

1. Test Requested and Test Conclusion:

Based on the performed tests on specified material(s) or submitted sample(s).

Test items
2012/19/EU-on waste electrical and electronic equipment(WEEE)-Article 4, 11, 15(2)&Annex V

2. Result of Reuse/Recycling/Recovery Assessment

Reuse/Recycling/Recovery	Reuse/Recycling (%)	Recovery (%)
Reuse/Recycling/Recovery Targets under the 2012/19/EU WEEE Directive	55	75
Result of Assessment	85.72	85.72
WEEE requirement compliance	OK	OK

3. REQUIREMENT OF WEEE DIRECTIVE

3.1 PRODUCT DESIGN

According to article 4 of WEEE directive 2012/19/EU:

-Design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery of the components and materials. The design features or manufacturing processes do not prevent the product from being reused.

3.2 PROPER TREATMENT

Proper treatment, other than preparing for re-use, and recovery or recycling operations shall, as a minimum, include the removal of all fluids and a selective treatment accordance with Annex VII of WEEE directive 2012/19/EU

-Polychlorinated biphenyls (PCB) containing capacitors in accordance with Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls(PCB/PCT)(1)

-Mercury containing components, such as switches or backlighting lamps,

- Batteries

- Printed circuit boards of mobile phones generally, and of other devices if the surface of the printed circuit board is greater than 10 square centimeters,

- Toner cartridges, liquid and paste, as well as colour toner,

-Plastic containing brominated flame retardants,

-Asbestos waste and components which contain asbestos,

-Cathode ray tubes,

-Chlorofluorocarbons(CFC),hydrochlorofluorocarbons(HCFC) or hydrofluorocarbons(HFC), hydrocarbons(HC),

-Gas discharge lamps,

-Liquid crystal displays (together with their casing where appropriate) of a surface greater than 100 square centimeters and all those back-lighted with gas discharge lamps,

- External electric cables,
- Components containing refractory ceramic fibres as described in Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances (2),
- Components containing radioactive substances with the exception of components that are below the exemption thresholds set in Article 3 of and Annex I to Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation(3),
- Electrolyte capacitors containing substances of concern(height>25mm, diameter>25mm or proportionately similar volume).

3.3 REQUIREMENT OF RECYCLING AND RECOVERY RATE

According to article 11, Annex III , Annex IV and Annex V part 3, below minimum target of Recycling and Recovery rate should be met from 15 August 2018.

Category	Product Type	Minimum Recycling Rate	Minimum Recovery Rate
1	Temperature exchange equipment. Refrigerators, Freezers, Equipment which automatically delivers cold products, Air conditioning equipment, Dehumidifying equipment, Heat pumps, Radiators containing oil and other temperature exchange equipment using fluids other than water for the temperature exchange.	80%	85%
2	Screens, monitors, and equipment containing screens having a surface greater than 100 cmScreens. Televisions, LCD photo frames, Monitors, Laptops, Notebooks.	70%	80%
3	Lamps. Straight fluorescent lamps, Compact fluorescent lamps, Fluorescent lamps, High intensity discharge lamps-including pressure sodium lamps and metal halide lamps, Low pressure sodium lamps, LED.	80%	/

Category	Product Type	Minimum Recycling Rate	Minimum Recovery Rate
4	Large equipment. Washing machines, Clothes dryers, Dish washing machines, Cookers, Electric stoves, Electric hot plates, Luminaires, Equipment reproducing sound or images, Musical equipment (excluding pipe organs installed in churches), Appliances for knitting and weaving. Large computer-mainframes, Large printing machines, Copying equipment, Large coin slot machines, Large medical devices, Large monitoring and control instruments, Large appliances which automatically deliver products and money, Photovoltaic panels.	80%	85%
5	Small equipment. Vacuum cleaners, Carpet sweepers, Appliances for sewing, Luminaires, Microwaves, Ventilation equipment, Irons, Toasters, Electric knives, Electric kettles, Clocks and Watches, Electric shavers, Scales, Appliances for hair and body care, Calculators, Radio sets, Video cameras, Video recorders, Hi-fi equipment, Musical instruments, Equipment reproducing sound or images, Electrical and electronic toys, Sports equipment, Computers for biking, diving, running, rowing, etc., Smoke detectors, Heating regulators, Thermostats, Small Electrical and electronic tools, Small medical devices, Small Monitoring and control instruments, Small Appliances which automatically deliver products, Small equipment with integrated photovoltaic panels.	55%	75%
6	Small IT and telecommunication equipment (no external dimension more than 50cm). Mobile phones, GPS, Pocket calculators, Routers, Personal computers, Printers, Telephones.	55%	75%

Recycling Rate= Recycling Weight /Product Total Weight × (100%)

Recovery Rate= (Recycling Weight+ Energy Recovery Weight)/ Product Total Weight × (100%)

4. EVALUATION RESULTS

4.1 CONFORMITY OF WEEE MARKING(S)

Evaluate the sample according to Directive 2012/19/EU Article 15(2)&EN50419:2006

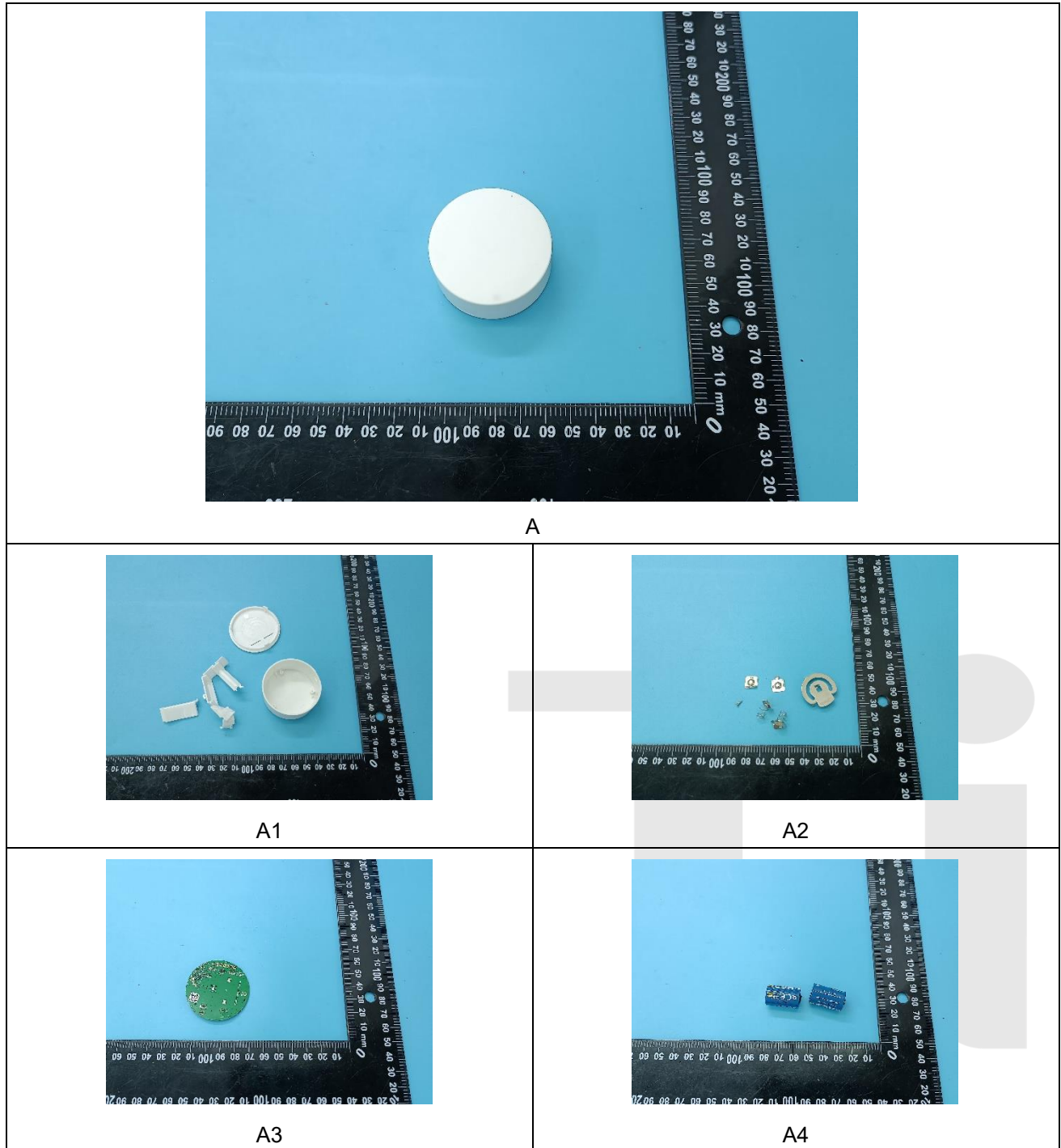
Item No.	Requirement	Evaluation Result	Conclusion
1	Unique Identification of producer provided e.g. by brand name, trade mark, company registration number etc.	Brand name, trade mark was found	Yes
2	Date of manufacturing or date of product release to the market (coded or un-coded text) or indicated by an additional solid bar under the crossed wheel bin	Solid bar was found	Yes
3	Proper dimensions of marking as prescribed in the standard EN50419:2006	Marking was found	Yes
4	The marking shall be accessible, durable, legible and indelible.	Marking is accessible durable, legible and indelible	Yes
5	Location of marking shall be on: 1) the product or 2) the packaging, the instructions for use and warranty of the electronic equipment	Marking is located on the packaging, the instructions for use and warranty of the electronic equipment	Yes

4.2 Materials and Components to Be Selective Treated

According to Articles 8(2) and the Annex VII of the WEEE Directive, this product contains the following components and materials to be selective treated.





Component/Material	Photo No.	Size & Quantity	Weight (g)
Printed circuit boards of mobile phones generally and of other devices if the surface of the printed circuit board is greater than 10 square centimeters	/	/	/
	/	/	/
Liquid crystal displays (LCDs) with a surface greater than 100 square centimeters	/	/	/
External electric cable	/	/	/
Battery	/	/	/

4.3 DISASSEMBLING FLOWCHART



4.4 Disassembly tool:

The disassembly tools used for this product show as following:

Disassembly Tool	Pictures
Outlet forceps	
Cross screwdriver	
Scissors	
Straight screwdriver	

4.5 WEEE ARTICLE 4-PRODUCT DESIGN

Requirement	Observation	Conformance
Design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery of the components and materials. The design features or manufacturing processes do not prevent the product from being reused.	Different parts can be separated easily.	Yes

4.6 DISASSEMBLED SAMPLE RECYCLABILITY AND RECOVERABILITY

Based on the sample disassembly and the BOM table provided by the supplier/applicant, the main materials involved are listed below with relevant evaluation results

Photo No.	Component/Material Composition	Weight (g)	Weight Percent (%)	Reuse/ Recycling (%)	Energy Recovery (%)	Recovery (%)
A1	Plastic	14.46	36.07	32.46	--	32.46
A2	Metal parts	2.31	5.76	5.65	--	5.65
A3	PCB	4.48	11.17	10.06	--	10.06
A4	Battery	18.82	46.94	37.56	--	37.56
Total		40.07	99.95	85.72	--	85.72

Note:

- (1) "g" denotes gram
- (2) The listed Recycling and Recovery Rate were evaluated based on theoretical and efficient treatment of waste.
- (3) "%" means percentage by weight

5. Recommendations for WEEE Directive Compliance

-In order to avoid the product not meeting the reuse/recovery targets regulated under the WEEE Directive and the regulations of EU countries, the applicant company should, when selecting material and components design, consider they can be easy to reuse and recycle. This consideration will lessen the impact of the required international environmental directives and also improve the product's competitiveness.

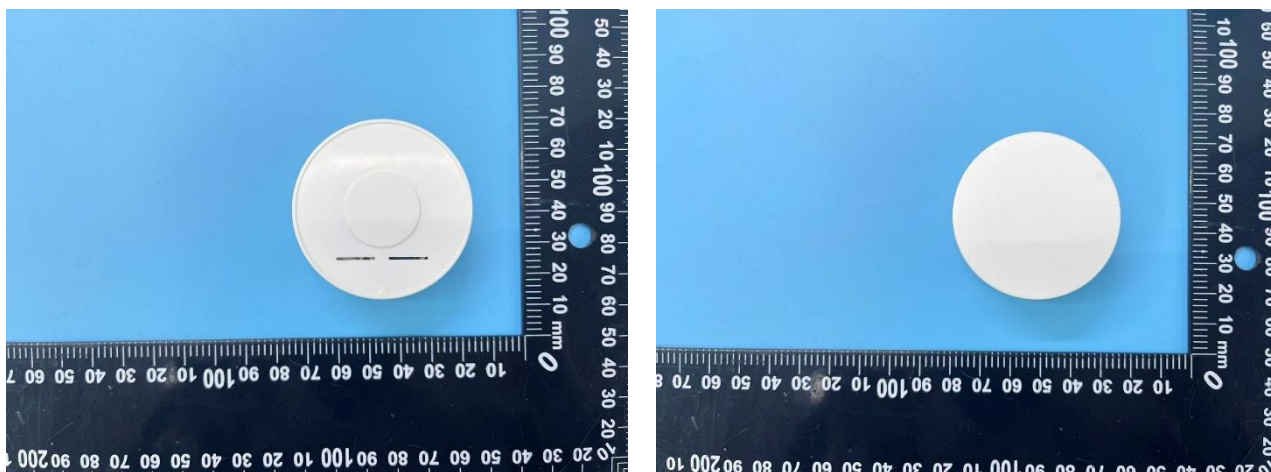
-It is recommended that the applicant company, when designing new product, especially where components and materials have a large weight ratio, should consider using recyclable materials in order to increase the product's reuse/recycling/recover ratio.

-The product should apply to the ROHS Directive. (Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronics equipment). The hazardous substance specification in the Directive should be controlled in the homogenous material of this product.

-If a product has changed its product design, or materials or components employed, then the product should be reassessed and retested in accordance with WEEE Directive for reuse/recycling/recovery assessment and ROHS for restricted banned substance requirements.



Photo of the product



Note: The results shown in this report refer only to the sample(s) tested.



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End of Report

