

Master Specification			
Data Collector with Bluetooth			
Model No.	OPN-2002n		
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## Revision History

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1 <sup>st</sup>	2013-2-26	-	(Initial Issue)
第2版	2013/08/29	第3項	<ul style="list-style-type: none"> <li>•LED 照明対策に伴い、読み取り深度を変更。</li> <li>•外部規格更新 「EN55022, EN55024」→ 「EN 55022:2010, EN 301 489-1 V1.9.2, EN 301 489-17 V2.1.1, EN 300 328 V1.7.1」</li> </ul>
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		第10項	<ul style="list-style-type: none"> <li>•外部規格更新 「EN55022, EN55024」→ 「EN 55022:2010, EN 301 489-1 V1.9.2, EN 301 489-17 V2.1.1, EN 300 328 V1.7.1」</li> </ul>
		第11項 第15項	<ul style="list-style-type: none"> <li>•RoHS 指令の改正のため変更 「2002/95/EC」 → 「2011/65/EU」</li> </ul>
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		第18項	初期設定を追加

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## 1. Abstract

This manual provides specifications for the OPN-2002n Laser Barcode Scanner.

## 2. Overview

The OPN-2002n scanner enables data transmission of barcode using Bluetooth wireless technology.

- The OPN-2002n is handy and simple data collector.  
Data transmission is performed via a USB or Bluetooth.
- The OPN-2002n has SPP and HID profiles.
- Power supply is 3.7V, 230mAh(typ.) and Lithium-ion polymer battery is used.
- The power supply charging is done via a USB interface or charging cradle.

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## 3. Basic Specification

Item		Spedification		Note	
Control Section	CPU	32bit CISC/96MHz			
	FROM	512Kbyte + 32KByte			
	SRAM	96Kbyte			
	FROM(ストレージ)	1Mbyte		For user data	
Input Section	Key type	2 keys: Trigger, Function			
Display section	LED	bi-colors(red and green) 2pcs, a blue LED			
	Beeper	Tone:variable frequency, Volume:3-level variable			
RTC	Contents	year, month, day, hour, minute and second			
	Error	$\leq \pm 90$ seconds per a month			
I/F	Bluetooth	Frequency	2402MHz ~ 2480MHz		
		Specification	Bluetooth Ver2.1		
		Communication distance	10m		It may shorter depending on usage environments
		Output level	Class 2		4dBm max.
		Profile	SPP/HID		
	USB	<ul style="list-style-type: none"> <li>•Full-Speed 12Mbps ( HID/COM )</li> <li>•Hi-Power Bus-powered 対応</li> </ul>			
	Serial interface	2contacts for cradle.			
Optical Section	Light emitting device	Red laser diode			
	Wave length / output power	$650 \pm 10$ nm $\leq 1$ mW		at 25 deg. C	
	Scan rate	$100 \pm 20$ scan/sec			
1D Symbologies	Supported Symbologies	JAN,EAN,UPC-A,UPC-E,NW-7 (Codabar), Industrial 2 of 5,Interleaved 2 of 5, Code 11, Code 39, Code 93, Code 128 等		Refer to Chapter18 for details	
	Minimum Resolution	Code 39 : 0.127mm		PCS 0.9	
	Curvature	Radius $\geq 15$ mm ( 8-digiet JAN) Radius $\geq 20$ mm ( 13-digit JAN)		PCS 0.9	
	Scan Angle	Pitch: $\alpha \leq \pm 35^\circ$		PCS 0.9	
		Skew: $\beta \leq \pm 50^\circ$ (Excluding dead zone)			
		Tilt: $\gamma \leq \pm 20^\circ$			
	DOF(mm)	Code 39	Resolution:0.127	65~125	PCS 0.9
			Resolution:0.15	60~145	
Resolution:0.25			50~230		
Resolution:0.5			45~300		
Resolution:1.0			60~330		
Minimum PCS	0.45		With over 70% reflectivity of space and quiet zone.		

Item		Specification	Note	
Power	Main Battery	Lithium-ion polymer battery 230mAh(typ.)		
	Up-time	10hours or more	When a barcode is scanned twice in 10 sec. at 25 deg. C	
	Range of Operation(Charging) Voltage	4.5 ~ 5.5 V		
	Current consumption	Charging <500mA		
Environmental Specification	Temperature	Operating	0 ~ 50 °C	
		Storage	-20 ~ 60 °C	
	Humidity	Operating	20%RH ~ 85%RH	No frost, no condensation.
		Storage	20%RH ~ 85%RH	No frost, no condensation.
	Ambient Light Immunity	Fluorescent	4,000 lx or less	
		Sunlight:	80,000 lx or less	
	Vibration	Increase the frequency of vibration from 10 Hz to 100 Hz at an accelerated velocity of 19.6 m/s <sup>2</sup> (2G) for 6 minutes each in X, Y and Z-direction. Repeated this test for 10 times.		
	Drop	Drop 3 times, at each 6 faces (right, left, front, back and top), from a height of 120 cm onto a concrete surface.		
Dust and drip proof	IP42			

Item		Specification	Note	
Regulatory	Laser safety	JIS C 6802:2011 Class2 IEC 60825-1 Ed.2: 2007 Class 2 CDRH Class II		
	Safety standards	EN60950-1:2005 IEC60950-1:2006		
	EMC	EN 55022:2010 EN 301 489-1 V1.9.2 EN 301 489-17 V2.1.1 EN 300 328 V1.7.1 FCC Part 15 Subpart C , Subpart B ClassB VCCI ClassB	For residential, commercial and light-industrial environments	
	Product safety	CE Marking		
	Other	Bluetooth logo certification		
Immunity test	ESD immunity	No destruction	10kV (Air)	Condition: IEC61000-4-6 compliant
		No malfunction	8kV (Air)	
Physical Features	Dimensions		62.0(D) × 32.0(W) × 17.0(H) (mm)	
	Weight		Approx. 28g	Excluding the accessories



4. Detailed View

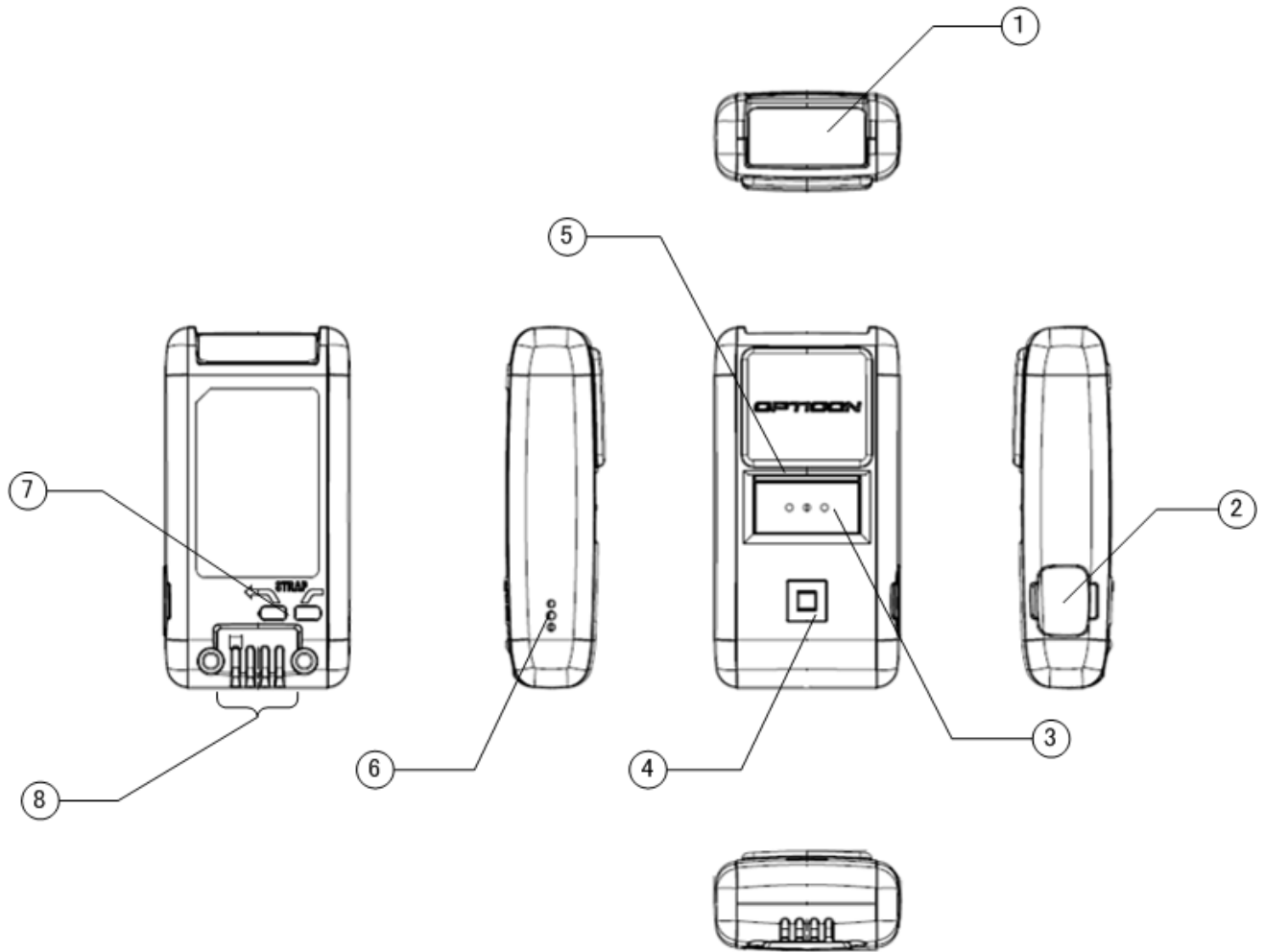


Figure 1:Detailed View

No.	Name	Description
1	Scanning Window	Laser light is emitted through this window to read bar codes.
2	Scanning Window	The laser light is emitted through this window.
3	Trigger Key	A trigger key used to read bar codes
4	Function Key	A function key that can be configured with application
5	LED	Indicator of operating status, such as bar code reading and warnings
6	Buzzer Hole	Sound from a built-in buzzer comes out through these holes.
7	Strap Hole	A hole to attach a hand strap
8	Contact	The contact is for charge and communication.

## 5. Electrical Specifications

### 5.1. USB

- Voltage : 4.5-5.5V
- Bus-Power Class : Hi-Power ( 500mA max )
- Current consumption : <500mA

### 5.2. Charging Cradle

- Voltage : 4.5-5.5V

## 6. Interface

The OPN-2002n supports USB, Bluetooth and serial interfaces.

### 6.1. USB

This interface supported FULL Speed USB.

#### 6.1.1. Connector

Signal	Pin No.
VCC	1
Data(-)	2
Data(+)	3
( NC )	4
GND	5

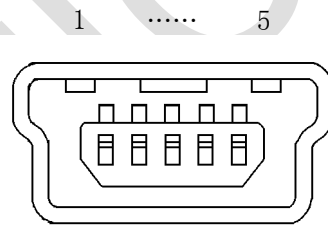


Figure 2 : MINI USB B Connector

#### 6.1.2. USB Interface Circuit

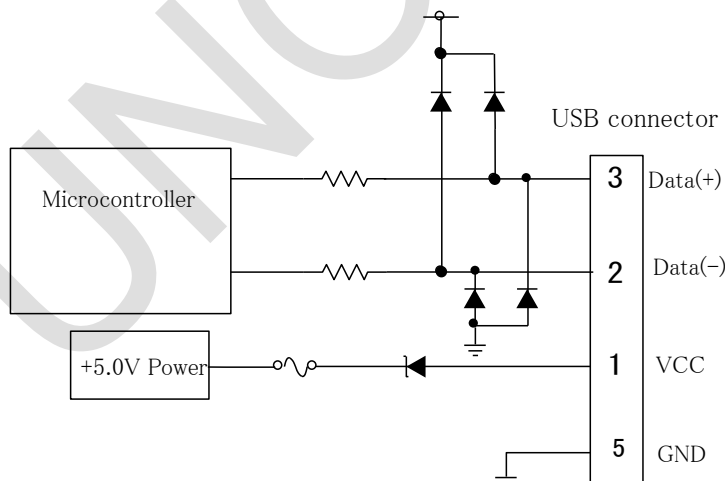


Figure 3:USBInterface Circuit

### 6.2. Bluetooth

The OPN-2002n supported Bluetooth.

- Frequency : 2402MHz ~ 2480MHz
- Specification : Bluetooth Ver2.1
- Communication distance : 10m
- Output level : Class 2 (4dBm Max.)
- Supported profiles : SPP/HID
- Topology of connection : Point-to-point
- Operating mode : Master or Slave mode
- Security mode : Enabled
- Encryption : Enabled

### 6.3. Serial Interface

#### 6.3.1. Connector

Signal	Pin No.
VCC	1
RXD	2
TXD	3
GND	4

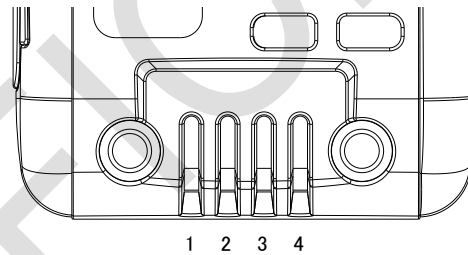


Figure 4 : Serial Interface Connector

#### 6.3.2. Serial Interface Circuit

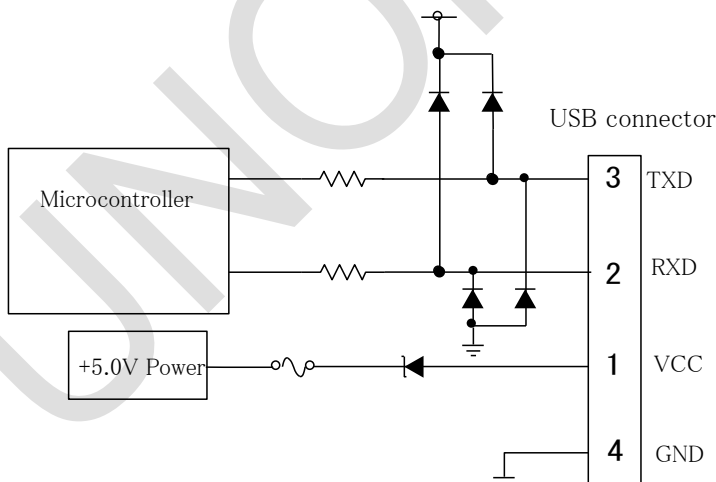


Figure 5: Serial Interface Circuit

## 7. Optical Specifications

### 7.1. Laser Scanning Specification

Item		Specification	Unit
Light-emitting device		Red laser diode	
Emission Wave length		650±10 (25 deg.C)	nm
Output power		<1.0	mW
Scan Method		Bi-directional	
Scan Rate		100±20	Scan/Sec
Scan Angle	Scan Angle	54±5	Deg
	Effective Scan Angle	44 (min.)	Deg

### 7.2. Laser Scanning Specification

#### 7.2.1. Laser Scanning Tilt

Laser scanning tilt is the vertical difference between both ends of a laser scan line. Measure it in the middle of the laser scan line.

- Up to 1.2 degrees angle in vertical direction from the scan origin (mirror motor).
- Up to 3.1 mm at 150 mm from the scan origin.

#### 7.2.2. Scanning Curvature

The maximum difference between the laser scan line and the line between both ends of the laser scan line. Measure it in the middle of the laser scan line.

- Up to 1.27 degrees angle in vertical direction from the scan origin (mirror motor).
- Up to 3.3 mm at 150 mm from the scan origin.

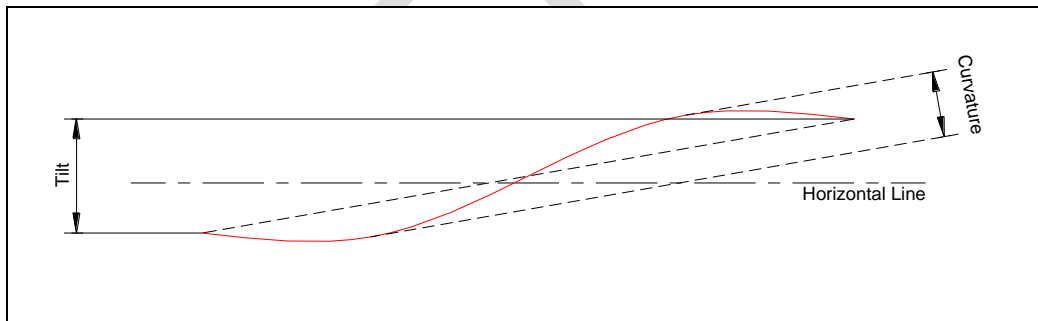


Figure 6 : Laser Scanning Tilt and Curvature

## 8. Technical Specifications

The conditions for technical specifications are as follows, unless otherwise specified in each section

### <Conditions>

<b>Ambient Temperature and Humidity</b>	<b>Room temperature, room humidity</b>
<b>Ambient Light</b>	<b>500 ~ 900 lx (excluding high-frequency lighting)</b>
<b>Background</b>	<b>Black</b>
<b>Reading Test</b>	<b>Accept the performance with 10 consecutive successes in reading. Each reading should be done in 0.5 seconds or less.</b>

8.1. Print Contrast Signal

**PSC 0.45 or higher (70% or higher reflectivity of space and quiet zone)**

$$PCS = \frac{\text{Reflectance of white bar} - \text{Reflectance of black bar}}{\text{Reflectance of white bar}}$$

\* Be sure to keep the optical window clean without dirt or scratches, or it may have a bad effect on the reading characteristics.

8.2. Depth of Field and Resolution

Distance in this drawing is measured from the front edge of the scanner.

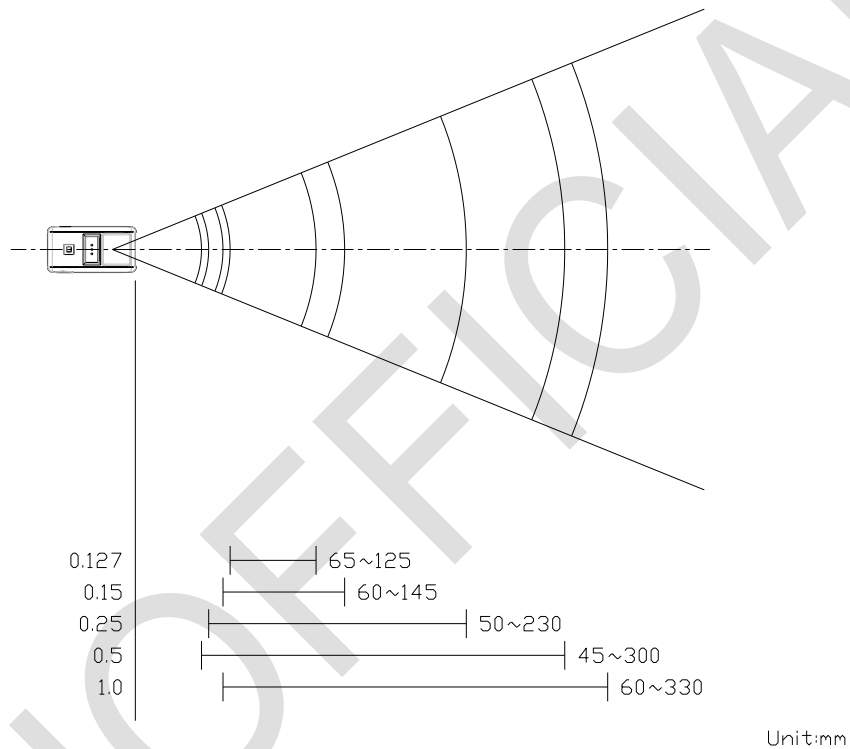


Figure 7: Depth of Field

Resolution	Depth of Field(mm)	Symbology	PCS	Quiet Zone	Digits
1.0mm	60 ~ 330	Code 39	0.9	25mm	1 桁
0.5mm	45 ~ 300	Code 39	0.9	18mm	3 桁
0.25mm	50 ~ 230	Code 39	0.9	10mm	8 桁
0.15mm	60 ~ 145	Code 39	0.9	7mm	10 桁
0.127mm	65 ~ 125	Code 39	0.9	5mm	4 桁

<Conditions>

Bar Code Sample: Optoelectronics Test Chart, N/W ratio = 1:2.5

Angle :  $\alpha = 0^\circ$   $\beta = 15^\circ$   $\gamma = 0^\circ$

Curvature :  $R = \infty$

## 8.3. Pitch, Skew, and Tilt

**Pitch** :  $\alpha \leq \pm 30^\circ$   
**Skew** :  $\beta \leq \pm 50^\circ$  (Excluding dead zone)  
**Dead Zone** :  $\beta \leq \pm 8^\circ$  (Decoding may fail in some areas as a result of specular reflection)  
**Tilt** :  $\gamma \leq \pm 20^\circ$

## &lt;Conditions&gt;

**Bar Code Sample** Optoelectronics Test Sample  
 <Pitch, Skew and Dead Zone>  
 PCS 0.9, Resolution 0.25 mm, 9-digit Code 39,  
 Quiet Zone 10 mm, N/W Ratio = 1 : 2.5  
 <Tilt>  
 PCS 0.9, Resolution 0.26 mm, JAN-13, Quiet Zone 10 mm  
**Distance** 100 mm from the edge of the scan engine  
**Angle** Pitch angle :  $\beta = +15^\circ, \gamma = 0^\circ$   
 Tilt angle :  $\alpha = 0^\circ, \beta = +15^\circ$   
 Skew angle / Dead zone:  $\alpha = 0^\circ, \gamma = 0^\circ$   
**Curvature**  $R = \infty$

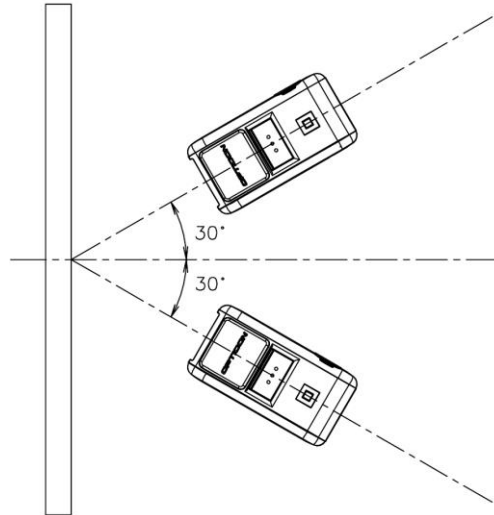


Figure 8: Pitch Angle

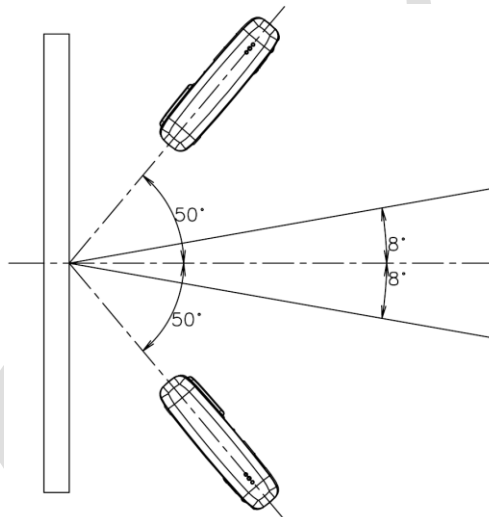


Figure 9: Skew Angle

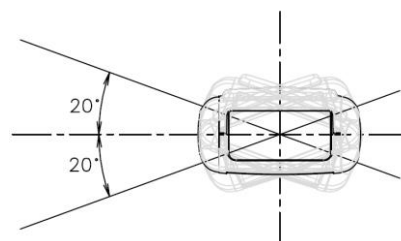


Figure 10: Tilt Angle

8.4. Curvature

8-digit JAN :  $R \geq 15 \text{ mm}$   
 13-digit JAN :  $R \geq 20 \text{ mm}$

<Conditions>

Bar Code Sample    **Optoelectronics Test Sample**  
                                          **PCS 0.9, Resolution 0.26 mm, JAN-13, Quiet Zone 10 mm**

Distance                    **100 mm from the edge of the scan engine**

Angle                         **Skew angle  $\beta = +15^\circ$**

Curvature                     **$R = \infty$**

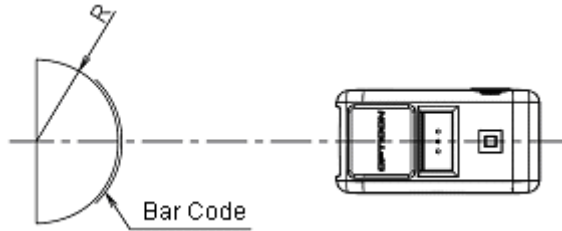


Figure 11 : Curvature

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## 9. Environmental Specifications

### 9.1. Temperature

Operating : 0 ~ 50 °C  
 Storage : -20 ~ 60 °C

### 9.2. Humidity

Operating : 20 ~ 85%RH (no condensation, no frost)  
 Storage : 20 ~ 85%RH (no condensation, no frost)

### 9.3. Ambient Light Immunity

Scanning performance is guaranteed when the range of illumination on a barcode surface is the following values.

Incandescent light : 0 ~ 4,000 lx  
 Fluorescent light : 0 ~ 4,000 lx  
 Sunlight : 0 ~ 80,000 lx

#### <Conditions>

Barcode Test Sample	OPTOELECTRONICS test chart Resolution 0.254 mm PDF417 specified in Chapter 7
Distance	89 mm from the front edge of the scanner.
Angles	Pitch: $\alpha = 0^\circ$ , Skew: $\beta = 15^\circ$ , Tilt: $\gamma = 0^\circ$
Curvature	$R = \infty$
Power Voltage	3.7 V

\* Be sure that the direct light or specular reflection from the light source does not enter the light receiving section of the OPN-2002n.

### 9.4. Dust and Drip Proof

IEC IP42 equivalent

#### Protection against solid objects: Level 4

Protected against solid objects greater than 1.0 mm

#### Protection against liquids: Level 2 (JIS IPX2)

Protected against dripping water from the vertical when tilted up to 15°

9.5. Vibration Strength(without packing)

There shall be no sign of malfunction after the following vibration test.

**Vibration test:** Increase the frequency of the vibration from 10Hz to 100Hz at an accelerated velocity of 19.6m/s<sup>2</sup> (2.0 G) for 30 minutes (60 minutes for a cycle) in the non-operating state. Repeat this in each X, Y and Z direction.

9.6. Vibration Strength (in individual packing)

There shall be no sign of malfunction after the following vibration test.

**Vibration test:** Increase the frequency of the vibration from 10Hz to 100Hz at an accelerated velocity of 19.6 m/s<sup>2</sup> (2.0 G) for 30 minutes (60 minutes for a cycle) in individually packaged state. Repeat this in each X, Y and Z direction.

Drop Impact Strength

There shall be no sign of malfunction after the following drop test.

**Drop test:** Drop the scanner three times (18 times in total), at each 6 face, from a height of 120cm onto a concrete floor as shown below.

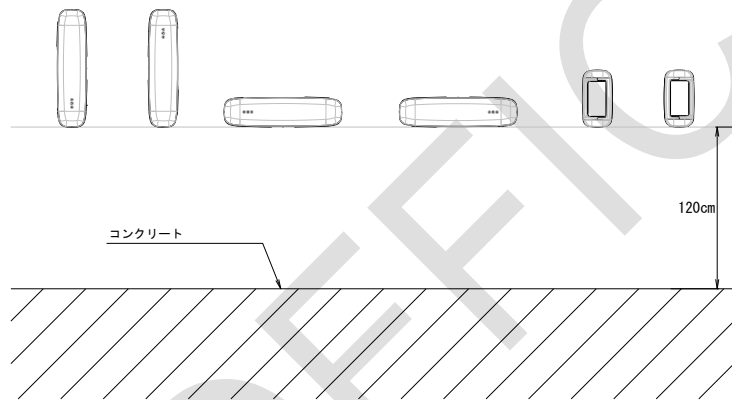


Figure 12: Drop test

9.7. Drop Impact Strength (in individual packaging)

There shall be no sign of malfunction after the following drop test.

**Drop test:** Drop an individually packaged scanner 10 times in total, at any of 1 corner, 3 edges, and 6 faces, from a height of 150 cm onto a concrete floor.

9.8. Electrical Specifications

Air discharge	±8 kV max. (No malfunction) ±10 kV max. (No destruction)
Measurement environment	An electrostatic testing device compliant with IEC 61000-4-2 is used.
Discharge resistance	330 Ω
Charging capacitor	150 pF

## 10. Regulatory Compliance

### 10.1. Laser Safety

JIS C 6802:2011 Class 2  
IEC 60825-1 Ed.2: 2007 Class 2  
CDRH Class II

### 10.2. Product Safety

EN60950-1:2005  
IEC60950-1:2006

### 10.3. EMC

- EN 55022:2010
- EN 301 489-1 V1.9.2
- EN 301 489-17 V2.1.1
- EN 300 328 V1.7

FCC Part 15 Subpart C , Subpart B ClassB

#### Federal Communications Commission Notices

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

#### Harmful Interference Notice

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

Changes or modifications to this equipment that have not been approved by Ruckus Wireless may void the user's authority to operate this equipment.

#### RF Exposure

The OPN-2002n unit (FCC ID: UFOOPN2002n) complies with FCC radiation exposure limits set forth for uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. The unit has very low level of RF energy that it is deemed to comply without testing of specific absorption ratio (SAR).

## VCCI Class B

This is a Class B product, to be used in a domestic environment, based on the Technical Requirement of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference.

### 10.4. Other

Bluetooth logo certification

MFi License Program

The OPN-2002n uses Bluetooth module which qualifies as radio equipment for low-power radio stations as specified in the Radio Law 38-24-1.

Specified Radio Equipment :

Low power data communications system in the 2.4GHz band in Article 2 paragraph 1 item (19), Ordinance of MPT.

Model type of Bluetooth module: OPA-26X1

Number of certification: 201-125603

### 11. RoHS

**The OPN-2002n is compliant with RoHS.**

**RoHS: The restriction of the use of certain hazardous substances in electrical and electronic equipment, 2002/95/EC**

### 12. MTBF

**MTBF (Mean Time Between Failures) 10,000 hours**

### 13. Precautions

#### 13.1. Precaution against Laser Light

**\*Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

**Caution - Do not stare into the laser light from a scanning window. It may harm your eyes.**

Do not point the laser directly at others' eyes. It may harm your eyes.

**Do not stare into the beam with optical instruments. It may harm your eyes.**

#### 13.2. Handling

**Handle this product carefully. Do not deliberately subject it to any of the following:**

##### (1) Shock:

- Do not drop this product from a height greater than specified in this manual.
- Do not place this product under or between any heavy items.
- Do not swing this product around holding the hand strap.

##### (2) Temperature Conditions:

- Do not use this product at temperatures outside the specified range.
- Do not pour boiling water on this product.
- Do not throw this product into a fire.

##### (3) Foreign Materials:

- Do not immerse this product in water or other liquid.
- Do not expose this product to chemicals.

#### (4) Others

- Do not disassemble this product.
- Do not use this product near a radio or a TV. It may cause reception problems.
- This product may be affected by a momentary voltage drop caused by lightning.
- This product may not perform properly in a place where it will be subjected to a flickering light, such as a CRT (computer monitor, television, etc.).

### 13.3. Radio Low

The OPN-2002n uses Bluetooth module which qualifies as radio equipment for low-power radio stations (2.4 GHz band advanced data communication systems) as specified in the Radio Law 38-24-1.

**Therefore it does not need to have a radio station license in Japan.**

**The following activities are prohibited under the Radio Law:**

- Remodeling and disassembly
- Peeling off the certificate label

**Do NOT use the scanner under the following environment, as radio interference may affect other device and end up with causing physical or material damage.**

- Safety apparatus and medical device for human body protection
- Environment where is concerned to cause serious damage

### 13.4. Export Administration Regulations

This product is subject to the strategically controlled exports regulated under "Foreign Exchange and Foreign Trade Laws". Therefore, export of this product may require an export **permission of Japanese government.**

### 13.5. Bluetooth

**To communicate via Bluetooth, the device which OPN-2002n is connected to must support the same Bluetooth version and profile as OPN-2002n's.**

- OPN-2002n is compliant to Bluetooth standards. However, we cannot assure the connection between OPN-2002n and other Bluetooth devices which have not been tested.
- Bluetooth supporting devices use 2.4 GHz frequency band. However, many other sorts of devices also utilize this frequency band. It may have an effect on the communication speed or communication range of this data collector.
- The use of OPN-2002n outside of the European Union, the United States and Canada is punishable under the law.
- Communication speed and communication range of OPN-2002n may differ due to the obstacles and radio wave conditions between OPN-2002n and the device, which OPN-2002n is connected to.
- Conditions of the device, which OPN-2002n is connected to, may also affect the communication speed and communication range of OPN-2002n.

### 13.6. Frequency Band

**The frequency band 2.4 GHz is utilized by this product. Read carefully the followings before using this product.**

**In the frequency band of this product, scientific, medical and industrial devices including microwaves are used. Also other radio stations including local private radio station for mobile object identification requiring**

**license for such as manufacturing lines at factories, specific power-saving radio station requiring no license and amateur radio station are managed.**

1. Please make sure that “other radio stations” are not managed in the frequency band 2.4 GHz before using this product.
2. In case that radio interference occurs between this product and “other radio stations,” change the service space immediately, or stop transmitting radio wave to avoid the interference.
3. If you have any questions or troubles, please contact our sales office.

**\* This specification manual is subject to change without prior notice.**

UNOFFICIAL

### 14. Product Label

The labels shown below are attached to the back side of the data collector.

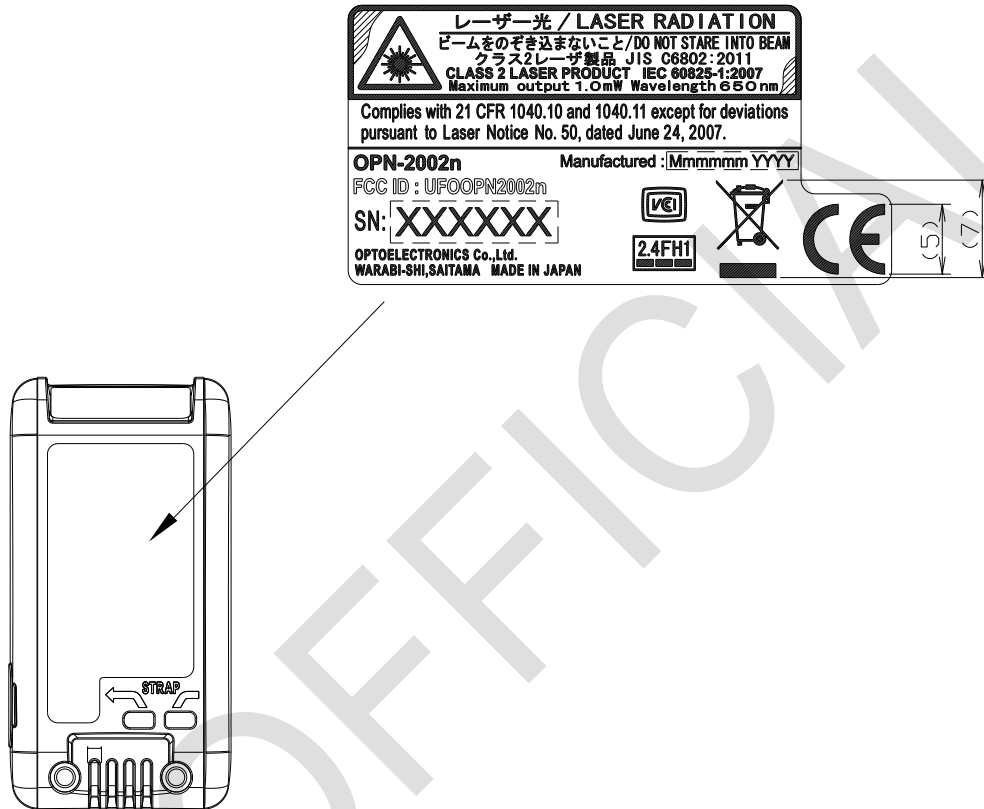


Figure 13: Product & Laser Caution Label

### 15. Packaging Specifications

#### 15.1. Individual Packaging Specification

Assembled package size: 125 x 112 x 40 (WDH mm)

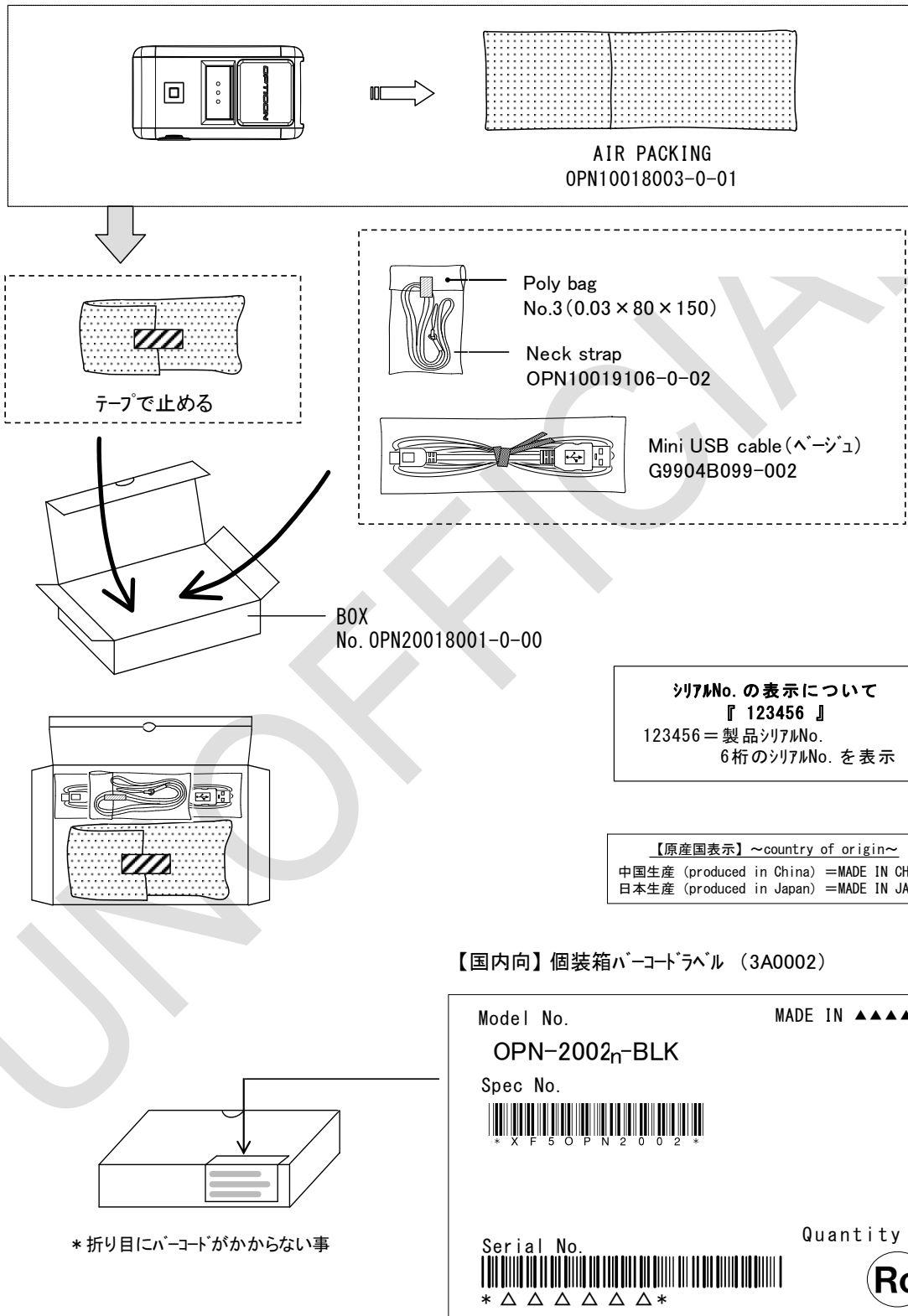
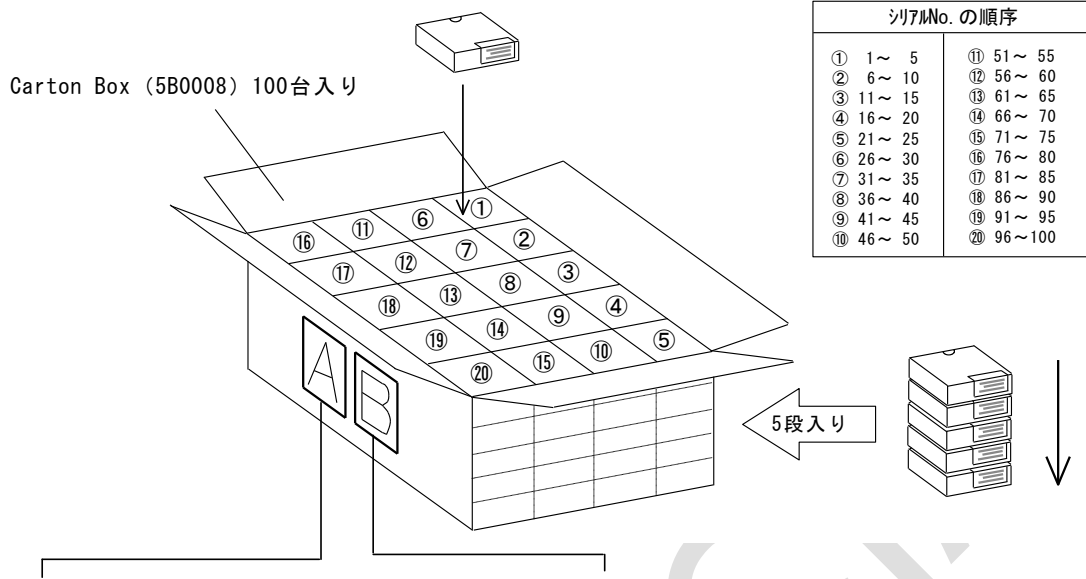


Figure 14: Individual Packaging



15.2. Collective Packaging Specification

Assembled package size: 595 x 520 x 245 (WDH mm), 100 pieces/box



**A :【国内向】外装箱バーコードラベル**  
正面と背面の2ヶ所に貼付(面の中央付近)

**B :【国内向】Missing Serial Numberラベル**  
欠品が3つ以上の場合にのみ貼付する  
Aラベルと並べ正面と背面の2ヶ所に貼付(面の中央付近)

(3C0006)

C/No. ▲▲  
MADE IN ▲▲▲▲▲

Product OPN-2002n-BLK

Spec#

Q'ty ▲▲/▲▲

S/N(from) \*000001\*

S/N(to) \*000▲▲▲\*

Missing Serial Number	Missing Q'ty ▲
1	*▲▲▲▲▲*
2	*▲▲▲▲▲*

ROM-Ver. (MAIN) TC01J\*\*  
ROM-Ver. (Bluetooth) TD01J\*\*  
Shipping Date 20▲▲/▲▲/▲▲

**Ro**

OPTOELECTRONICS CO., LTD.

(3C0007)

C/No. ▲▲  
MADE IN ▲▲▲▲▲

Missing Serial Number	Missing Q'ty ▲▲
3	*▲▲▲▲▲*
4	*▲▲▲▲▲*
5	*▲▲▲▲▲*
6	*▲▲▲▲▲*
7	*▲▲▲▲▲*
8	*▲▲▲▲▲*
9	*▲▲▲▲▲*
10	*▲▲▲▲▲*
11	*▲▲▲▲▲*
12	*▲▲▲▲▲*

OPTOELECTRONICS CO., LTD.

【原産国表示】 ~country of origin~  
中国生産 (produced in China) =MADE IN CHINA 日本生産 (produced in Japan) =MADE IN JAPAN

Figure 15: Collective Packaging

## 16. Warranty

### 16.1. Warranty period

OPTOELECTRONICS Co., Ltd. warrants that this product is free of defects or malfunctions for a period of twelve (12) months from its shipment. In case of having defects or malfunctions caused by normal usage in accordance with this specification during the foregoing warranty period, OPTOELECTRONICS shall repair or adjust the product free of charge.

Any repair or replacement of the product after the foregoing warranty period shall be charged at regular repair rates.

If defects or malfunctions were caused by customer mishandling, product repairs or replacement will be charged at regular repair rates, even during the foregoing warranty period.

### 16.2. Delivery

Products for maintenance or repair shall be sent back to OPTOELECTRONICS. The sender is responsible for all shipping costs.

### 16.3. Repair Timeframe

Repaired products shall be shipped back to the customer within 20 days after acceptance by OPTOELECTRONICS.

Expedited repairs may be available, subject to terms agreed to by OPTOELECTRONICS and the customer.

### 16.4. Maintenance Period

The maintenance period of this product is 5 years after its shipment.

OPTOELECTRONICS may discontinue maintenance for this product during the 5-year maintenance period if a satisfactory replacement product or maintenance solution is agreed to.

### 16.5. Other

Any additional warranty issues must be discussed with OPTOELECTRONICS on a case-by-case basis.

## 17. Physical Features

### 17.1. Dimensions

62.0(D) × 32.0(W) × 17.0(H) (mm)

### 17.2. Weight

Approx. 28g (Excluding the accessories)

17.3. Mechanical Drawing

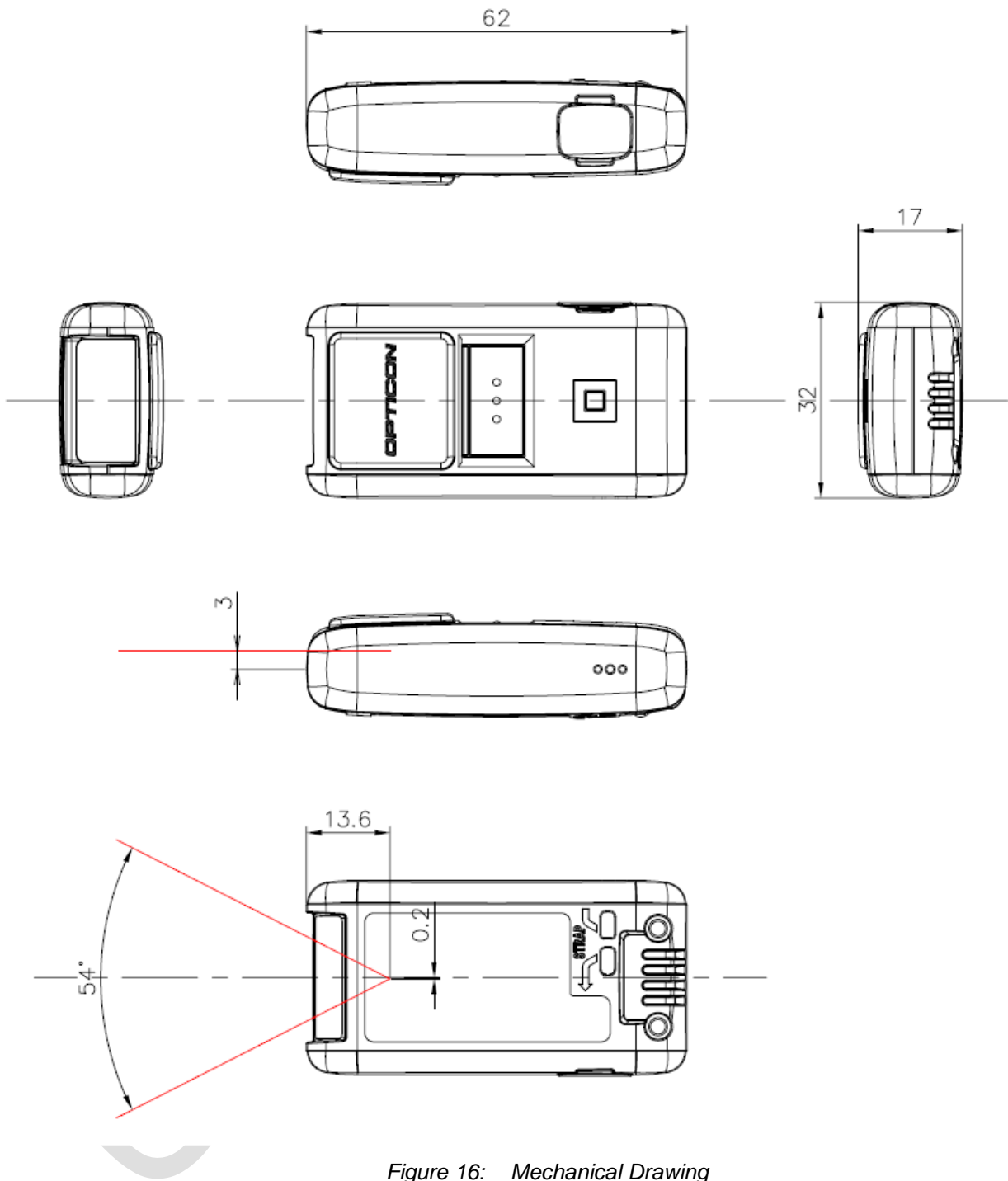


Figure 16: Mechanical Drawing

## 18. Supported Symbologies

### 18.1. 1D symbologies

Symbology	Symbology
JAN13 digits	Interleaved 2 of 5
JAN13 digits + ADDON2 digits	Code 93
JAN13 digits + ADDON5 digits	Code 128
JAN8 digits	MSI/Plessey
JAN8 digits + ADDON2 digits	IATA
JAN8 digits + ADDON5 digits	UK/Plessey
EAN13 digits	Telepen
EAN13 digits + ADDON2 digits	Matrix 2 of 5
EAN13 digits + ADDON5 digits	ChinesePostMatrix 2 of 5
EAN8 digits	NW-7 ABC Code
EAN8 digits + ADDON2 digits	NW-7 CX Code
EAN8 digits + ADDON5 digits	S-Code
Instore Code 13 digits	Tri/Optic
Instore Code 8 digits	Code 39 Full Ascii
UPC-A	Code 39 It.Pharmaceutical
UPC-A+ADDON2 digits	EAN 128
UPC-A+ADDON5 digits	RSS-14
UPC-E	RSS Limited
UPC-E+ADDON2 digits	RSS Expanded
UPC-E+ADDON5 digits	PDF417
UPC-E1	MicroPDF417
UPC-E1+ADDON2 digits	Code 11
UPC-E1+ADDON5 digits	Korean Post
Code 39	
NW-7 (Codabar)	
Industrial 2 of 5	