosphere Test procedure	IG HPT TESTING HE	N/ N/ N/
Y.2 Y.3 Y.3.1 Y.3.2 Y.3.3 Y.3.4 Y.3.5	Resistance to corrosion Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by: Test apparatus Water – saturated sulphur dioxide atmosphere Test procedure: Compliance	IG HPT TESTING HE	N/ N/ N/ N/ N/



See Le la	HPT TESTING	ING HP!	
	IEC 62368-1	10	HPT
Clause	Requirement + Test	Result - Remark	Verd
Y.4.3	Tensile strength and elongation tests	VIG Hbj	N/
	Alternative test methods:		N/
Y.4.4	Compression test	ESTING	N/
Y.4.5	Oil resistance	HPTTL	N/
Y.4.6	Securing means	UMG	N/
Y.5	Protection of equipment within an outdoor enclose	sure	N/
Y.5.1	General	UPT TEST	N/
Y.5.2	Protection from moisture	ING	N/
	Relevant tests of IEC 60529 or Y.5.3	nG	N/
Y.5.3	Water spray test	TESTIN	N/
Y.5.4	Protection from plants and vermin	VIC HAS	N/
Y.5.5	Protection from excessive dust	(line	N/
Y.5.5.1	General	ESTING	N/
Y.5.5.2	IP5X equipment	HPTTE	N/
Y.5.5.3	IP6X equipment	UVG	N/A
Y.6	Mechanical strength of enclosures	TING	N/
Y.6.1	General	HPT TES!	N/A
Y.6.2	Impact test:	NG FI	N/A



TECHNOLOGY C	TING	HPT	TESTIN	Report No.:HP	Γ-231113L1650S
PT	TTES	TESTING	HP	HPT TESTING	Page 41 of 75
**************************************	CTING	HPT	C 62368-1	G '	HPT TESTI
Clause	Requirement + 1	est	R	esult - Remark	Verdict

Supply	Location (e.g.					ES	
Voltage	circuit designation)	conditions	U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	Class
	alg H	Normal:	5.0Vd.c.	STING	SS	- 10	LLES
5.0Vd.c.	All circuits in equipment	Abnormal: overload	HPTTE		TEST	1NG - H	ES1
	NG H	Single fault: SC/OC		STING	HP	- 10	TEST
	TESTING	Normal:	4.2Vd.c.		SS	ING - FI	
3.7Vd.c. (Internal	Internal battery pack	Abnormal: overload	4.2Vd.c.		SS		ES1
battery pack)	e) pask	Single fault: SC/OC	HPT TE	STING		ING HP	1750
Supplement	ary information:						

Supplementary information:

- 1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.
- 2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.

5.4.1.8	TABLE: Working vo	ltage measureme	HPTTL	N/A	
Location				Frequency (Hz)	Comments
	IPT TE	TING	Lo.	TES	Than
Suppleme	ntary information:		•		
	-ING PI		TESTIN		HPTTL

			21G		
ABLE: Vicat so	tening temperature of thermo	plastics	N/A		
		.: Ne	_		
lo./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)		
	CTING	CTING OT TES			
y information:					
CTING	OTTE	9/,,	HP1		
	o./Material	o./Material Manufacturer/trademark	-cTING DT TES		

5.4.1.10.3	TABLE: Ball pressu	re test of thermoplas	stics	N/A
Allowed im	pression diameter (mm)	≤ 2 mm	
	TEST	H	717-	JG
H	b.I.		OT TES!	
		TES,	Hb.	MITTIN

HPTTE



ECHNOLOGY C	ING 1	APT	OT TEST		Report No.:HF	PT-2311	13L1650S
PT &		TESTING	lh.		HPT TESTINI	Paç	ge 42 of 75
	\	APT .		NG	10.00		TES)
-cT		IEC 62	368-1			4	b.
Clause Requirem	nent + Tes	t mG	14.	Resul	t - Remark	0	Verdict
		~6711	1		10.		
Object/Part No./Material		lanufacturer/trademark	ark Thickness (mm)		Test temperature (°C)		ression eter (mm)
TEST	1,1	V.	16.1		71/11	3	

					21/1				
5.4.2, 5.4.3	TABLE: I	Minimum	Clearanc	es/Creep	age distance	l	765	STING	N/A
Clearance (creepage dis	stance	U _p (V)	U _{rms} (V)	Freq 1) (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
UP	1750			iniG	Li		755	TIME	

Supplementary information:

Supplementary information:

- 1) Only for frequency above 30 kHz
- 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)

5.4.4.2	TABLE: Minimun	n distance through insul	ation	60	N/A
Distance th (DTI) at/of	rough insulation	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
ING T	,	TESTIN		HPTTL	- <
Supplemen	tary information:				
	TESTINE	ÚP.	1700	,NG	P.

-	HPI		CTING		~5	(EST	
5.4.4.9	TABLE: Solid in	sulation a	t frequencies >	30 kHz	NG HP		N/A
Insulation	material	E P	Frequency (kHz)	K _R	Thickness d (mm)	Insulation	V _{PW} (Vpk)
, NG	His	- 75	SIMO		HPT	E	
Suppleme	entary information:						
	STINE		.10	TES		-1G	Hr.

	TTES	- Hr.	THE	
	HP	3	TES!	
5.4.9	TABLE: Electric strength tests		Hr.	N/A
Test volta	age applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Ilac	HPT TES	-ING	ble.	TEST
Suppleme	entary information:			
a)G	HPTTES	HI.	UPT TESTING	
	77 750			



ECHNOLOG _L	TING HPT		Report No.:HP	T-231113L1650S
PI	HPT TEST	ESTING HPT	HPT TESTING	Page 43 of 75
	CTING	IEC 62368-1	ESTINO	HPTTE
Clause	Requirement + Test	-MG HP	Result - Remark	Verdict
ING	HPTT	ES III	ING HPT	TESTING
	CTING	27.7	ESTITE	HPT

5.5.2.2	TABLE:	Stored discharge o	on capacitors	-	TING	N/A
Location	a\	Supply voltage (V)	Operating and fault condition 1)	Switch position	Measured voltage (Vpk)	ES Class
	TEST	11-	HPT		TING	**
Supplemen	ntary inforr	nation:				
X-capacito	rs installed	for testing:		-NG		-69
[] bleed	ing resisto	r rating:		Llin		UPT TE
[] ICX:	TEST		HPT		TING	3.
1) Normal	operating o	condition (e.g., norma	al operation, or open f	use), SC= sho	rt circuit, OC= o	pen circuit

Ilac	UPT	TEO	-MG	He	TES.
5.6.6	TABLE: Resistance of	protective conduc	tors and termina	tions	N/A
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
in the second	AP I		ESTING		UPT TES
Suppleme	entary information:				
	461	-GTING		OT TES!	

Ilde		HPTT	53	-ING	Hr.		TES
5.7.4	TABLE	E: Unearthed acces	ssible parts				N/A
Location	1	Operating and	Supply	F	Parameters	,	ES
		fault conditions	Voltage (V)	Voltage (V _{rms} or V _{pk})	Current Freq. (A _{rms} or A _{pk}) (Hz)		class
	TES	LIDE	i,	PTTES	-17	NG P	
Supplemen	ntary info	rmation:					
Abbreviation	n: SC=	short circuit; OC= o	pen circuit	.mG	Hr.		-FS

5.7.5	TABLE: Earthed access	ible conductive part		STING	N/A
Supply vol	tage (V):	STINE	HPTTE		
Phase(s) .	:	[] Single Phase; [] Three	Phase: [] Delta	[] Wye	
Power Dis	tribution System::	[] TN []TT []IT		TING	
Location		Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comme	ent
	CTING	TEST		- 4	PT I
4	IPT TES!	TING HP	TE	STING	
	-T T	E21.	HPI		



PT &	HPT TES!	-CTING HP	OT TESTING	Page 44 of 75
and the same of th	-ING HPT T	IEC 62368-1	ESTING HE	HPT TESTING
Clause	Requirement + Test	-ING HPT.	Result - Remark	Verdict
Supplem	entary Information:	>c////	7.07	WG

Supplementary Information:

5.8	TABLE:	ABLE: Backfeed safeguard in battery backed up supplies						
Location		Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class	
LIF.	TTES		ING H			STING		
Supplement	tary inforr	mation:						
Abbreviation	n: SC= sh	ort circuit, O	C= open circuit	STIN	G		JOT TES	

ku.		TESTINE		HPT TE		-ING	. Pre
	6.2.2 T	ABLE: Power source	circuit classi	fications	70,	TESI	Р
HPT TEST	Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
	Rated input	Normal		HPI-		-CTING	PS1
	Lithium-ion	Abnormal	3.43	3.55	12.18	3	PS1
TEST	Battery	U1 Pin (1-4) SC	3.29	5.27	17.34	5	PS2
Hr.	Supplementar	y information:		JOT TES		G	Hr.

1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.

6.2.3.1	TABLE: Determ	ination of Arcing PIS	APT I	TING	N/A
Location		Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
	-STING	2	OT TES!	-16	Hbi
Supplemen	ntary information:				
ING		OT TES!	-C	Hb.1	-6
	-ING	Hr.	TESTING		HPT TES

6.2.3.2	TABLE: Determination of resis	tive PIS	GTING	Р
Location		Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All circuit in	nside the equipment enclosure	TESTITE OF THE STATE OF THE STA	*	HP*

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

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under





PT &	HPT TES	CTING	TEST	Page 45 of 75
The second second	-ING	IEC 62	2368-1	HPTTESTING
Clause	Requirement + Tes	t aniG Y	Result - Remark	Verdict

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.

* A Resistive PIS is considered to exist in primary circuits and secondary circuits.

Abbreviation: SC= short circuit; OC= open circuit

						1/2/2
	8.5.5	TABLE: High	pressure lamp	HPT		N/A
UPT TEST	Lamp ma	anufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No
A.		TESTIN		HPT	TING	9,11
	Supplem	entary information:				
	11.0		HPT	TING	4.4	TEST
Hbi		-cTING		OT TEST		Hbi

	-691	11 -			101			- G	3.0
9.6	TABLE:	Temperat	ture measu	rements	for wireles	s power ti	ransmitter	S	N/A
Supply	voltage (V)	:				-1G	HPI		_
Max. tr	ansmit power	of transmi	tter (W) :		TES	Ullin			_
			eiver and contact		eiver and contact		iver and at of 2 mm		eiver and at e of 5 mm
Foreig	n objects	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
	JOT TES	*		JG 1	16 /		-55	ING	
Supple	mentary inforr	nation:							
ESI			161		6	LING			OT TES
		Ilia			HPT TEC				Fir.
	HPI						UPT TES	1	
ESTITUTE			PT			.nIG	1		



CHNOLOGY	ING HPT	100		TESTI	NG ,	Report N	o.:HPT-2	:31113L1650S
C. III	PT TESTING HE	resting		()	. 4	PT TES	TING	Page 46 of 75
	ING HP1		IEC 6236	8-155	JG.			UPT TES!
Clause	Requirement + Test	-010	HP	1	Result - R	temark	TING	Verdict
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature n	neasurem	ents	TESTI	NG P	PTT	ı.G	HPT TEST
- 4	Supply voltage (V))tqrp	5VDC	4.2V[ОС	- TES	Hino	
Me	Ambient Tmin (°C)	:	24.6	24.0	ag P	18,		_
	Ambient Tmax (°C)	:	25.0	25.0	0			_
L/I	Tma (°C)	Oins.	25.0	25.0	0	- 355	LIDE	_
Maximum n	neasured temperature T of	part/at:			T (°C)			Allowed Tmax (°C)
PCB near L	II TESTING		42.6	45.3	3		-iniG	130
Internal wire	e	-STING	32.7	35.9	9	OT TES		80
Cell surface	HPT	(F)	33.6	36.	1G Y	-		60
Enclosure i	nside		32.5	34.7	7		G	Ref.
Enclosure o	outside	TING	31.9	32.8	3	- TES	Lline	77
Supplement	tary information:	(ES)		711	NG P	P		TEST
Temperatur	e T of winding:	t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)	Allowed Tmax (°C)	Insulation class
IIa	HPT			-71	ιG `			TEST
Supplemen	tary information:		.10	TES	1		G	HP

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

D 0 5					27763				
B.2.5	IAE	BLE: Inp	ut test	-	Hb.			TING	P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition	/status
5.0		0.81	1.0	4.05		-TING		Normal worki	ng - e
Supplementary information:									
Equipmer	nt may b	oe have r	ated current	or rated p	ower or both.	Both shou	ıld be meas	ured.	

B.3, B.4	IABL	.E: Abnorma	l operating a	na tauit	conditi	on tests	HP	P	
Ambient te	mperati	ure T _{amb} (°C)			46.1	: 25°C u	nless otherwise specified	_	
Power sou	rce for I	EUT: Manufad	cturer, model/t	ype, out	out ratin	g:	HPTTE	_	NO
Componen	t No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation		
	IPT TI		217.0	JG			TESTING		
			TES				HPI		



RECHNOLOGY F F PT	ESTING	APT I	NG P	PT TEST	_{IN} G	Report No.:HPT-	231113L1650S Page 47 of 75
	TING	APT TES	IEC 62	368-1	NG	Hr.	HPT TESTING
Clause Rec	quirement + Tes	t	JG Y	(8)	Result	- Remark	Verdict
Battery overcharging	U1 pin(1, 4) SC	5.0	7hrs	PT TEST	NG	Battery fully charge temperature meas was: 37.4°C, no da hazard.	ured on battery
Battery overdischarging	U2 pin(3, 6) SC	4.2	7hrs	PTTEST	IN ^G	Battery fully dischar maximum tempera on battery was: 38 damage, no hazaro	ture measured .3°C, no
Speakers	SC	5.0	10mins		alG.	Unit shut down, no damaged, no haza	
Supplementary in	formation:						

SC= short circuit; OC= open circuit, OL=overload.

M.3	TABLE: Pro	tection circui	ection circuits for batteries provide				n the equ	uipment		OT PS
Is it possib	le to install the	battery in a re	verse pol	arity po	sition?:		No	possible	G	
					Charg	ging				
Equipmen	t Specification		Voltage	(V)				Currer	nt (A)	
		3	5 ISTTES!					1.0	0	HPI
					Battery spe	ecific	cation			
		Non-recharge	able batte	eries		R	echargea	ble batte	ries	
				ntional Char			-		rging	Reverse
Manufa	cturer/type	current (A)	(A) charging current (A)		Voltage (V)	Сι	urrent (A)	curren	t (A)	charging current (A)
10G 50	3040	TF	S11		4.2V		0.25	0.2	5	
Note: The t	ests of M.3.2 a	re applicable o	nly when	above	appropriate o	data	is not av	ailable.		
Specified b	attery tempera	ture (°C)						60	G	0.00
Componen No.	t Fault conditi	on Charge/ d	•	Test time	Temp. (°C	2)	Current (A)	Voltage (V)	0	bservation
	Normal	Cha	rge	7h	Battery:36	6.3	0.11	4.20	NL,N	IS,NE,NF
E02040	U1 pin(1, 4)	SC Cha	rge	7h	Battery:38	3.4	0.16	4.18	NL,N	IS,NE,NF
503040	Normal	Disch	arge	7h	Battery:37	'.2	0.17	4.20	NL,N	IS,NE,NF
	U2 pin(3, 6) SC Discharge				Battery:39.		0.23	4.19 NL,N		IC NE ME

Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.



PT &	APT TEST	-STING HP	INT TESTING	Page 48 of 75
×e ^p	CTING HPT	IEC 62368	3-1ESTING	HPTTESTING
Clause	Requirement + Test	ING PP	Result - Remark	Verdict

M.4.2	TABLE: Charging safeguards for equipment cobattery	ntaining a secondary lithium	TEST	
Maximun	n specified charging voltage(V)	4.2	_	
Maximun	n specified charging current(A):	0.25	_	
Highest s	specified charging temperature(°C)	45		
Lowest s	pecified charging temperature(°C)	0		

Battery	Operating and fault	N	leasurement		Observation
manufacturer/type	condition	Charging voltage (V)	Charging current (A)	Temp.	
TING HPT TE	Normal charging at 0°C	4.20	O TESTI	JG O HP	Unit normal operation when reach to the LSCT. No chemical leaks, no fire, no exploded, no any other hazards.
E02040	Normal charging at 45°C	4.20	O TESTI	45	Unit stop charging when reach to the HSCT. No chemical leaks, no fire, no exploded, no any other hazards.
503040	Overcharging under U1 pin(1, 4) SC at 0°C	4.20	O TESTI	yG o HP	Unit normal operation when reach to the LSCT. No chemical leaks, no fire, no exploded, no any other hazards.
TING HPT	Overcharging under U1 pin(1, 4) SC at 45°C	4.20	APT TESTI	45	Unit stop charging when reach to the HSCT. No chemical leaks, no fire, no exploded, no any other hazards.

Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging tomassis to the control of the charging tomassis to the control of the charging tomassis. specified charging temperature.

Circuit Condition U _{oc} (V) Time (s) Meas. Limit Meas.	d fo	or inter	connection	n with buil	lding wirin	g (LPS)	N/A
Circuit Meas. Limit Meas.	1	ΛΛ	Time (s)	Is	c (A)	S ((VA)
Supplementary Information:	Oc	; (V)	Tille (S)	Meas.	Limit	Meas.	Limit
Supplementary Information:	5	1		- 0	HPT		- 67
HPT TESTING HPT TESTING					·		
HP TES		. 6	HPT .			CTING	
ING LEST!		LING			UPT T		



TECHNOLOGY	TING	IPT I	TESTING	Report No.:HPT-	231113L1650S
IPT &	HPT TEST	CTING	HP1	OT TESTING	Page 49 of 75
The state of the s	-ING F	IEC	C 62368-1	Hr.	HPT TEST
Clause	Requirement + Tes		up'l	lt - Remark	Verdict

SC= short circuit; OC= open circuit, OL=overload.

						- C
T.2, T.3, T.4, T.5	E: Steady for	ce test	, Hr.		upT	rESTING P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
External top	Plastic	See table 4.1.2		100	5 _{HPT}	No crack, no hazard.
External side	Plastic	See table 4.1.2	HPT	100	5	No crack, no hazard.
External bottom	Plastic	See table 4.1.2		100	5 _{HPT}	No crack, no hazard.
Supplementary info	ormation:		<u>'</u>	-0.11		
IDTTE	51		HPI			TOTING

	an G	Hr.	COTING		JOT T	Ep.	
TTES!	T.6, T.9	TABLE: Impac	ct test	-cT	ING FI	0	N/A
	Location/P	Part	Material	Thickness (mm)	Height (mm)	Observation	
	ING		OT TEST		'C Hbi		-61
TTES	Suppleme	ntary information:					
	*) See tabl	le 4.1.2	-	Hb.I.		CTING	
	INIG P	1/4	TESTING		UPT T	50	

			H. TESTINE			UPT TEE		
T.7	TABLE: [Orop test	7.	CTING	P	3/1/2		
Location/F	art	Material	Thickness (mm)	Height (mm)	Observation			
Enclosure Top/Side/l		Plastic	See table 4.1.2	1000	No damaged, no hazards.	TIN'T		
Suppleme	ntary informa	ation:						
	TEST	11.0	VA.	PT	-iniG			

	200				
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Complete equipn	ent *)	*)	70 TESTIN	7	No shrinkage or distortion.

HPT

MG

MG

MG



PI &	HPT TES.	-STING HP	PTTESTING	Page 50 of 75
- Carlotte Control of the Control of	CTING HP	IEC 62368-	TESTING H	HPT TESTING
Clause	Requirement + Test	ING HI	Result - Remark	Verdict

Supplementary information:

*) See table 4.1.2

X TABLE: Alte	rnative method for determining	g minimum clearance	s distances N/A
Clearance distanced	Peak of working voltage	Required cl	Measured cl
between:	(V)	(mm)	(mm)
IC HPI	-GTING	770.	5511.
Supplementary information	1:		
CTING	-1	LESI"	HPI
	Clearance distanced between:	Clearance distanced Peak of working voltage	between: (V) (mm)

	-C111		101		C-		
HP.	TES			TESTING			
4.1.2	TABLE: Critical com	ponents informati	on	HPT	Р		
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾		
plastics enclosure	Interchangeable	Interchangeable	V-0, 130°C, min.thickness: 2.0mm	UL 94	UL TES		
PCB	Interchangeable	Interchangeable	V-0, 130°C	UL 796	UL		
Internal wire	Interchangeable	Interchangeable	24AWG, 80°C, 300Vac	UL758	UL		
Lithium-ion Battery	Henan Lishen new energy Technology Co., LTD	503040	3.7V, 500mAh	IEC 62133-2: 2017	IEC		
Speaker	Interchangeable	Interchangeable	4 Ω , 5 W	EN IEC 62368- 1:2020+A11:2020	Test with appliance		
Supplementa	ry information:						
	Object / part No. plastics enclosure PCB Internal wire Lithium-ion Battery Speaker	Object / part No. Manufacturer/ trademark plastics enclosure Interchangeable PCB Interchangeable Interchangeable Interchangeable Lithium-ion Battery Henan Lishen new energy Technology Co., LTD	Object / part No. Manufacturer/ trademark Type / model Plastics enclosure Interchangeable Interchangeable PCB Interchangeable Interchangeable Interchangeable Interchangeable Interchangeable Interchangeable Lithium-ion Battery Henan Lishen new energy Technology Co., LTD Speaker Interchangeable Interchangeable	Object / part No.Manufacturer/ trademarkType / modelTechnical dataplastics enclosureInterchangeableV-0, 130°C, min.thickness: 2.0mmPCBInterchangeableInterchangeableV-0, 130°CInternal wireInterchangeableInterchangeableV-0, 130°CLithium-ion BatteryHenan Lishen new energy Technology Co., LTD5030403.7V, 500mAhSpeakerInterchangeableInterchangeable4 Ω, 5W	Object / part No.Manufacturer/ trademarkType / modelTechnical dataStandardplastics enclosureInterchangeableInterchangeableV-0, 130°C, min.thickness: 2.0mmUL 94PCBInterchangeableInterchangeableV-0, 130°CUL 796Internal wireInterchangeableInterchangeable24AWG, 80°C, 300VacUL758Lithium-ion BatteryHenan Lishen new energy Technology Co., LTD5030403.7V, 500mAhIEC 62133-2: 		

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-2039.

²⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing.

³⁾ License available upon request. HPT TESTING



	TESTING	IEC62368_1E - ATT	ACHMENT	Hr.
Clause	Requirement + Test	TING	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to EN IEC 62368-1:2020+A11:2020

Attachment Form No.....: EU_GD_IEC62368_1E

Attachment Originator.....: UL(Demko)

Master Attachment..... 2021-02-04

Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

INIG H	CENELEC COMMON MODIFIC	CATIONS (EN)	Р
ING H	IEC 62368-1:2020+A11:2020. A those in the paragraph below, re	ples, figures and annexes which are additional to	T Pall
	Add the following annexes:	TING	TPS \
	Annex ZA (normative)	Normative references to international publications with their corresponding European publications	,
- H	Annex ZB (normative)	Special national conditions	
MO	Annex ZC (informative)	A-deviations	-671
	Annex ZD (informative)	IEC and CENELEC code designations for flexible cords	TES
1	Modification to Clause 3.		N/A
3.3.19	Sound exposure Replace 3.3.19 of IEC 62368-1	with the following definitions:	N/A



- CALLED	7	HPT TESTI	STING	HPT	OT TEST!
		IEC62368	3_1E - ATTACHMENT	.nIG	Hr.
Clause	HPT	Requirement + Test	Resu	lt - Remark	Verdict
No		TEST		HALL	170
3.3.19.1	HPT	momentary exposure level, ME metric for estimating 1 s sound expected the HD 483-1 S2 test signal applie channels, based on EN 50332-1:2	posure level from	UPT TESTING	N/A
		Note 1 to entry: MEL is measured as A-we Note 2 to entry: See B.3 of EN 50332-3:20 information.		n.	HPT TEST!
3.3.19.3	HPT	sound exposure, E	- Acres	TESTING	N/A
NG	3.5	A-weighted sound pressure (p) so integrated over a stated period of		HPT	HPT TEST!
NG	HPT	Note 1 to entry: The SI unit is Pa ² s.	HPTIL	HPT TESTING	7.1
		0	CTING		OT TES!
3.3.19.4		sound exposure level, SEL	UPT TES	-alG	N/A
	HPT	logarithmic measure of sound exp a reference value, E_0 , typically the threshold of hearing in humans.		HPT TESTING	HPT TEST!
		Note 1 to entry: SEL is measured as A-we	eighted levels in dB.	10	HPI
NG	HPT	$SEL = 10 \lg \left(\frac{E}{E_0}\right) dB$	Hr.	HPT TESTING	-cSTI
		TING , UD	TESTIN		HPT
-1G	HPT	Note 2 to entry: See B.4 of EN 50332-3:20 information.	(1	TESTING	
3.3.19.5		digital signal level relative to fu	III scale, dBFS		N/A
	HPT	levels reported in dBFS are alway level, 0 dBFS, is the level of a dc-Hz sine wave whose undithered p value is positive digital full scale, l corresponding to negative digital	free 997- positive peak leaving the code	HPT TESTING	HPT 12
.G	HPT	Note 1 to entry: It is invalid to use dBFS for Because the definition of full scale is base level of signals with a crest factor lower th may exceed 0 dBFS. In particular, square reach +3,01 dBFS.	ed on a sine wave, the an that of a sine wave	OT TESTING	HPTTES
2		Modification to Clause 10			N/A
10.6		Safeguards against acoustic en	41	20	N/A
	07	Replace 10.6 of IEC 62368-1 with	the following:	CTING	
10.6.1.1	HI	Introduction Safeguard requirements for prote long-term exposure to excessive slevels from personal music player	sound pressure	HPT TE	N/A
		porobilar madio player	_ s.ccs, coapida	-111/1/2	



»		HPT TECHNOLOGY AT ATTEMPT	AG BY	UPT TEST
lause		IEC62368_1E - ATTACHME Requirement + Test	Result - Remark	Verdict
lause	His	Requirement + Test	Result - Remark	verdict
ıG	HP	to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person , that:	G H	HPT TEST
1G	HP	 is designed to allow the user to listen to audio or audiovisual content / material; and uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and has a player that can be body worn (of a size 	G HPT TESTING	HPT TEST
JG	HP	suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile	HPTTESTING	HPT TES
	.10	phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3.	G -ESTING	HPTTEST
	Ku	NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360.	G HPTTES	HPT TEST!
NG.	HP	NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible.	HPTTESTING	HP
		Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: professional equipment;	G HPT TESTING	TEST
	HP	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.	HPTTESTING	HPT
		 hearing aid equipment and other devices for assistive listening; the following type of analogue personal music players: 	G	HPT TEST
		long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and cassette player/recorder;	G HPT TES	HPT TEST
JG	HP	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.	G HPT TESTING	HPT TEST!
	0.734	a player while connected to an external amplifier that does not allow the user to walk around	TING	HP



10106	2 11	TESTING	HPT	ESI	Report No.:HP	1,	
PT	AYA	HPT	TESTING	ING	HPT TEST	Page 54	01 75 ESTI
		STING	IEC62368_1E - ATT/	ACHMENT	10	HPT	
lause	HPT	Requirement + Test	-TING HI	Resu	ılt - Remark	V	erdict
NO			LE2,	16	HP		1172
NG	HPT	while in use. For equipment that is optimarily for use by chardlevant toy standards. The relevant requirem	s may apply.	ended	HPT TESTING	HPTT	ESTI
			nd the related tests me	thods		HPT	
10.6.1.2	HPT	Non-ionizing radiation in the range 0 to 300	on from radio frequen	cies	HPT TESTING		V/A
NG	HPT	by European Council I 1999/519/EC of 12 Jul exposure of the generatieds (0 Hz to 300 GH For intentional radiator	ly 1999 on the limitation al public to electromag lz). rs, ICNIRP guidelines s	n of netic should	HPT TESTING	HPTT	
NG	HPT	Time-Varying Electric, Electromagnetic Fields held and body mounte to EN 50360 and EN 5	s (up to 300 GHz). For ed devices, attention is 50566.	hand- drawn	HPT TESTING		
10.6.2		Classification of dev	ices without the capa	city to estim	ate sound dose	7000	N/A
10.6.2.1		General	HPT	L	TING	100	N/A
NG	HP7	based (30 s) requirem hour) requirements. The	itioning from short-term ents to long-term base hese clauses remain in o not comply with sour pulated in EN 50332-3.	d (40 i effect iid	HPT TESTING	HPTT	ESTI
			pustic output L_{Aeq}, au , sed on the A-weighted sure level over a 30 s $_{\parallel}$		HPTIL	HPTT	
	HPT	programme simulation	d over the duration of the average produced by a noise, measurements ation of the complete so	ne the may ong. In	HPT TESTING	HPTT	ESTI
NG	HPT	has an average sound press much lower than the averag Therefore, if the player is ca compare it with the program does not need to be given a	ge programme simulation noi apable to analyse the conten nme simulation noise, the wa as long as the average sound	n is ise. t and urning d	HPT TESTING	HPTT	ESTI
NG	HPT	For example, if the player is noise to 85 dB, but the aver 65 dB, there is no need to g	rage music level of the song give a warning or ask an as the average sound level o limit of 85 dB.	nulation is only f the	HPT TEST	UPT T	EST
			erseded, see 10.6.3.2				



A SALLE		HPT	ES	TING	HPI		TEST
		TESTING	IEC62368_1E - AT	TACHMENT	-mG	Hi	
lause	HP.	Requirement + Test	CTING	Resu	lt - Remark		Verdict
10		101	Es.	16	Hb.		-671
	HPT	RS1 is a class 1 acous not exceed the followin – for equipment provide its listening device), an	g: ed as a package (pla d with a proprietary	yer with	UPT TESTING	HP	FTES
1G	HPT	connector between the device, or where the collistening device is know setting or automatic de output shall be ≤ 85 dB "programme simulation"	ombination of player vn by other means so tection, the L_{Aeq} , τ action by when playing the fix	and uch as oustic ced	UPT TESTING	HP	r TEST
√G	HPT	50332-1. – for equipment provide connector (for example allows connection to a use, the unweighted r.r ≤ 27 mV (analogue interes)	e, a 3,5 phone jack) t listening device for g m.s. output voltage s erface) or -25 dBFS (hat Jeneral Hall be digital	HPT TESTING	HP	TESTI
	up T	interface) when playing simulation noise" descr – The RS1 limits will be per 10.6.3.2.	ribed in EN 50332-1. e updated for all devi	ces as	ESTING	HP	TESI
0.6.2.3	Er.	RS2 limits (to be supe	erseded, see 10.6.3	.3)	HPT		N/A
NG	НРТ	RS2 is a class 2 acous not exceed the followin – for equipment provide its listening device), an connector between the device, or when the collistening device is know setting or automatic 13 acoustic output shall be	g: ed as a package (plad d with a proprietary player and its listeni mbination of player a vn by other means se d detection, the LAe e ≤ 100 dB(A) when	ng and uch as	HPT TESTING	HP	TEST
	HPT	the fixed "programme s described in EN 50332 – for equipment provide connector (for example allows connection to a use, the unweighted r.r ≤ 150 mV (analogue in interface) when playing	-1. ed with a standardize e, a 3,5 phone jack) t listening device for g m.s. output voltage s terface) or -10 dBFS g the fixed "programn	hat leneral hall be (digital ne	HPT TESTING	HP	r TESTI
0004		simulation noise" as de RS3 limits	escribed in EN 50332	2-1.			TES
0.6.2.4	HPT	RS3 is a class 3 acous exceeds RS2 limits.	tic energy source tha	at	HPT TESTING	HI	N/A
0.6.3		Classification of devi	ces (new)	TING		231	N/A
0.6.3.1	HPT	General Previous limits (10.6.2) negative and false posi warnings. New limits, of Commission Decision of	itive PMP sound leve compliant with The	el	HPT TESTING	HP	N/A
	,	below.	UPT	100		Li	
		15	C M		CTIME		



merke .		HPT TES	NG	Hr.	6	TEST
		IEC62368_1E - ATTACHME	ENT	-miG	Ni	
Clause	HP.	Requirement + Test	Res	ult - Remark		Verdict
NO		TES.	0	HP.		1
10.6.3.2		RS1 limits (new)	10		(0)	N/A
	HPT	RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and	JG.	HPT TESTING	HP	TEST
NG	HPT	listening device is known by other means such as setting or automatic detection, the <i>L</i> Aeq, <i>τ</i> acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized	JG	HPT TESTING	HP	TEST
_{IN} G	HPT	connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.	ŊG	HPT TESTING	HP	r TESTI
10.6.3.3	Tar.	RS2 limits (new)				N/A
		RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary	NG.	HPT I	HP	TEST
_{IN} G	HPT	connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall	JG.	HPT TESTING	.10	TEST
		be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. — for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated	JG.	HPT TESTING	UP	
NG.	HPT	over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.	JG	HPT TESTING		r TESTI
10.6.4		Requirements for maximum sound exposure		~1G	. Par	N/A
10.6.4.1	MPT	Measurement methods		TESTIN		N/A
		All volume controls shall be turned to maximum during tests.	JG.	HPT	110	TEST
400:-	4PT	Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		TESTING	Kir	
10.6.4.2		Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3.	NG.	HPT	HP	N/A
	HPT	-in/G		TEST		



A SECTION AND ADDRESS OF THE PARTY OF THE PA		HPT T	TE-	STING	- 15	TEST
		TESTINE	IEC62368_1E - ATTA	CHMENT	TING H	<u> Т</u>
iuse	HP.	Requirement + Test	CTING	Result - Rer	mark	Verdict
U		.071	Ear	HP		172
		NOTE 1 Volume control is no	ot considered a safeguard.	STING	77.	TTES
	HPT	Between RS2 and an or safeguard may be rep safeguard in accordant that the instructional son the equipment, or or instruction manual.	ordinary person, the b laced by an instruction ace with Clause F.5, exc safeguard shall be place	nal cept ced	TESTING HE	TEST
	HPT	Alternatively, the instru given through the equip	oment display during us	se. HPT	TESTING	-csTl
	HPT	The elements of the ine be as follows: - element 1a: the symbol the ine be as follows:		5111	TESTING HE	TES .
G		(2011-01) - element 2: "High sou wording - element 3: "Hearing of	70	STIII	AIG HE	T TEST!
	HPT	long periods." or equiva		TING HP	TESTING	T TEST!
G	HPT	An equipment safegue of an ordinary person intentional physical act person and shall autor level not exceeding wh source when the power	to an RS2 source with ion from the ordinary natically return to an ouat is specified for an RS	out	TESTING	TESTI
		The equipment shall prinform the user of the inthe equipment is operative exceeding RS1. Any macknowledged by the umode of operation which exceeding RS1. The acceptance of the exceeding RS1.	ncreased sound level wated with an output leans used shall be user before activating a challows for an output	then HPT	TESTING HE	T TEST!
	HPT	need to be repeated m cumulative listening tim NOTE 2 Examples of means	ore than once every 20 ne.	h of	TESTING	TESTI
	HPT	NOTE 3 The 20 h listening ti time, independent of how oft music player has been switch	me is the accumulative listen en and how long the persona		TESTING HE	
		A skilled person shall exposed to RS3.	not be unintentionally	STING	H	T TEST
.6.5		Requirements for dos	se-based systems		CTING	N/A
.6.5.1	HIL	General requirements Personal music players provided below when to 50332-3, using the limit	s shall give the warning ested according to EN		TES. HI	N/A



1PI	7	HPT	TESTING	TING	HPTTL		TEST
		TESTING	IEC62368_1E - ATT	ACHMENT	.nIG		
Clause	HPT	Requirement + Test	TING	Resul	t - Remark		Verdict
NO.		-A.	LES	2	HPI		170
	HPT	The manufacturer may allow the users to mod to receive the notificati promote a better user the safeguards. This a informed in a method t	dify when and how they ions and warnings to experience without de illows the users to be	y wish feating	HPTTESTING	HP	TES.
NG	HPT	capabilities and device optional settings are of example, parental rest business/educational able to lock any option configuration.	e usage needs. If such ffered, an administrato trictions, administrators, etc.) sh	or (for nall be	HPT TESTING	HP	TEST
NG	HPT	The personal music place easy to understand ex dose management syshow to use the system made aware that other contribute to their sour	planation to the user of stem, the risks involved a safely. The user shall r sources may significa	of the d, and l be antly	HPT TESTING	HP HP	TEST!
	HPT	work, transportation, coraces, etc.	concerts, clubs, cinema	a, car	TESTING		
10.6.5.2		Dose-based warning	and requirements	~	HPI		N/A
ΝG	HPT	When a dose of 100 % least at every 100 % fu device shall warn the u acknowledgement. In acknowledge, the outp decrease to compliance. The warning shall at least to the state of the stat	urther increase of CSL user and require an case the user does no out level shall automatice with class RS1.	o, the t ically	HPT TESTING	HP	TEST!
		listening above 100 % hearing damage or los	CSD leads to the risk		TESTING		
10.6.5.3		Exposure-based requ			HPI		N/A
	HPT	With only dose-based effect could be far sept purpose of educating upractice. In addition to PMP shall therefore alterm sound level a use	arated in time, defying users about safe listen dose-based requirem so put a limit to the sh	the ing ents, a	HPT TESTING	HP	TESTI
	HPT	The exposure-based li reduce the sound level 150 mV integrated over methodology defined in The EL settling time (ti reduction to reaching the faster.	I not to exceed 100 dE er the past 180 s, base n EN 50332-3. ime from starting level	B(A) or ed on	HPT TESTING	HP	TEST
	HPT		CTING		TEST I		
We		Test of EL functionality EN 50332-3, using the equipment provided as listening device), the le	e limits from this clause s a package (player wi	e. For th its	Hr.	HP	TEST
		7 5	1-11		- 1888 Com		· · · · · · · · · · · · · · · · · · ·



ING TECHNOLOGY	CTING HPT I	Report No.:HP	PT-231113L1650S
HPT &	TTEST	TESTING	Page 59 of 75
The state of the s	HPT TES!	TING HPI	
	IEC62368_1E - ATTA	CHMENT	HP
Clause	Requirement + Test	Result - Remark	Verdict
NO	TEST	HP	-711/10
ING H	shall be 100 dB or lower. For equipment provide with a standardized connector, the unweighted level integrated over 180 s shall be no more than -10 dBFS for a digital interface.	l an e	HPT TES!
	NOTE In case the source is known not to be music (or tes signal), the EL may be disabled.	STING	UPT TE

		signal), the EL may be disable	d.		Hr.
0.6.6	.10	(TES)	Hr.	TOTING	
0.6.6	Hi		ning devices (headphones,	, earphones, etc.)	N/A
0.6.6.1	HP	With 94 dB LAeq acoustic listening device, and with settings in the listening of		G T. TESTING	N/A
NG NG	HP	equalization, etc.) set to positions that maximize to output, the input voltage when playing the fixed "proise" as described in ElmV.	the combination of the measured acoustic of the listening device programme simulation	G HP'	HPT TES
		and 27 mV or 100 dB and 150		G.	HPT TES
0.6.6.2		Corded listening device	es with digital input	FETING	N/A
NG	Hi	With any playing device "programme simulation r 50332-1, and with the vote listening device (for e	noise" described in EN blume and sound settings in	G HPT TES	HPT TEST
		level control, additional sequalization, etc.) set to positions that maximize output, the $LAeq, \tau$ acoust	sound features like the combination of the measured acoustic ic output of the listening	G HPT TESTING	- TES
		device snail be ≤ 100 dB dBFS.	with an input signal of -10		Hby,
0.6.6.3	01	Cordless listening devi	ices	STING	N/A
	Hi		ansmitting device playing nulation noise described in	G HPT TES	HPT TES
	HP	 respecting the cordless where an air interface stathe equivalent acoustic learning 	s transmission standards, andard exists that specifies evel; and d settings in the receiving	G HPT TESTING	-65
	HP	device (for example, buil additional sound features to the combination of pos	t-in volume level control, s like equalization, etc.) set	HPT TESTING	HPT
Vic		programme simulation n	oise, the <i>L</i> Aeq, <i>τ</i> acoustic evice shall be ≤ 100 dB with	G Hr.	HPT TES
	UP	TES	IG HP	ESTING	
	6.20		STING	107	



laura a	-C11	IEC	62368_1E -	ATTACHME	NT	16	APT TES
lause	Requirement	+ Test	CING F	A.V	Result - Rem	ark	Verdict
0.6.6.4		nt method ats shall be mad as applicable.	de in accord	dance with	G HP,	esting 1	N/A
		to the whole	document				N/A
	Delete all the list:	e "country" note	s in the refe	erence docum	ent according	to the following	g N/A
HP	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2	
1G	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2	-61
	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3	IPT TES
IG HP	5.4.2.3.2.4	Note 2	5.4.2.5	Note 2	5.4.5.1	Note	
NG ,	Table 13						TEST
	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note	18,
JG HP	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4	
	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2	IFT TEST
NG HP	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2	-cT
	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note	IPT TEST
	Y.4.5	Note			1	8	
AC L.	2	475	3		127		



HPT	TING HP	T TESTING	Page 61 of 75
	IEC62368_1E - A	TTACHMENT	HPT TESTING
Clause Requirement	+ Test	Result - Remark	Verdict

"	lause	Requirement + rest	Result - Remark	Verdict
STI	//G	JOT TEST	HP1	STI
5		Modification to 4.Z1	~INC	Р
				Р
4.	.Z1	Add the following new subclause after 4.9:	Considered.	Р
		To and the second secon	Complied with item a) for	
-5711		To protect against excessive current, short-circu	internal fuse used and for	-671
LES		and earth faults in circuits connected to an a.c.	parts as described in b)	OT TES
		mains, protective devices shall be included eith	roliance on the protection in	16.
		as integral parts of the equipment or as parts of building installation, subject to the following, a),		
	14	and c):	TE5	
210	NG '	a) except as detailed in b) and c), protective	HP	-1
TES!		devices necessary to comply with the requirement	ents	TEST
1.00		of B.3.1 and B.4 shall be included as parts of the		PT
		equipment;	-iG	7.0
		b) for components in series with the mains input	to -crime	
	.c Hi	the equipment such as the supply cord, appliance		
711	NG ,	coupler, r.f.i. filter and switch, short-circuit and	Hr.	
LED		earth fault protection may be provided by	TING	TEST
		protective devices in the building installation;	Α,	161
		c) it is permitted for pluggable equipment type	BmG	
	11.5	or permanently connected equipment, to rely		
100	NG F	dedicated overcurrent and short-circuit protection		
-5711		in the building installation, provided that the mea	ans	-57
(Fr		of protection, e.g. fuses or circuit breakers, is ful	ily	DITE
		specified in the installation instructions.	, P	14
		TES. HP.	TING	
	H	If reliance is placed on protection in the building	TES	
715	VG '	installation, the installation instructions shall so	HPI	
TESTIN		state, except that for pluggable equipment typ	e G	TESI
		A the building installation shall be regarded as	2/11	PT
		providing protection in accordance with the ratin	9	8.7
<u> </u>		of the wall socket outlet.	CTING	
6		Modification to 5.4.2.3.2.4		N/A
5.	.4.2.3.2.4	Add the following to the end of this subclause:	No external circuits.	N/A
1		- NG 11	711	PT
		The requirement for interconnection with extern	al	100
7		circuit is in addition given in EN 50491-3:2009.	TINE	
_		Modification to 10.2.1		N/A
-65 10	0.2.1	Add the following to c) and d) in table 39:	No such radiation from the	N/A
150		G . M'	equipment.	OTTE
		For additional requirements, see 10.5.1.	Y 100	14
		OT TES		
		HPT TESTING H	G HPT TESTING	
TESTIN		TES	Hr.	TEST
(Es)		Hh,	TING	LED,

HPT TESTING HPT TESTING TESTING HPT TESTING TING Tel: 0755-23143846 Email: hpt@hpt-lab.com.cn Web: Http://www.hpt-lab.com.cn



STING TECHNOLOGY	Hb1	Report No.:HP	T-231113L1650S
HPT	TESTING H	HPT TESTING	Page 62 of 75
ESTING	IEC62368_1E -	ATTACHMENT	HPT TES
Clause Requirement	+ Test	Result - Remark	Verdict

	~ 11		l l
TING	HPT TES	-ING HP	TES
8	Modification to 10.5.1	A 11.4	N/A
10.5.1	Add the following after the first paragraph:	ESTINE	N/A
IING H	For RS 1 compliance is checked by measurement under the following conditions:	ent	TES
TING HP	In addition to the normal operating conditions, a controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as	HPT TESTING	HI.
HP	give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.	e TESTING	HPI
TING	NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.	of APA	UPT TES
TING HP	The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm at any point 10 cm from the outer surface of the apparatus.		468
TING HP	Moreover, the measurement shall be made und fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.	er HPT TESTING	HPTTE
. 107	For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.	TING	HPTTE
TING FI	NOTE Z2 These values appear in Directive 96/29/Euratom (May 1996.	of 13	
9	Modification to G.7.1		N/A
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding the IEC cord types are given in Annex ZD.		N/A
TING	TESTING HPT TES	TING HPT TESTING	TES



ESTING TECHNOLOGIC	HPT	Report No.:HP	T-231113L1650S
HPT	TESTING H	HPT TESTING	Page 63 of 75
estinic .	IEC62368_1E -	ATTACHMENT	HPT TESTIL
Clause Requirement	+ Test	Result - Remark	Verdict

Clause	HIL	Requirement + resi	TING	Result - Remark	Veruici
Ma		UP.	TTES	ING HP	TEST
10		Modification to Bib	oliography	2411	N/A
	0	Add the following no	otes for the standards indi	cated:	N/A
			TING	TES TES	
		IEC 60130-9	NOTE Harmonized as EN	V 60130-9.	HPT TEST!
		IEC 60269-2	NOTE Harmonized as HI	O 60269-2.	TES
		IEC 60309-1	NOTE Harmonized as EN	V 60309-1.	HPI
		IEC 60364	NOTE some parts harmo	nized in HD 384/HD 60364 ser	ies.
	UP"	IEC 60601-2-4	NOTE Harmonized as EN		2505008
1G	11.	IEC 60664-5	NOTE Harmonized as EN	N 60664-5.	
NG		IEC 61032:1997		N 61032:1998 (not modified).	STI
		IEC 61508-1	NOTE Harmonized as EN		OF TES
		IEC 61558-2-1	NOTE Harmonized as EN		HPT TEC
		IEC 61558-2-4	NOTE Harmonized as EN		
	HP	IEC 61558-2-6	NOTE Harmonized as EN		
NG		IEC 61643-1	NOTE Harmonized as EN		
100		IEC 61643-1	NOTE Harmonized as EN		-cSTI
		IEC 61643-311	NOTE Harmonized as EN		HPTTESTI
					His
		IEC 61643-321 IEC 61643-331	NOTE Harmonized as EN NOTE Harmonized as EN		
	HA	1EC 01043-331	NOTE HAITHUILIZEU AS EL	N 01043-331.	
11		ADDITION OF ANN	IEXES		Р
B.		ANNEX ZB, SPECI	AL NATIONAL CONDITION	ONS (EN)	HP P
.1.15		Denmark, Finland,	Norway and Sweden	7175	N/A
	HA		TING	TTES.	
NG			ibclause the following is	HP	-77
		added:	A	ad TING	HPT TESTI
			equipment type A intende	u	HPI
		for connection to oth		HPT TESTIN	1G
			ety relies on connection to	ESTI	
			f surge suppressors een the network terminals	Tail	210
				IC HI	-cTI
			ts, have a marking stating	CTING	TE TES
		-4.11.71	shall be connected to an	E3	HP1.
		earthed mains sock	.et-outlet.	717	1G
	HP	The marking text in	the applicable countries sl	hall TES1	
		be as follows:	the applicable countries si	17/6	
10		be as follows.	1 12	CTING FI	-cSTI
		In Denmark : "Annai	ratets stikprop skal tilslutte	25	G HPT TESTI
			jord som giver forbindelse		C Au
		stikproppens jord."	ora som giver forbillacise	1170-	200
	HL		n liitettävä suojakoskettimi	lla TEST	
		varustettuun pistora		PIC:	
			itet må tilkoples jordet	CTING	TEST
		stikkontakt"	tot ma amopioo jordot	51"	HPT TEST
		-011	aten ekall anelutae till jorde	at .	aG .
	.10	uttag"	aten skall anslutas till jorda	-ESTI	
10	141	ullay	STIME	IDT TE	
Mo			TTEN	Hr.	G HPT TEST!
		HP	7	CTING	TES!
		TING		53	Hr.
		TES	HPI		
	. 10	/ **	- 1G	CG/II	



THE PERSON NAMED IN COLUMN TO PERSON NAMED I	OT TES	IG HPI	
	IEOCOCCO AE ATTACUM	-NT	UPT TE
	IEC62368_1E - ATTACHME	7/1/1/2	111
Clause	Requirement + Test	Result - Remark	Verd
11/10	United Kingdom	Hr.	- 46
4.7.3	Onited Kingdom	100	N/
	To the end of the subclause the following is added:	TING	255
HP	The torque test is performed using a socket-outlet	TESI	
ING	complying with BS 1363, and the plug part shall be	C HP	
	assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	N/G	UPT TE
5.2.2.2	Denmark	No high touch current.	N/A
HP	TING	TESTIN	
ING	After the 2nd paragraph add the following:	HPI	
	A warning (marking safeguard) for high touch	NO	OT TE
	current is required if the touch current exceeds the	-1G	HIL
5.4.11.1	limits of 3,5 mA a.c. or 10 mA d.c. Finland and Sweden	No TNV circuits.4.7.4	N/A
and	TESTIN	HPT	""
Annex G	To the end of the subclause the following is added:	NG .	TE
	For separation of the telecommunication network	200	HPI
- 500	from earth the following is applicable:	FETING	
ING PI	If this insulation is solid, including insulation forming	UPT TES	
110	part of a component, it shall at least	NG FI	- TE
	consist of either		HPI
	two layers of thin sheet material, each of which shall pass the electric strength test below, or	TING	12.1
HP	CTING	OTTES	
Illic	 one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric 	aG Pr	
	strength test below.	100	HPT TE
	If this insulation forms part of a samisandust-	TTESTING	4.0
HP	If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no	TESI	
ING	distance through insulation requirement for the	IG HY	
	insulation consisting of an insulating compound completely filling the casing, so that clearances and	1	HPT TE
	creepage distances do not exist, if the component	-ING	25.5
HP	passes the electric strength test in accordance with	TEST	
ING	the compliance clause below and in addition	C HP	
	• passes the tests and inspection criteria of 5.4.8	100	HPT TE
	with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be	TING	Lin
HF	performed using 1,5 kV),	TESTIN	
ING	and	HPI	p=2.
	G Hr.	NO	TE'
	• is subject to routine testing for electric strength	5 TING	HPTIL
UP	during manufacturing, using a test voltage of 1,5 kV.	TESTING	
ING FI	TESTIL	HPT	
	It is permitted to bridge this insulation with a	NG .	TE
	capacitor complying with EN 60384-14:2005, subclass Y2.		HPI
	TTES	COTING	
	TINE	OT TES	



	5	TESTING HPT IL	TESTING	Page 65 of 75
		HPT TESTING	IG HPT IL	TTEST!
		IEC62368_1E - ATTACHME	NT	HA
lause	HPT	Requirement + Test	Result - Remark	Verdict
NO		IST TEST	HPY	-571
	HPT	A capacitor classified Y3 according to EN 60384- 14:2005, may bridge this insulation under the following conditions:	TESTING	HPT TES
	HPT	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 5.4.11;	IG HP!	HPT TEST!
NG		the additional testing shall be performed on all the test specimens as described in EN 60384- 14;	IG HPT	HPT TEST!
NG	HPT	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.	G HPT TESTING	-5571
5.5.2.1		Norway		HPT P
	HPT	After the 3rd paragraph the following is added:	TESTING	100
NG		Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	IG HPT.	UPT TEST!
5.5.6		Finland, Norway and Sweden	No such resistors.	N/A
NG	HPT	To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of	IG HPT TEST	HPT TEST!
	407	G.10.2. Denmark	a wates	
5.6.1	HPT	Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. Justification:	Considered.	HPT TEST!
	HPT	In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	DT TESTING	
5.6.4.2.1		Ireland and United Kingdom	Considered.	PSTI
NG	HPT	After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	HPT TESTING	HPT TEST!
	HPT	TESTING HPT I	HPT TESTING	



- ALLE		HPT TES	G HI	JET TEST!
		IEC62368_1E - ATTACHME	NT	No.
lause	HPT	Requirement + Test	Result - Remark	Verdict
10		TEST	HP	170
.6.4.2.1		France	Considered.	TP
	HPT	After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.	G HPT TESTING	Hr. TESTI
.6.5.1		To the second paragraph the following is added:	See above.	N/A
NG	HPT	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.	G HPT TESTING	OT TEST!
6.6.8		Norway	Not such system.	N/A
NG	HPT	To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.	3 HPT TESTING	HPT TEST!
.7.6	Tqu	Denmark	Not such system.	N/A
	Err	To the end of the subclause the following is added:	HPT	- 1
		The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	G STING	HPT TEST
.7.6.2	Lin	Denmark	No external circuits.	N/A
		To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.	G	HPT TEST
.7.7.1	Hi	Norway and Sweden	Not such system.	N/A
	HPT	To the end of the subclause the following is added: The screen of the television 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 needs to be isolated from the screen of a cable distribution system.	G HPT TESTING	HPT TEST!
	HPT	It is however accepted to provide the insulation external to the equipment by an Wall charger or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.	G HPT TESTING	HPT TEST!
ŊĠ	HPT	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:	G HPT TESTING	HPT TEST!
	-	"Apparatus connected to the protective earthing of	TING	(N)
	HP !	TING	TEST	



HPT	E C	TEO	-STING HI		OTTESTING	Page	e 67 of 75
- See Le		HP	TTES	TING			
		TESTING	IEC62368_1E - AT	TACHMENT	NG	HP	,
lause	HPT	Requirement + Test	CTING	Resu	ult - Remark		Verdict
NO			TEST		HALL		711
NG	HPT	connection or throu- connection to prote and to a television of cable, may in some hazard. Connection system therefore has	tion through the mains gh other apparatus with ctive earthing – distribution system using circumstances create at to a television distributes to be provided through ctrical isolation below a	g coaxial a fire ion gh a	HPT TESTING	HP	TEST!
NG	HPT	11)" NOTE In Norway, due to in Sweden, a galvanic is	alvanic isolator, see EN o regulation for CATV-installat solator shall provide electrical ation shall withstand a dielectr or 60 Hz, for 1 min.	tions, and insulation	HPT TESTING	HP	TESTI
NG	HPT	be accepted in Nor	7 12	, a1G	HPT TESTING		TEST!
	HPT	nettplugg og/eller vi utstyr – og er tilkopl nett, kan forårsake For å unngå dette s apparater til kabel-1	koplet til beskyttelsesjor ia annet jordtilkoplet let et koaksialbasert kal brannfare. skal det ved tilkopling av TV nett installeres en nellom apparatet og kab	bel-TV	HPT TESTING	HP.	TEST
NG	HPT	vägguttag och/eller samtidigt är kopplad medföra risk för bra	dish: kopplad till skyddsjord v via annan utrustning od d till kabel-TV nät kan i and. Főr att undvika dett pparaten till kabel-TV nä	ch vissa fall a skall	HPT TESTING	HP	TESTI
	HPI		nnas mellan apparaten		HPT TES!		
3.5.4.2.3	}	United Kingdom		Not	such system.		N/A
	HPT	paragraph: An emergency stop requirements of IEC	fter the 2 nd dash bullet in system complying with C 60204-1 and ISO 138 re is a risk of personal in	the 50 is	HPT TESTING	HL	r TEST!



		HPT HPT	100	FESTING "		UPT TEST
		TESTING	IEC62368_1E - AT		TING	Mi
lause	HP.	Requirement + Test	CTING	Result -	Remark	Verdict
.3.1 ar	nd	Ireland and United K	(inadom	IG Y	IL.	TESTI
3.4	IU	inerana ana omitea N	anguom	TESTIN		HPT
		The following is applic	cable:			8.5
	HP1	To protect against exc circuits in the primary equipment, tests acc B.4 shall be conducted circuit breaker comply	circuit of direct plugording to Annexes B d using an external print with EN 60898-1	g-in 3.3.1 and miniature 1, Type B,	PTTEST	HPT TEST!
NG	HPT	rated 32A. If the equip tests, suitable protecti as an integral part of t equipment , until the r B.3.1 and B.4 are met	ive devices shall be the direct plug-in requirements of Ann	included	PT TESTIVE	HPT TEST!
3.4.2	TOL	Denmark	AP.		ESTING	N/A
NG	1.00	To the end of the subo	clause the following	is added:	PTTE	- 21
	HPT	Supply cords of single rated current not exce with a plug according	eding 13 A shall be	provided	TESTING	HPT TEST
	HPT	class I Equipmen with earth contacts or used in locations whe contact is required acreshall be provided with standard sheet DK 2-	which are intended re protection against cording to the wiring a plug in accordance	to be t indirect rules	TESTING	HPT TEST!
NG		If a single-phase equip CURRENT exceeding equipment is provided	pment having a RAT g 13 A or if a polypha d with a supply cord	use with a	PT TESTING	HPT TEST!
	HPT	plug, this plug shall be standard sheets DK 6 60309-2.	i-1a in DS 60884-2-E	01 or EN	PTTESTI	HPT TEST!
	HPT	Mains socket outlets in to Class II apparatus with shall be in accordance standard sheet DKA 1	with a rated current of DS 60884-2-D1:20	of 2,5 A	PT TESTING	
	701.	Other current rating so compliance with Standor DKA 1-1c.			ESTING	HPT TEST!
		Mains socket-outlets v compliance with DS 6 Standard Sheet DK 1- 5a or DK 1-7a	0884-2-D1:2011	alG Y	PTTE	HPT TEST!
	HPT	Justification:	TING		TESTIL	
1G		Heavy Current Regula	ations, Section 6c	4	PI	



	0.1	TESTING	Report No.:Hi	3
HPT	D S	CTING	OTTESTIN	Page 69 c
The Park		HPT TES	TING HE	
		IEC62368_1E - ATT	TACHMENT	HP
Clause	HPT	Requirement + Test	Result - Remark	Verd
MO		TEST	HP	
G.4.2		United Kingdom	TESTING	N/
		To the end of the subclause the following is	added:	3
	HP.	The plug part of direct plug-in equipment sh	nall be	
ING		assessed to BS 1363: Part 1, 12.1, 12.2, 12	2.3,	
		12.9, 12.11, 12.12, 12.13, 12.16, and 12.17 that the test of 12.17 is performed at not less		UPT TE
] 		125 °C. Where the metal earth pin is replace	ed by	3 711
	HP	an Insulated Shutter Opening Device (ISOI requirements of clauses 22.2 and 23 also a		
G.7.1		United Kingdom	рріў.	N/.
		Hr.	ESTING	UPT TE
		To the first paragraph the following is added	- mil	3
	HPT	Equipment which is fitted with a flexible cab		
ING		cord and is designed to be connected to a socket conforming to BS 1363 by means of		-
		flexible cable or cord shall be fitted with a 's		HPT TE
		plug' in accordance with the Plugs and Soc		, Hi
] 	HPT	(Safety) Regulations 1994, Statutory Instruit 1994 No. 1768, unless exempted by those	ment	
ING		regulations.	HPT	
		NOTE "Standard plug" is defined in SI 1768:1994 and	CTING	JOT TE
		essentially means an approved plug conforming to BS an approved conversion plug.	3 1363 or	HIL
G.7.1	HPT	Ireland	TESTIN	N/A
ING		To the first paragraph the following is added	d: HP	
			ESTING	HPT TE
] 		Apparatus which is fitted with a flexible cab cord shall be provided with a plug in accord		3
		with Statutory Instrument 525: 1997, "13 A	i iugs	
ING		and Conversion Wall chargers for Domestic Regulations: 1997. S.I. 525 provides for the		
ING		recognition of a standard of another Member	er State	HPT TE
		which is equivalent to the relevant Irish Sta Ireland and United Kingdom	ndard	3
G.7.2	HPT	neiana ana omtea Amgaom	TESTIL	N/
ING		To the first paragraph the following is added	d:	
		A power supply cord with a conductor of 1,3	25 mm²	HPTTE
		is allowed for equipment which is rated ove		i hi
P75.20%	HPT	and up to and including 13 A.	TESTING	
		HPT TESTING	TESTING HPT	HPT TE
A. Carrier		7/67		

HPT TESTING



SING TECHNOLOGY	HPT	Report No.:	HPT-231113L1650S
HPT	ESTING	HPT TESTI	Page 70 of 75
The state of the s	 IEC62368 1E	- ATTACHMENT	HPTTESTING
Clause Requirement		Result - Remark	Verdict

	NO	TEST	HP	71
TES	ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)	IG.	N/A
•	10.5.2	Germany	No CRT within the equipment.	N/A
	IG H	The following requirement applies:	INT TEST	
TEST	. 11 Mc	For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type	IG HI.	T TEST!
- 1	NG H	approval (Bauartzulassung) and marking.	HPT TES	~1
TES	NG H	Justification: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.	G HESTING HE	TEST
TEST	lla.	NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	IG H	TTEST
	NG H	PITESTING	HPT TEST	
TES		CETING HP	IG H	T TES
	H	PT TES	TTESTING	
	NG	TES	HP	





PT	TESTING T	ECHNOLOG _L		MPT I		ESTIN	IG '	Report No.:HP	T-23111	31 16509
12	HUAPIN H	PT	HPT	TESTING HI	IG HP	TESTIN		Report NoIF		'1 of 75
	TEST	ZD		IEC and CENELEC CODE D	ESIGNATI	ONS FOR	FLEXIBL	LE CORDS (EN)	.07	N/A
IL.				Type of flexible cord	Code de	signations	1	a)G	Hr	N/A
			TOL		IEC	CENELEC		PT TESTING		
	TEST	NG	1411	PVC insulated cords			- 3	PTTE		
		1100		Flat twin tinsel cord	60227 IEC 41	H03VH-Y	3 "			-cSTIN
07	150			Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F			101	150
				Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F		PT TESTING	Eli	
			HPT	Rubber insulated cords		H05VVH2-F	-	TESTI		
	TEST	NG		Braided cord	60245 IEC 51	H03RT-F	(A)	PT		
	TEST	10.		Ordinary tough rubber sheathed flexible cord	60245 IEC 51	H05RR-F	3			TESTI
79				Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F			UPT	1
				Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F		PT TESTING		TESTIN
			HPT	Cords having high flexibility			-	755711V		
		NG	25.	Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H	U	PT		la.
	-657	11.0		Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03 RV4-H	3			-ESTIII
19	TEST			Crosslinked PVC insulated and sheathed cord	60245 IEC 88	' Н03V4V4-Н			UPT	10
				Cords insulated and sheathed with halogen- free thermoplastic compounds	9008-3-1000-0-000-0-00-0-0-0-0-0-0-0-0-0-0-0	VC0+04034007-9607 - (8000000)	-		1,11	TESTIN
		_	HPT	Light halogen-free thermoplastic insulated and		H03Z1Z1-F		PT TESTING		
		Vic		sheathed flexible cords		H03Z1Z1H2-F	- H	K.,		
	TEST			Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F	3		.07	TESTIN
ζ,				Type of flexible cord	Code d	esignations	<u></u>	PT TESTING	Hr.	
			701		IEC	CENELEC	_			
		-6	HPT	PVC insulated cords	80107070	00002173-0000139405017543-000	-	DT TES		
		Vic			60227 IEC 41	H03VH-Y	. 4			
	LFD.			Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F	3.		-01	LF2.
3	TEST					H03VVH2-F			HL.	TESTIN
			HPT	Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F		PT TESTING		
	TEST	dG.	1.11	Rubber insulated cords			- 4	DTTE		
		Vic		Braided cord	60245 IEC 51	H03RT-F	1 17			STIN
	TEN			Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F			101	TEN
				Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F			HI	
				Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F				
			HPT	Cords having high flexibility	\$6	Ex-		OT TES		
		MR		Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H	. 14	PT TESTING		
	TEST			Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03 RV4-H	3.	PT TESTING	.07	TES
Κ,				Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H			Hr.	
				Cords insulated and sheathed with halogen-						
			HPI	free thermoplastic compounds		11007474 5		TES		
		NG		Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F	14	B.		
	TES!			Ordinary halogen-free thermoplastic insulated and		H05Z1Z1-F			-	TESTIN
61	TEST			sheathed flexible cords		H05Z1Z1H2-F	8		HPI	
			HPT	LED.	HY			TING		
			481					TES		
								PI		mr.
	TEST			TESTING HPT TESTIN			G H	PT TESTING		TESTIN



-Appendix 2: Photo document.

EUT Photo 1



EUT Photo 2







TESTING EUT Photo 3



EUT Photo 4





EUT Photo 5

Real Photo 5

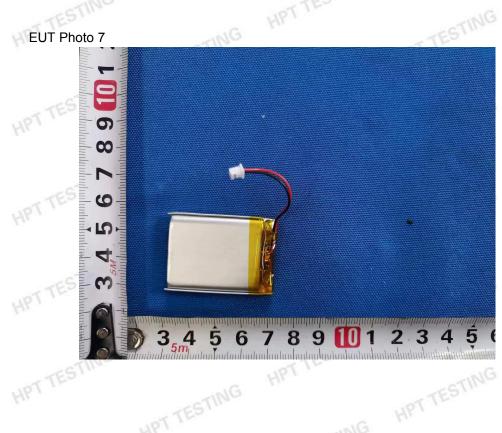
Real Photo 5



23456789







**** END OF REPORT **** HPT TEST

Shenzhen ZKT Technology Co., Ltd. 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China



SUPPLIER'S DECLARATION OF CONFORMITY

Certificate Number: ZKT-231206L9542C

Certificate's

: Wuyi Jinheng Household Goods Co., Ltd

Holder

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi

County, Jinhua City, Zhejiang Province

Manufacturer : Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi

County, Jinhua City, Zhejiang Province

Trade Mark : N/A

Product : Game Boxing Disc

Model(s) : QB01

QB02, QB03, QB04, QB05

Test Standard: FCC Part 15 B,

ANSI C63.4:2014

This Attestation of Compliance is issued on a voluntary basis for electrical equipment below the voltage limits of FCC standard. The essential requirement are fulfilled accordingly based on the technical specifications applicable at the time of issuance. See also notes overleaf. It is only valid in connection with the test report number: **ZKT-231206L9542**E.



Manager Dec.12, 2023

This Certificate of Conformity is based on single evaluation of the submitted sample(s) of the above mentioned product. It does not imply an assessment of the whole product and relevant . Directives to be observed.



FCC TEST REPORT

Report Number..... ZKT-231206L9542E

Date of Test...... Dec.06, 2023 to Dec.12, 2023

Date of issue...... Dec.12, 2023

Total number of pages...... 15

Test Result: PASS

Testing Laboratory.....: Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial

Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name Wuyi Jinheng Household Goods Co., Ltd

Address No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County, Jinhua City, Zhejiang Province

Manufacturer's name: Wuyi Jinheng Household Goods Co., Ltd

No.9, Weijiu East Road, Tongqin Industrial Zone, Wuyi County,

Jinhua City, Zhejiang Province

Test specification:

FCC Part 15 B Standard....::

ANSI C63.4:2014

Test procedure..... FCC

Non-standard test method: N/A

Test Report Form No.....: TRF-EL-117_V0

Test Report Form(s) Originator.....: ZKT Testing

Master TRF: Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of ZKT, this document may be altered or revised by ZKT, personal only, and shall be noted in the revision of the document.

Product name....: Game Boxing Disc

Trademark: N/A

Model/Type reference.....: QB01

QB02, QB03, QB04, QB05

Ratings......: Input: DC5V from external circuit and DC3.7V from internal battery

Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen China











Testing procedure and testing location:	
Testing Laboratory:	Shenzhen ZKT Technology Co., Ltd.
Address:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
	Jim Liu
Tested by (name + signature):	Jim Liu
	Jackson Fong
Reviewer (name + signature):	Jackson Fang
Approved (name + signature):	A pur pour ed X

Shenzhen ZKT Technology Co., Ltd.
1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China









TABLE OF CONTENT

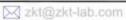
	Page
1.VERSION	
2.GENERAL INFORMATION	5
2.1 Description of Device (EUT)	
2.2 Tested System Details	
2.3 Test Facility	5
2.4 MEASUREMENT UNCERTAINTY	
2.5 Test Instrument Used	
3.CONDUCTED EMISSION AT THE MAINS TERMINALS TEST	
3.1 Block Diagram Of Test Setup	7
3.2 Test Standard	7
3.3 Power Line Conducted Emission Limit	
3.4 EUT Configuration on Test	
3.5 Operating Condition of EUT	/ 7
3.7 Test Result	
4.RADIATION EMISSION TEST	
4.1 Block Diagram of Test Setup	
4.2 Test Standard	
4.3 Radiation Limit	
4.4 EUT Configuration on Test	8
4.5 Operating Condition of EUT	8
4.6 Test Procedure	
4.7 Test Result	
5.EUT PHOTOGRAPHS	11
C ELIT TECT DUOTOCDADUC	15

















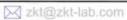
1.VERSION

Report No.	Version	Description	Approved
ZKT-231206L9542E	Rev.01	Initial issue of report	Dec.12, 2023
		0	
S			

Shenzhen ZKT Technology Co., Ltd.
1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China













2.GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT Game Boxing Disc

Trademark N/A

Model Number QB01, QB02, QB03, QB04, QB05

Model Difference Only for different model name

Power Supply Input: DC5V from external circuit and DC3.7V from internal battery

2.2 Tested System Details

None.

2.3 Test Facility

Shenzhen ZKT Technology Co., Ltd.

Add.: 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an

District, Shenzhen, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299 IC Registered No.: 27033

2.4 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

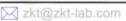
Test item	Value (dB)
Conducted Emission (150K-30MHZ)	3.20
Radiated disturbance30MHz-1000MHz	4.80



1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China













Page 6 of 15



Conducted emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Nov. 14, 2023	Nov. 13, 2024
2	LISN	CYBERTEK	EM5040A	E185040014 9	N/A	Nov. 02, 2023	Nov. 01, 2024
3	Test Cable	N/A	C-01	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
4	Test Cable	N/A	C-02	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
5	Test Cable	N/A	C-03	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
6	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Nov. 02, 2023	Nov. 01, 2024
7	Triple-Loop Antenna	N/A	RF300	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
8	Absorbing Clamp	DZ	ZN23201	15034	N/A	Nov. 07, 2023	Nov. 06, 2024
9	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	1	1

Radiation emissions & Radio Test equipment

	Tadiation emission				Firmware	Last	Calibrated
Item	Equipment	Manufacturer	Type No.	Serial No.	Version	calibration	until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY55370835	A.17.05	Nov. 02, 2023	Nov. 01, 2024
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Nov. 02, 2023	Nov. 01, 2024
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Nov. 02, 2023	Nov. 01, 2024
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	N/A	N/A	Nov. 13, 2023	Nov. 12, 2024
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Nov. 13, 2023	Nov. 12, 2024
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Nov. 13, 2023	Nov. 12, 2024
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Nov. 16, 2023	Nov. 15, 2024
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Nov. 02, 2023	Nov. 01, 2024
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Nov. 02, 2023	Nov. 01, 2024
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Nov. 02, 2023	Nov. 01, 2024
11	Test Cable	N/A	R-01	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
12	Test Cable	N/A	R-02	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
13	Test Cable	N/A	R-03	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
14	Test Cable	N/A	RF-01	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
15	Test Cable	N/A	RF-02	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
16	Test Cable	N/A	RF-03	N/A	N/A	Nov. 02, 2023	Nov. 01, 2024
17	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
18	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
19	Turntable	MF	MF-7802BS	N/A	N/A	\	\
20	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China





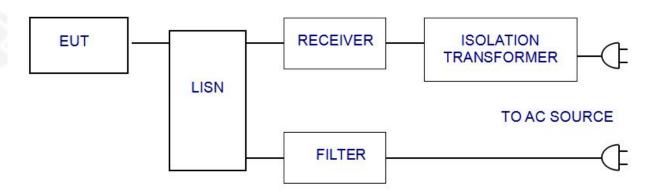






3.CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1 Block Diagram Of Test Setup



3.2 Test Standard

FCC PART 15 B

3.3 Power Line Conducted Emission Limit

Frequency	Limits	s dB(μV)
MHz	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4 EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5 Operating Condition of EUT

- 3.5.1 Setup the EUT and simulators as shown in Section 3.1.
- 3.5.2 Turn on the power of all equipments.
- 3.5.3 Let the EUT work in test modes and test it.

3.6 Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.

3.7 Test Result

The EUT is powered by DC only the test items is not applicable

Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China







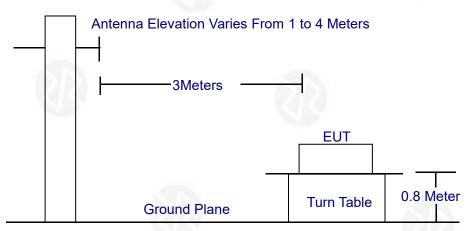




4.RADIATION EMISSION TEST

4.1 Block Diagram of Test Setup

Antenna Tower



4.2 Test Standard

FCC PART 15 B

4.3 Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4 EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test. The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6 Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz. The frequency range from 30MHz to 1000MHz is checked. The highest frequency of the internal sources of the EUT was below 108MHz, so the measurement was only made up to 1GHz.

4.7 Test Result

PASS

Please refer to the following page.

Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China





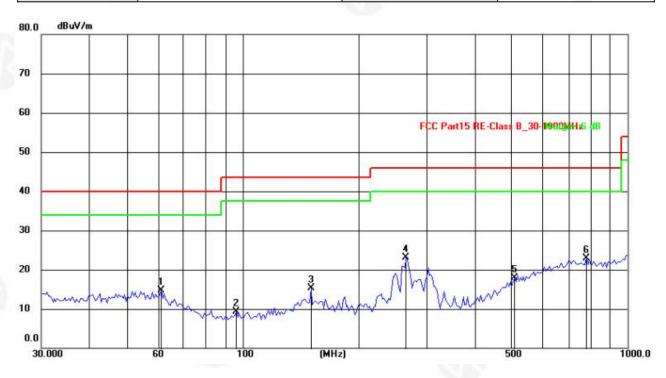








Radiation Emission Test Data								
Temperature: 26℃ Relative Humidity: 60%								
Pressure:	1009hPa	Phase :	Horizontal					
Test Voltage :	DC 5V	Test Mode:	Working					

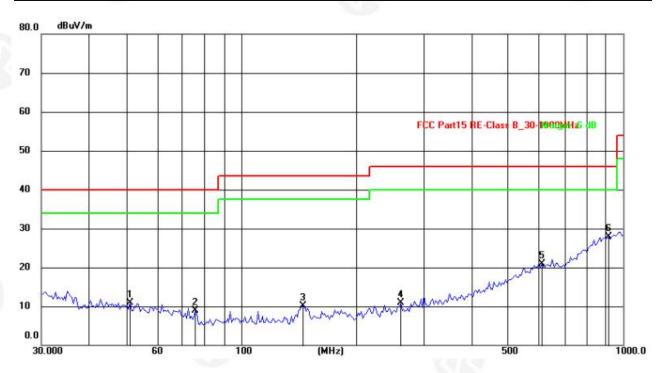


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	61. <mark>5</mark> 617	29.43	-14.66	14.77	40.00	-25.23	QP				
2	96.2672	29.21	-19.96	9.25	43.50	-34.25	QP				
3	150.5377	31.78	-16.54	15.24	43.50	-28.26	QP				
4	266.1419	38.34	-15.18	23.16	46.00	-22.84	QP				
5	509.1501	29.24	-11.36	17.88	46.00	-28.12	QP				
6	782.3452	29.89	-6.90	22.99	46.00	-23.01	QP				





Radiation Emission Test Data								
Temperature: 26℃ Relative Humidity: 60%								
Pressure:	1009hPa	Phase :	Vertical					
Test Voltage :	DC 5V	Test Mode:	Working					



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	51.2105	28.32	-17.41	10.91	40.00	-29.09	QP				
2	75.9772	29.84	-20.84	9.00	40.00	-31.00	QP				
3	145.3505	30.77	-20.73	10.04	43.50	-33.46	QP				
4	261.5163	30.53	-19.61	10.92	46.00	-35.08	QP				
5	612.0641	28.68	-7.75	20.93	46.00	-25.07	QP				
6	916.0685	28.65	-0.65	28.00	46.00	-18.00	QP				





5.EUT PHOTOGRAPHS

EUT Photo 1



EUT Photo 2



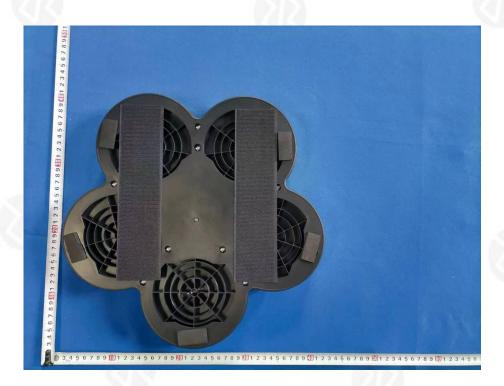
Shenzhen ZKT Technology Co., Ltd.
1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China







EUT Photo 3



EUT Photo 4



Shenzhen ZKT Technology Co., Ltd.
1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China





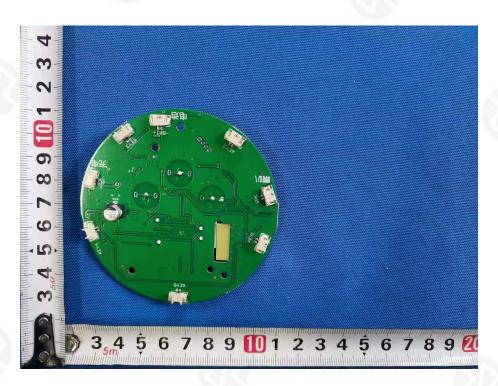




EUT Photo 5



EUT Photo 6



Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

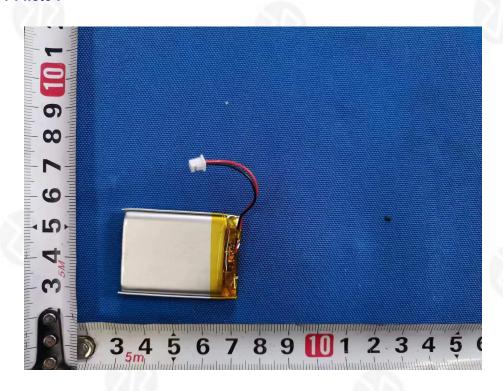








EUT Photo 7





Shenzhen ZKT Technology Co., Ltd.
1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China













6.EUT TEST PHOTOGRAPHS

RE



**** END OF REPORT ****

Shenzhen ZKT Technology Co., Ltd. 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China







