



REPORT No.: SZ24040099R03

# WEEE REPORT

**Applicant** : Orbbec Inc.

**Product Name** : 3D camera

**Model Name** : Gemini 335

**Client Reference Info.** : G40155-170, Gemini 336, G40155-180, Gemini 330,  
G45155-170, Gemini DM330, G05155-170, G21 Board,  
CP0000-G21

**Brand Name** : ORBBEC

**Test Request** : As specified by client, to assess the reuse/recycle/recovery of  
the submitted sample under article 11 and Annex V of Directive  
2012/19/EU

**Receipt Date** : 2024-04-09

**Test Date** : 2024-04-10 to 2024-04-16

**Issue Date** : 2024-04-22

**Conclusion** : This report is true and effective and the results of the test meet  
the requirements of WEEE, this product is qualified.



Edited by :

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Deng Baijian (Rapporteur)

Approved by :

*Kenny Li*

Kenny Li (Supervisor)

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MORLAB

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# DIRECTORY

1. APPLICANT INFORMATION .....	3
2. GENERAL INFORMATION.....	3
3. RESULT OF PREPARED FOR RE-USE/RECYCLING/RECOVERY ASSESSMENT ...	4
4. APPEARANCE OF THE PRODUCT .....	5
5. SELECTIVE TREATMENT FOR MATERIALS AND COMPONENTS .....	5
6. DISASSEMBLY TREE.....	6
7. DISASSEMBLY PROCEDURE.....	7
7.1 CONNECTION TECHNIQUE .....	7
7.2 DISASSEMBLY TOOL .....	7
7.3 DISASSEMBLY TIME .....	8
7.4 LOSS DURING DISASSEMBLY .....	8
8. MATERIAL AND RECYCLING INFORMATION .....	8
9. RECYCLING AND RECOVERY RATE CALCULATION .....	10
10. ANNEX VII OF WEEE DIRECTIVE .....	10
11. RECOMMENDATIONS FOR WEEE DIRECTIVE COMPLIANCE .....	11
ANNEX A GENERAL INFORMATION .....	11


Change History		
Version	Date	Reason for Change
1.0	2024-04-22	First edition



## 1. Applicant Information

**Applicant** : Orbbec Inc.  
**Applicant Address** : Orbbec Technology Building, No.88 High-tech North 1st Road, Nanshan District, Shenzhen, China  
**Manufacturer** : Orbbec Inc.  
**Manufacturer Address** : Orbbec Technology Building, No.88 High-tech North 1st Road, Nanshan District, Shenzhen, China

## 2. General Information

Product Model	Gemini 335
Product Size	88.79mm×30.01mm×25.14mm
Category under the WEEE Directive	5 <sup>th</sup> category (Small equipment)
Product Photo	
	



### 3. Result of Preparing for Re-Use/Recycling/Recovery Assessment

A

Reuse/Recycling/Recovery	Reuse/Recycling Rate (%)	Recovery (%)
Reuse/Recycling/Recovery Targets under the 2012/19/EU WEEE Directive	55	75
Result of Assessment	96.56	96.56
WEEE Requirement Compliance	Yes	Yes

B

Reuse/Recycling/Recovery	Reuse/Recycling Rate (%)	Recovery (%)
Reuse/Recycling/Recovery Targets under the 2012/19/EU WEEE Directive	55	75
Result of Assessment	92.10	92.10
WEEE Requirement Compliance	Yes	Yes

C

Reuse/Recycling/Recovery	Reuse/Recycling Rate (%)	Recovery (%)
Reuse/Recycling/Recovery Targets under the 2012/19/EU WEEE Directive	55	75
Result of Assessment	91.15	91.15
WEEE Requirement Compliance	Yes	Yes

## 4.Appearance of the Product



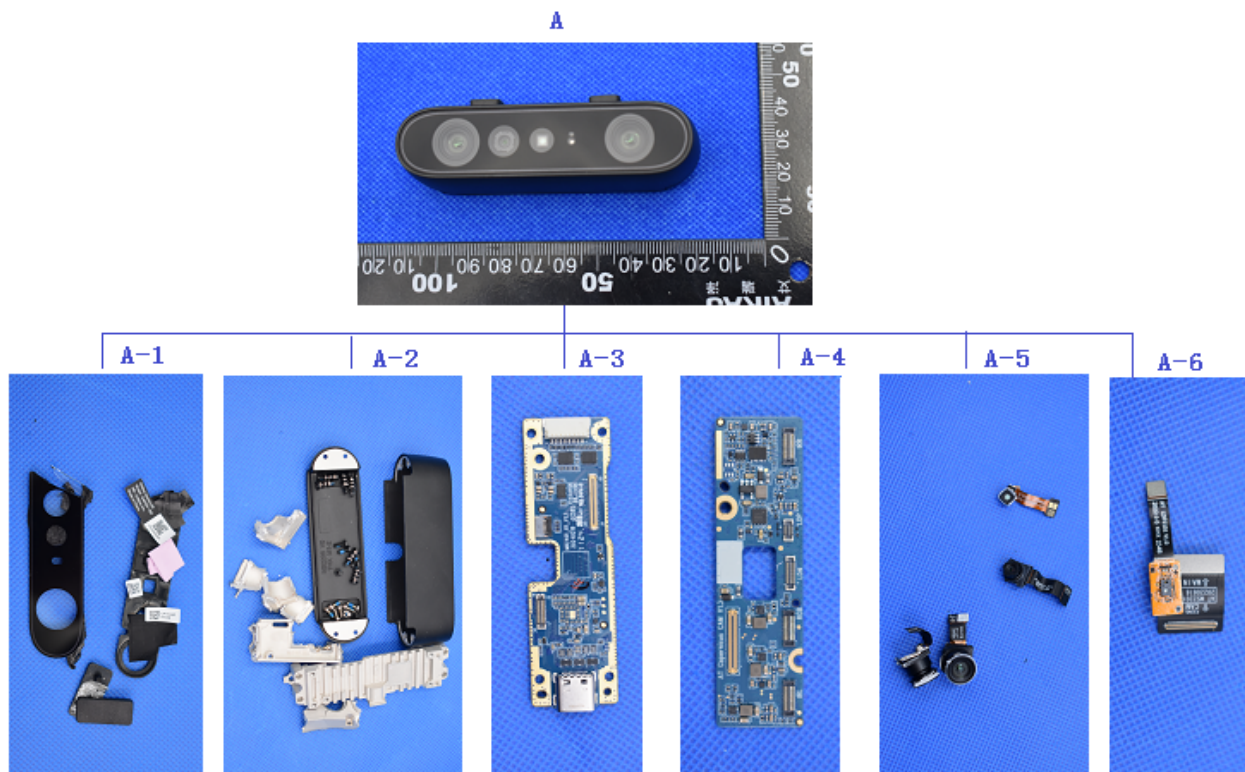
## 5.Selective Treatment for Materials and Components

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

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	A-3	6.65cm*2.00cm	1	5.93
	A-4	6.20cm*1.75cm	1	4.18



## 6. Disassembly Tree



B



C



B-1

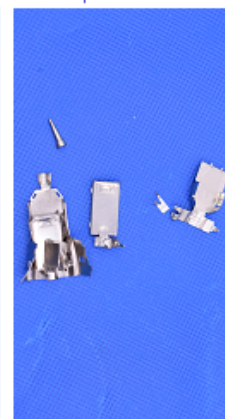
B-2



C-1

C-2

C-3



## 7. Disassembly Procedure

The disassembly procedure taken here is in accordance with the treatment requirements under the Annex VII of the WEEE Directive. In addition, to consider economic and efficiency factors, manual operation and disassembly tools have been applied to separate the components and materials from this product in order to simulate the scenario at the treatment facility, and to achieve the objective that the separated components and materials can be reused, recycled and recovered.

### 7.1 Connection Technique

For this product, the connection technology including as following :

Screw : 17

Glue : 5

Pressing Fits : 4

### 7.2 Disassembly Tool

The disassembly tools used for this product show as following :

Disassembly Tool	Pictures	Disassembly Tool	Pictures
Flat headed screwdriver		Cross screwdriver	

### 7.3 Disassembly Time

45 Minutes 30 Seconds

### 7.4 Loss During Disassembly

#### A

Product weight before disassembly: 98.80g

Product weight after disassembly : 98.75g

Lost rate : 0.05%

#### B

Product weight before disassembly: 172.21g

Product weight after disassembly : 172.11g

Lost rate : 0.06%

#### C

Product weight before disassembly: 66.81g

Product weight after disassembly : 66.70g

Lost rate : 0.16%

## 8. Material and Recycling Information

According to the information declared by the applicant company, the material and recycling information for this product is described in the following table.

The reuse, recycling and recovery assessment for this product is based upon economic and efficiency considerations, and the waste treatment technologies and equipment that are most frequently available to the market.



**A**

Photo No.	Component/Material Composition	Weight (g)	Percent Weight (%)	Reuse/Recycling Rate (%)	Energy Recovery (%)	Recovery Rate (%)
A-1	Plastic parts	5.02	5.08	4.47	0.00	4.47
A-2	Metal parts	80.32	81.30	79.67	0.00	79.67
A-3	PCB 1	5.93	6.00	5.52	0.00	5.52
A-4	PCB 2	4.18	4.23	3.89	0.00	3.89
A-5	Mixed	3.30	3.34	3.01	0.00	3.01
Total		98.75	99.95	96.56	0.00	96.56

**B**

Photo No.	Component/Material Composition	Weight (g)	Percent Weight (%)	Reuse/Recycling Rate (%)	Energy Recovery (%)	Recovery Rate (%)
B-1	Plastic parts	100.59	58.41	51.40	0.00	51.40
B2	Metal parts	71.52	41.53	40.70	0.00	40.70
Total		172.11	99.94	92.10	0.00	92.10

**C**

Photo No.	Component/Material Composition	Weight (g)	Percent Weight (%)	Reuse/Recycling Rate (%)	Energy Recovery (%)	Recovery Rate (%)
C-1	Plastic parts	19.89	29.77	26.20	0.00	26.20
C-2	Metal parts	5.41	8.10	7.94	0.00	7.94
C-3	Cable	41.40	61.97	57.01	0.00	57.01
Total		66.70	99.84	91.15	0.00	91.15

**Note:**

- Due to their insignificant weight and the difficulty of their separation in a manual operation, sticker, solder, paint and printing materials are not included in this assessment.
- Plastic containing brominated flame retardants is not assessed in the list.
- Battery subject to 2006/66/EC Directive, it must be removed from the WEEE for recycling separately, the weight percent, reuse & recycling rate, recovery rate do not contain the battery.

## 9. Recycling and Recovery Rate Calculation

Reuse, Recycling & Recovery Rate using in the report are calculated as following formulas :

$$\text{Reuse \& Recycling Rate} = \frac{\text{Reuse \& Recycling Weight}}{\text{Product Total Weight}} \%$$

$$\text{Recovery Rate} = \frac{\text{Reuse \& Recycling Weight} + \text{Energy Recovery Weight}}{\text{Product Total Weight}} \%$$

Total weight of the product is including the main product and accessories.

## 10.ANNEX VII of WEEE Directive

Selective treatment for materials and components of waste electrical and electronic equipment:

- 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 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 (CFC), hydrochlorofluorocarbons (HCFC) or hydrofluorocarbons (HFC), Hydrocarbons (HC),
- Gas discharge lamps,
- Liquid crystal displays (together with their casing where appropriate) of as 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 Council Directive 67/548/EEC relating to the classification, packaging and labeling 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/EU 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).

## 11.Recommendations for WEEE Directive Compliance

— In order to avoid the product not meeting the reuse/recycling/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 2011/65/EU 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 the WEEE Directive for reuse/recycling/recovery assessment and RoHS for restricted/banned substances requirements.

## Annex A General Information

### 1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, Guangdong Province, P. R. China
Telephone:	+86 755 36698555
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### 1.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, Guangdong Province, P. R. China

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