



## 1. Product Description


Product Weight, g	217.6 (battery not included)
Category under the WEEE directive	Small equipment

## 2. Result of Reuse/Recycling/Recovery Assessments

Reuse/Recycling/Recovery	Reuse/Recycling Rate (%)	Recovery Rate (%)
Reuse/Recycling/Recovery Target of Products Under WEEE Directive	55	75
Result of Assessment	83.0	83.0
WEEE Compliance	Pass	Pass

## 3. Appearance of the Product

Item name		Photo
Product name	Smartphone	
Model	MAX 3	
Marking	Adapter	

Marking	Battery	 <p>The image shows a rectangular Li-Ion battery with a blue and black color scheme. The top half is black with white text. The bottom half is blue with a white horizontal band containing various certification logos (CE, RoHS, etc.) and a barcode. The text on the battery includes:</p> <ul style="list-style-type: none"><li><b>C15</b></li><li>Normal voltage: 3.85V</li><li>Li-Ion Battery</li><li>Rated capacity: 5000mAh 19.25Wh</li><li>Charging limited voltage: 4.4V</li><li><b>CAUTION:</b><ul style="list-style-type: none"><li>Do not short-circuit the battery.</li><li>Do not discard the battery into fire.</li><li>Do not use any battery charger other than the specified one.</li><li>Do not charge or expose the battery pack out of the temperature range 0°C-45°C.</li></ul></li></ul> <p>At the bottom, there is a barcode and the text: S/N: TMC1521A00M00521</p>
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#### 4. Disassembly Assessment

##### 4.1 Disassembly Procedure

The product is disassembled into different parts and grouped by the type of material sharing common characteristic( such as plastic, metal, glass) based on the treatment requirements as set out in the WEEE Directive, followed by the current state of the art of recycling and recovery technology. In addition, the recycling is subject to the economic feasibility, disassembly tools, only bigger parts that can be easily separated are included in the recycling and reuse calculation. Other parts, respectively materials that cannot be separated by e.g. standard tools are classified as either unspecified materials or distributed to the relative waste fraction is expected with recovery rate.

##### 4.2 Disassembly Time

30 minutes

##### 4.3 Disassembly tool





The disassembly tools used for this product show as following:

Disassembly Tool	Pictures
Screw driver tool set	
Cross screwdriver	
Straight screwdriver	
Scissor	



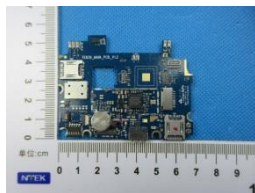
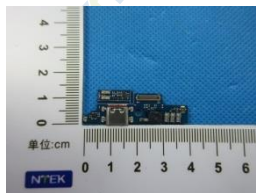
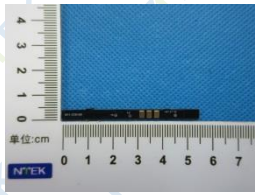
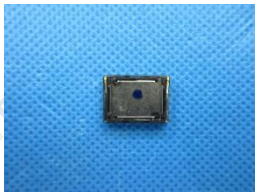





**4.4 Disassembly Tree**



			
A	B	C	D



			
A1	A2	A3	A4
			
A5	A6	A7	A8
	/	/	/
A9	/	/	/



B

		/	/
B1	B2	/	/



C

	/	/	/
C1	/	/	/



D

		/	/
D1	D2	/	/

## 5. Selective Treatment for Materials and Components

According to Article 8(2) and the Annex VII of the WEEE Directive, this product contains components and materials items are described in the following table.

Component/Material	Photo No.	Size/Model	Quantity	Weight (g)
Printed circuit board assembly	A3	6.8cm×5.3cm	1	11.94
Printed circuit board assembly	A4	4.1cm×1.2cm	1	2.53
Printed circuit board assembly	A5	5.5cm×0.4cm	1	2.12
Printed circuit board assembly	B2	4cm×3.2cm	1	17.11

## 6. Material and Recycling Information

### 6.1 Material Reuse/Recycling and Recovery Table

Photo No.	Component / Material Composition	Weight (g)	Percent Weight (%)	Reuse / Recycling Rate(%)	Energy Recovery Rate(%)	Recovery Rate(%)
A1	Plastic parts	32.0	14.7	13.1	/	13.1
A2	Metal parts	24.4	11.2	10.6	/	10.6
A3	Printed circuit board assembly A	11.3	5.2	3.8	/	3.8
A4	Printed circuit board assembly A	1.3	0.6	0.4	/	0.4
A5	Printed circuit board assembly A	0.6	0.3	0.2	/	0.2
A6	Metal+PC	1.3	0.6	0.4	/	0.4
A7	Metal+PC	0.4	0.2	0.1	/	0.1
A8	Metal+PC+Glass	1.9	0.9	0.6	/	0.6
A9	Liquid Crystal Display	63.9	29.4	24.1	/	24.1
B1	Plastic parts	20.5	9.4	8.4	/	8.4
B2	Printed circuit board assembly A	17.6	8.1	6.0	/	6.0
C1	Wire	31.9	14.7	11.6	/	11.6
D1	Plastic parts	4.2	1.9	1.7	/	1.7
D2	Wire	6.3	2.9	2.0	/	2.0
Total		217.6	100.1	83.0	/	83.0

**Note:** Plastic containing brominated flame retardants is not assessed in the list

## 6.2 Reuse/Recycling and Recovery Rate Calculation

Calculation Method	
Product total weight	a (g)
Weight of components, sub-assemblies and consumables which are reused for their original purpose or recycled.	b (g)
Weight of materials or components where energy is recovered through incineration.	c (g)
Reuse / Recycling Rate	$b/a * 100$ (%)
Recovery Rate	$(b+c)/a * 100$ (%)

## 7. Requirement of WEEE Directive (2012/19/EU)

### 7.1 ANNEX VII of WEEE Directive

#### Selective treatment for materials and components of waste electrical and electronic equipment referred to in Article 8(2)

As a minimum the following substances, mixtures and components have to be removed from any separately collected WEEE

- 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),
- 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 centimetres,
- 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, packaging and labelling of dangerous substances,
- 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,
- electrolyte capacitors containing substances of concern (height > 25 mm, diameter > 25 mm or proportionately similar volume). These substances, mixtures and components shall be disposed of or recovered in compliance with Directive 2008/98/EC.

**7.2 Requirement of Reuse / Recycling Rate and Recovery Rate**

**According to article 11 and Annex V part 3 Minimum targets applicable by category from 15 August 2018 with reference to the categories listed in Annex III:**

Categories of WEEE	Minimum Reuse / Recycling Rate	Minimum Recovery Rate
1. Temperature exchange equipment	80%	85%
2. Screens, monitors, and equipment containing screens having a surface greater than 100 cm <sup>2</sup>	70%	80%
3. Lamps	/	80%
4. Large equipment (any external dimension more than 50 cm) including, but not limited to: Household appliances; IT and telecommunication equipment; consumer equipment; luminaires; equipment reproducing sound or images, musical equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments; automatic dispensers; equipment for the generation of electric currents. This category does not include equipment included in categories 1 to 3.	80%	85%
5. Small equipment (no external dimension more than 50 cm) including, but not limited to: Household appliances; consumer equipment; luminaires; equipment reproducing sound or images, musical equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments; automatic dispensers; equipment for the generation of electric currents. This category does not include equipment included in categories 1 to 3 and 6.	55%	75%
6. Small IT and telecommunication equipment (no external dimension more than 50 cm)	55%	75%

**8. Recommendations for WEEE Directive Compliance**

- (1) To make the product comply with the reuse/recycling/recovery target required under WEEE Directive (2012/19/EU) and other EU waste regulation, the applicant company should consider the product they design can be easily reused and recycled by selecting recyclable materials and components.
- (2) To make the product easily dismantled, less the disassembling time, the applicant company should design the product for easy disassembly by choosing easy separate techniques, avoiding the utilizing embedded components, designing the separable procedure.
- (3) The product should be subjected to the RoHS Directive (2011/65/EU), restricting using hazardous substance. In addition, the materials selected to design should consider the dangerous substance regulated or list under other environmental specifications, as Regulation (EC) 1907/2006(REACH), 67/548/EEC, etc.
- (4) In case that a product have new design, or employ materials or components, then the product should need to be reassessed and retested in accordance with the WEEE Directive for reuse/recycle/recycling target and RoHS for restricted substances requirement.
- (5) The applicant company should take attention to the future possible update concerning the WEEE Directive and related requirement.

\*\*\*\*End of Report\*\*\*\*

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