

# WEEE Directive Compliance Report

**Report No. : HS2210050218A**

**Date: 2023/12/13**

**Client :** Ubiqconn Technology, Inc.

4F., No. 300, Yangguang St., Neihu Dist., Taipei City 11491, Taiwan

**Test Item :** Luna3

**Model No. :** Luna3



**Test Specification :** WEEE Directive 2012/19/EU Article 11-Recovery Targets


**Test Result :** All disassembling parts were fitted the requirements of WEEE Directive.

**Test Laboratory :** Integrated Service Technology Ltd.


**Testing Location :** No.10-1, Lixing 1st Rd., Hsinchu City 300, Taiwan (R.O.C.)

\_\_\_\_\_  
Name of Analysis Institution

\_\_\_\_\_  
Report Review  
On behalf of Integrated Service Technology

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## 1、General Product Remark

### 1.1 Complementary Materials

This report applies especially to **Luna3** of Ubiqconn Technology, Inc.. The testing sample is classified as **Category 6** under Annex IA of Directive 2012/19/EU. The photos of the testing sample are shown as follows.

Equipment Name / Model No.	Luna3	
		
Front View	Side View	
Total Weight(g)	606.5g	
Connection Technique	<ul style="list-style-type: none"> <li>◆ Snap</li> <li>◆ Glue</li> </ul>	<ul style="list-style-type: none"> <li>◆ Screw</li> <li>◆ Connector</li> </ul>
Connection Tools	<ul style="list-style-type: none"> <li>◆ Hand</li> <li>◆ Knife</li> <li>◆ Tweezers</li> </ul>	<ul style="list-style-type: none"> <li>◆ Philip Screwdriver</li> <li>◆ Screwdriver</li> </ul>
Disassembly Time(sec)	254 sec	
Recommended Disassembly Sequence	See 4.1 Disassembly Sequence	
Derivative Summary	See 5.2 Product 3R Calculation (Table 6)	
Derivative Rate	See 5.3 Product Derivative Summary	
Reuse/Recycling Rate	See 5.4 Test Result	
Recovery Rate	See 5.4 Test Result	
Estimated Treatment Value*	High	
*Note	The estimated treatment value is evaluated by the breaking even dismantling weight	

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## 2 、 Background

2.1 RoHS 2.0, 2011/65 /EU & 2015/863/EU : See Table 1


**Table 1: The Limit of Restraint Item**

RoHS	Restraint Item	Value (ppm)
2011/65/EU	Lead (Pb)	1,000
	Cadmium (Cd)	100
	Mercury (Hg)	1,000
	Chromium VI (Cr <sup>6+</sup> )	1,000
	Polybrominated Biphenyls (PBB)	1,000
	Polybrominated Diphenylethers (PBDE)	1,000
2015/863/EU	Bis (2-ethylhexyl) phthalate	1,000
	Butyl benzyl phthalate	1,000
	Dibutyl phthalate	1,000
	Disobutyl phthalate	1,000

2.2 WEEE, 2012/19/EU : See Table 2

**Table 2: Reuse & Recovery Rate**

No	Classification	Recycling	Recovery
VI	IT and telecommunications related equipment (Small)	55%	75%

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### 3 - Disassembly Principle

The product was disassembled into different parts which were major based on the treatment requirements as a set out in the WEEE Directive Annex VII. Material substances, of which a recycling technology is not available or the recycling is not economy and feasible at present, are assumed to be shredded, incinerated or disposed for landfill without further usage.

#### 3.1 Selectively Treatment

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

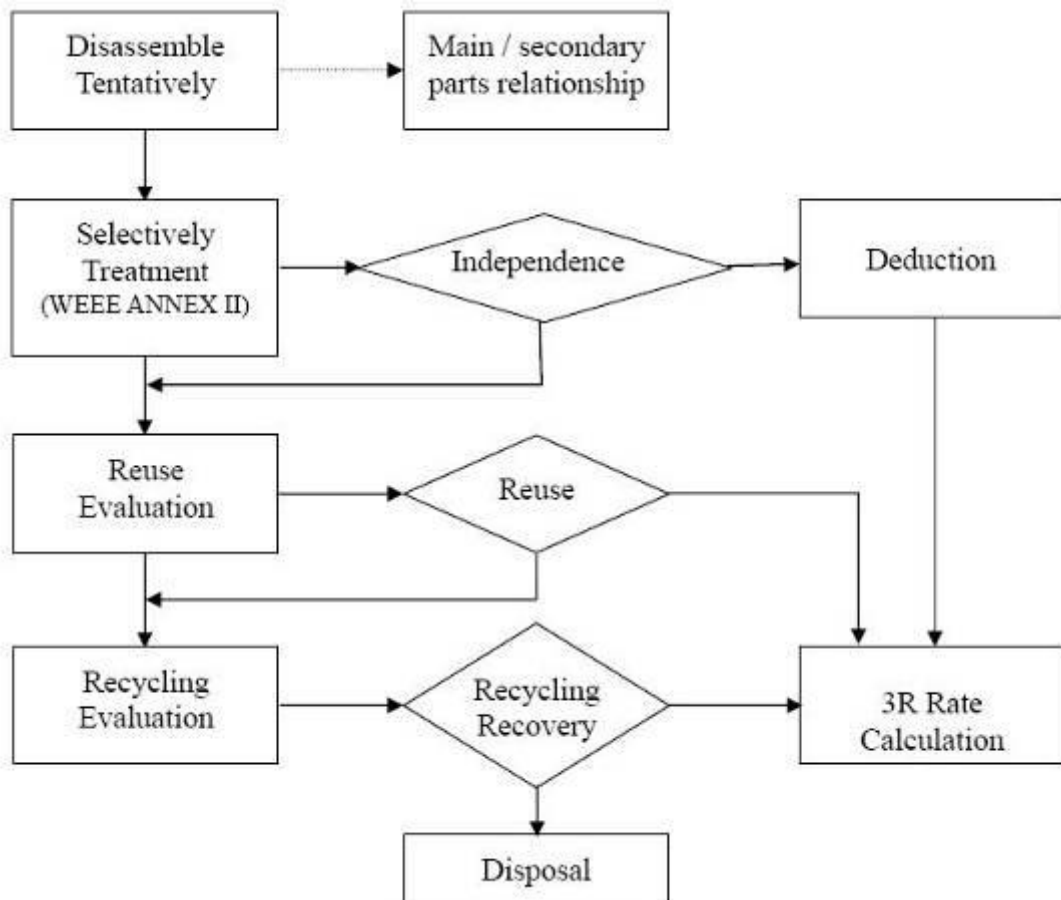
- Polychlorinated biphenyls (PCBs) containing capacitors in accordance with Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCBs/PCTs)
- Mercury containing components, such as switches or backlighting lamps
- Batteries
- Printed 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 pasty, as well as colour toner
- Plastic containing brominated flame retardants
- Asbestos waste and components which contain asbestos
- Cathode ray tubes
- Chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) or hydrocarbons (HCs)
- Gas discharge lamps
- Liquid crystal displays (together with their casing where appropriate) of a surface greater than 100 square centimetres 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 Council Directive 67/548/EEC relating to the classification, packaging and labeling of dangerous substances
- Components containing radioactive substances with the exception.

### 3.2 Material Classification


**Table 3: Material Classification**

Worksheets	The material definition	Recovery Attribute
Module Parts	Contained complex Material but with reused value through simple repair process	Reuse
Metal	Including metal of iron department , valuable alloy ,etc.	Recycling
Plastics	(1)Include pure plastics , mixed plastics ,etc.	Recycling & Recovery
	(2)Second surface Treatment (Without Hazardous Substance) or weight<25 g	Energy Recovery
Glass	(1)General glass	Recycling
	(2)Special-purpose processing glass (such as the leaded oxide glass)	Disposal

### 3.3 Directive 2012/19/EU Compliance Evaluation Flow

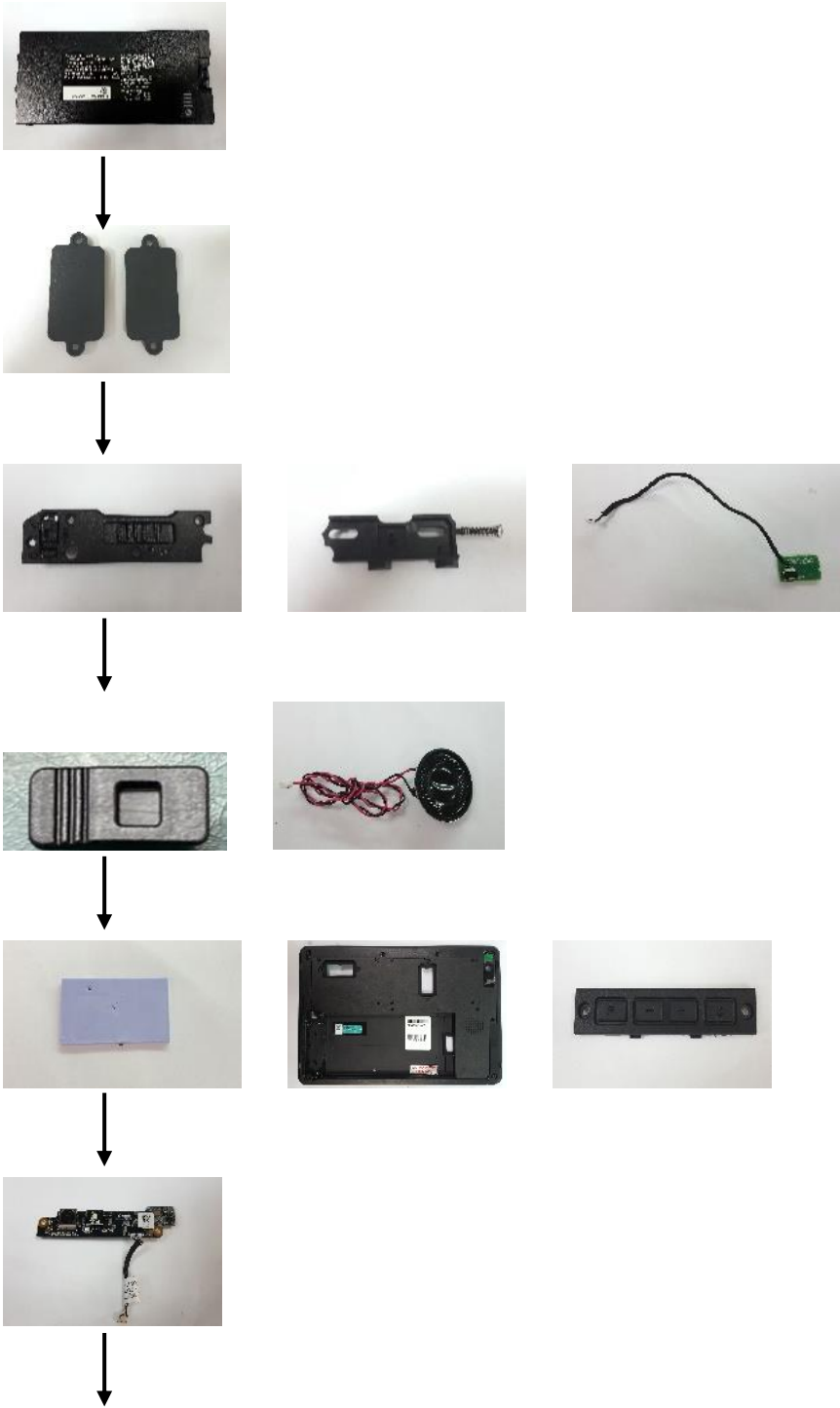


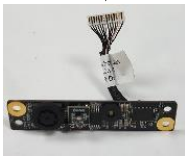
**Figure 1: Directive 2012/19/EU Compliance Evaluation Flow**

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### 4 - Product Component Disassembly Assessment


#### 4.1 Disassembly Sequences










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#### 4.2 Disassembly summaries and selective treatment component


The disassembly description is shown as Table 4.

**Table 4: Sub-assembly Assessments- Launa**

Name	Luna3	Characteristics
		<ul style="list-style-type: none"> <li>• Component Numbers : 29</li> <li>• Total Disassembly Time : 254 sec</li> <li>• Disassembly Sequence : From Step 1 to 21</li> <li>• Connection Technique : <ul style="list-style-type: none"> <li>Screw Connector</li> <li>Snap Glue</li> </ul> </li> <li>• Disassembly Tools : <ul style="list-style-type: none"> <li>Hand knife</li> <li>knife</li> <li>knife</li> <li>Philips Screwdriver Tweezers</li> <li>Screwdriver</li> </ul> </li> </ul>


#### Component detailed information

Dismantling Sequence / Part No.		Component Name & Photo	Weight (g)	Connection Technique	Disassembly Time (Sec)	Disassembly Tools
1	1	Battery 	179	Connector	4	Hand
2	2	Battery Latch Cover 	2	Screw	23	Hand & Philips Screwdriver
3	3	Latch 	3	Screw	15	Screwdriver
	4	Pen Holder Assy 	3.3		10	Screwdriver
	5	PCBA and Wire 	1		4	Tweezers

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**Table 4: Sub-assembly Assessments-Launa**

Component detailed information							
Dismantling Sequence / Part No.		Component Name & Photo		Weight (g)	Connection Technique	Disassembly Time (Sec)	Disassembly Tools
4	6	Battery Latch Lock		1	Snap	8	Tweezers
	7	Battery from PCBA		7			
5	8	Thermal Pad		1	Glue	16	Tweezers
	9	Back Cover		28	Glue		Hand & Philips Screwdriver
	10	Snap on Door_TaiDoc		2	Snap		Hand & Philips Screwdriver
6	11	PCBA and Wire		3	Screw	8	Hand & Philips Screwdriver
7	12	Connector		1.5	Snap	5	Tweezers
8	13	Component and Wire		1.3	Snap	3	Tweezers
9	14	PCBA and Wire		2	Snap	7	Tweezers
10	15	PCBA		2	Snap	23	Screwdriver






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**1Table 4: Sub-assembly Assessments-Launa**

Component detailed information							
Dismantling Sequence / Part No.		Component Name & Photo		Weight (g)	Connection Technique	Disassembly Time (Sec)	Disassembly Tools
11	16	PCBA		2	Snap	6	Screwdriver
12	17	PCBA		3	Snap	7	Screwdriver
13	18	PCBA		109	Snap	12	Screwdriver
14	19	PCBA		3	Snap	8	Screwdriver
15	20	Board battery		5	Snap	15	Screwdriver
16	21	Component and Wire		1	Snap	5	Tweezers
17	22	PCBA		8	Snap	8	Tweezers
18	23	Metal sheets		16	Snap	22	Screwdriver
	24	Protection Film		6			

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**Table 4: Sub-assembly Assessments-Launa**

Component detailed information							
Dismantling Sequence / Part No.		Component Name & Photo		Weight (g)	Connection Technique	Disassembly Time (Sec)	Disassembly Tools
19	25	Top Assambly (LCM)		50	Snap	30	knife
	26	Mylar_B2010001_LCM BTB CON_Sunny-Tek		0.02			
	27	Mylar_B2010001_LCM BTB CON A_Sunny-Tek		0.02			
20	28	Adapter		103.6	Snap	5	knife
21	29	Power Cord		61.72	Snap	0	Hand

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**Table 5: Selective treatment component**

Materials/ Components	Part No.
Battery	1,7
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	11,15,17,18,20,22
Note: For details of derivative of numbers indicated above please refer to Table 4	

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## 5 、 3R Calculation

### 5.1 Calculation Formula

The criteria calculation of WEEE 3R (Reuse, Recycling & Recovery) is adopted from the Department of Trade and Industry (DTI, UK.), as shown in Table 5.


**Table 5: 3R Calculation Formula**

Calculator to help companies assess compliance with WEEE target levels		
Weight of WEEE collected	A	.....kg
Weight of whole appliances re-used for original purpose	B	.....kg
Weight of components, sub-assemblies and consumables which are re-used for their original purpose or recycled	C	.....kg
Target level of WEEE re-use and recycling	$\frac{C}{A - B}$	.....%
Weight of WEEE where energy is recovered in a power plant	D	.....kg
Target level of WEEE recovery	$\frac{D + C}{A - B}$	.....%

Reference : (A guide to marketing, product development and manufacturing actions you need to take)-- GG416 (DTI)

Recycling Rate = (Reuse + Recyclable)/(Products Weight)×100% ..... (1)

Recovery Rate = (Reuse + Recyclable +Energy recovery)/(Products Weight)×100% ..... (2)

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### 5.2 Product 3R Calculation

As a 3R calculating result, it is shown in Table 6.

**Table 6: Luna3 Calculation Result**

Equipment Name/Type			Luna3			
Description	Derivative	Weight (g)	Recycle	Energy Recovery	Disposal	Selectively Treatment (WEEE Annex II)
Launa	Metal	16	✓			
	Plastic & Complex Material	590.5	✓	✓		

### 5.3 Product Derivative Summary

Product Name	Luna3
WEEE Evaluation	Calculation Weight ( g )
Recycling Weight	585.4
Energy Recovery Weight	21.1
Disposal Weight	0
Selectively Treatment Weight (WEEE Annex VII)	0
<b>Product Sample Weight ( g )</b>	<b>606.5</b>

### 5.4 Test Result

**PASSED**

Product Name	Luna3
Recycling Rate %	Testing Recycling Rate %
55%	97.1%
Required Recovery Rate %	Testing Recovery Rate %
75%	100%