



Japan Display Inc.

ZINNSIA Overview

*Transform various materials into "**input interface**"*



Japan Display Inc.

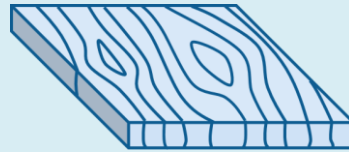
1. What is ZINNSIA?

JDI's World-Leading High-Precision Sensor Interface that Transforms a Broad Range of Materials into Sensors and Touch Controls



ZINNSIA makes it possible to sense movements even on materials that were previously difficult to use as sensors

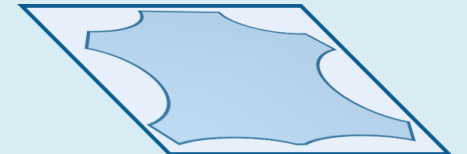
Wood



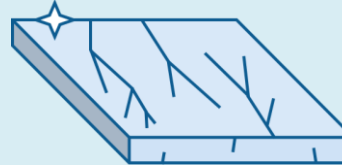
Fabric



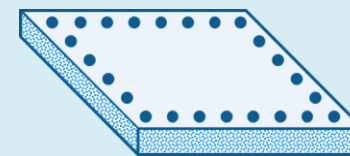
Skin



Marble



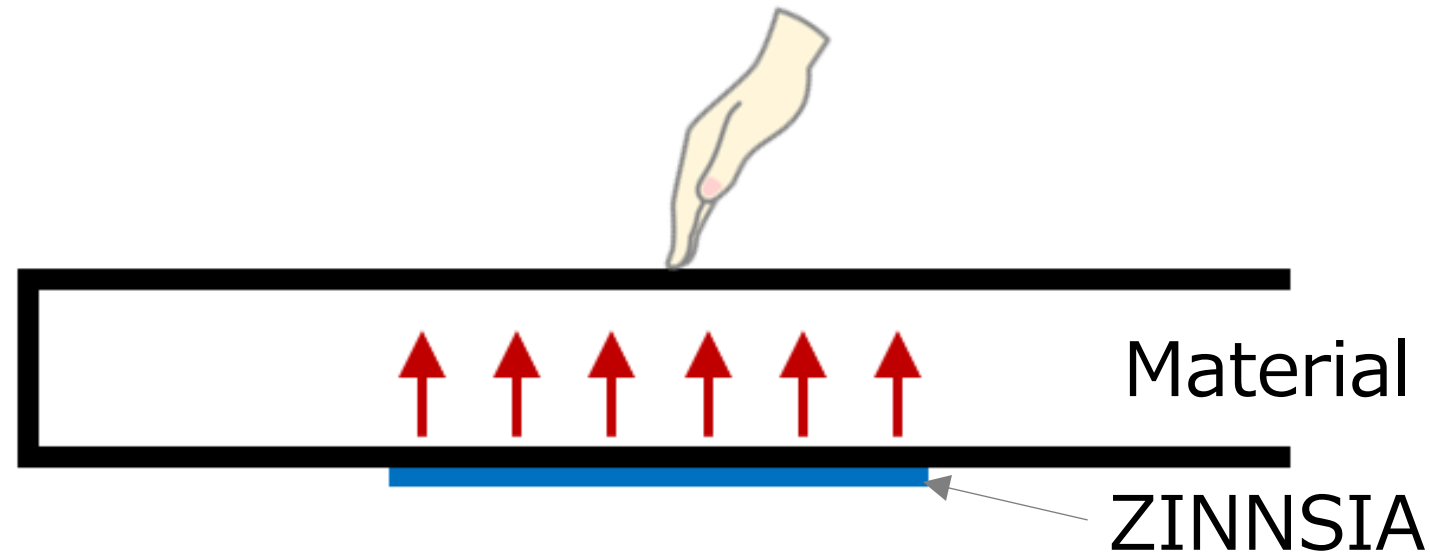
Plasterboard



Because ZINNSIA can be used across a broad range of materials, it will drive new applications of sensor & touch technology in a wide variety of new markets

The detection through different material is achieved by ZINNSIA's extreme sensitivity

Adopting "Capacitance Method" (Same as the Smartphone Screen)



Just Install ZINNSIA on the Back of the Material

1. What is ZINNSIA?

With ZINNSIA, Everything Is A Switch

✕ Except for conductive materials

Wood



Glass



Marble



Leather



Elastomer



Paper



Cloth



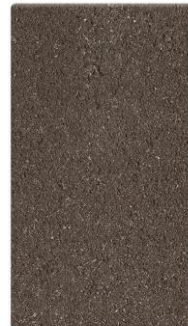
Fur



Painting



Sand



Grass



Cork



Presence detection in wood possible up to 100mm
Coordinate detection in wood possible up to 50mm

✓ **Surprise (Product Impact)**

What if every material could become a switch? Delivering unexpected delight to users.

✓ **Design Excellence (Innovative Design)**

Hidden control functions enable minimalist and unrestricted product design.

✓ **User-Friendly Interface**

Intuitive touch controls make it easy for everyone—from children to seniors—to use effortlessly.

3. The Features of ZINNSIA

Reasons for ZINNSIA Precise Detection Capabilities:

**Sensor
Design**



**Proprietary
Custom ICs**



**System
Driven**



**Firmware
(Algorithm)**

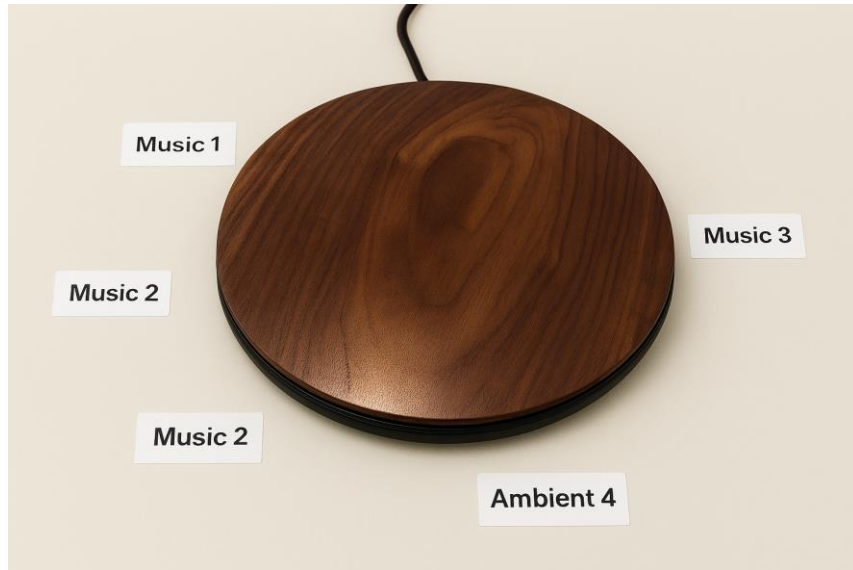


Using JDI's advanced process knowledge and manufacturing expertise, ZINNSIA has:

- **Excellent Noise Resistance**
- **Unrestricted Sensor Substrate (Bendable)**
- **Full range of sizes**
- **Product-specific Firmware Adjustment**

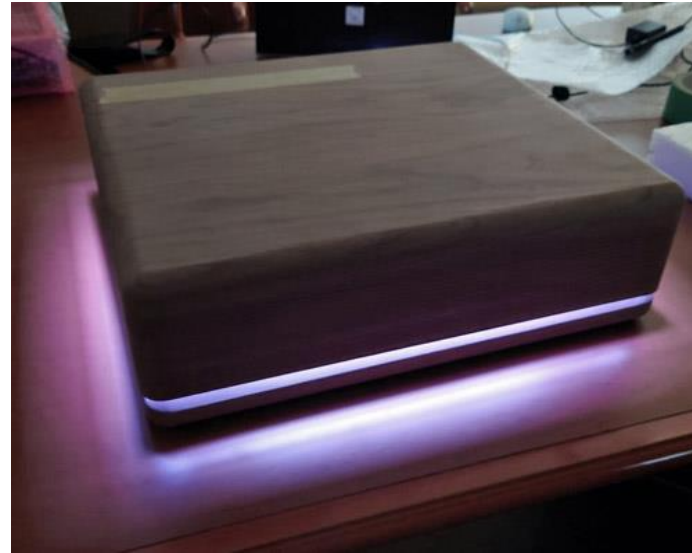
4. Application Examples

Gadgets·Interior·Home Appliances



Wooden Speaker:
music coming out from unexpected surface

Housing·Housing Equipment



Desk Light:
Luxurious lighting furniture highlighting the natural thickness of solid wood. Touch-operated without compromising its sleek design.

4. Application Examples

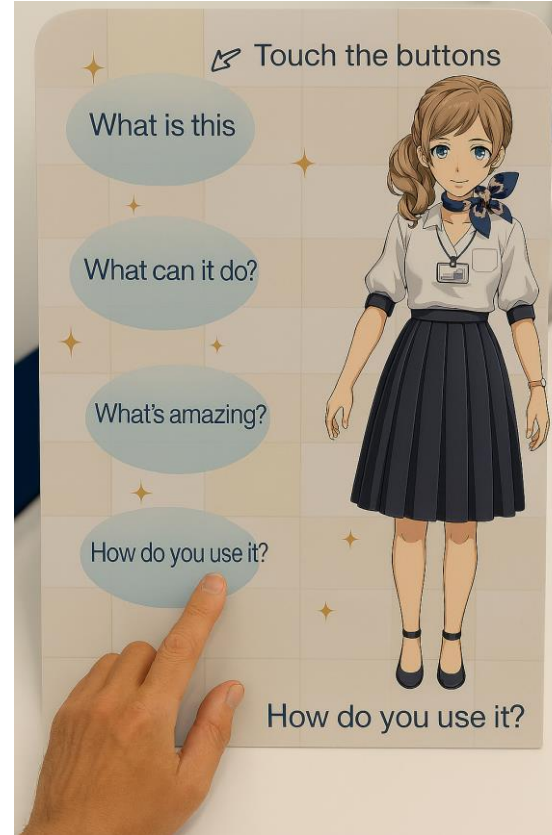
Education・ICT



Illustration Interface:

Interactive style operation board with graphics

Communication



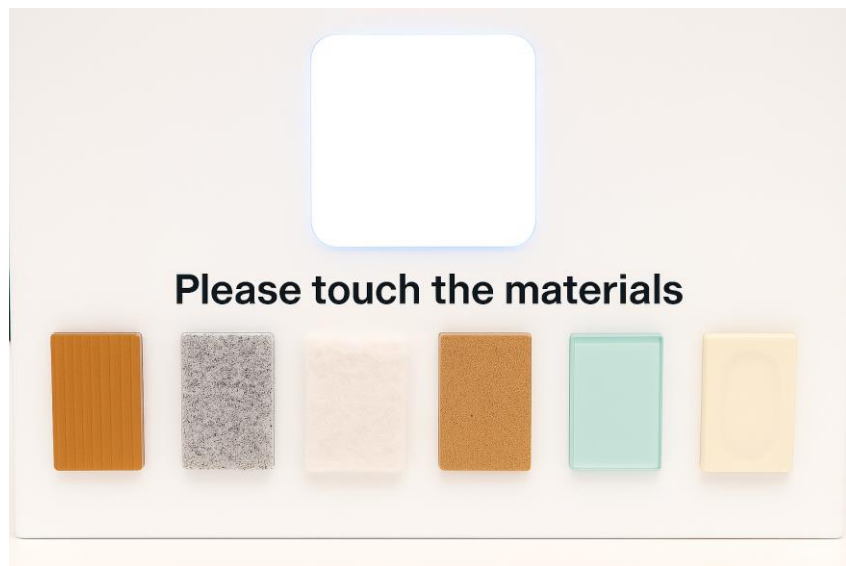
Voice Guidance:

- Easily build a voice guidance system using the illustration interface.
- Engage in elegant communication with real figurines.



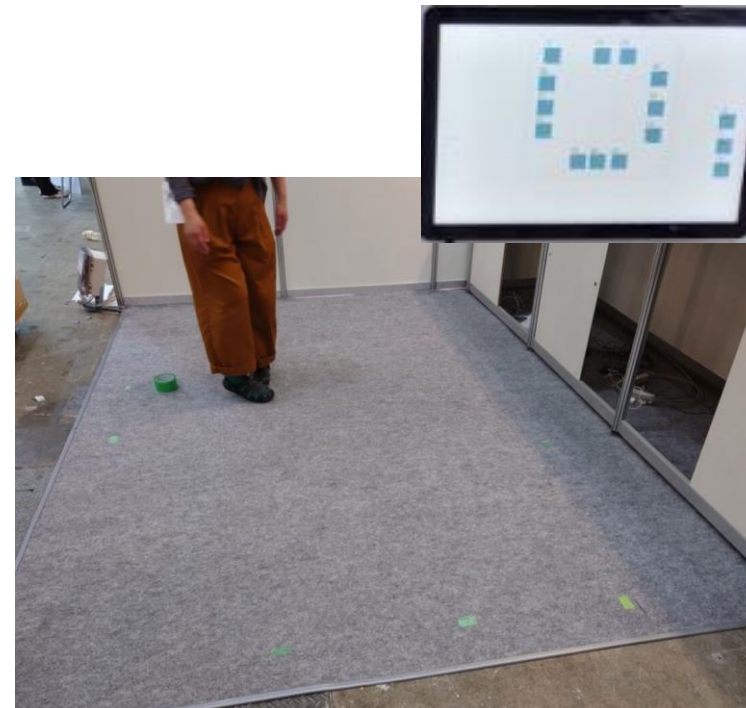
4. Application Examples

Housing・Housing Equipment



Lighting Switch:

Customizable design that integrates seamlessly with wallpaper and interiors



Floor Sensor:

detecting the human activity

4. Application Examples

Game・Amusement



Balance Board:

Precisely tracks foot movements for intuitive gameplay

Toy・Robotics



Plush Toy Robot

Actions such as head pats and embraces are detectable through fur.



Transparent Figure:

Embedded wire-type sensors detect touch through acrylic material.

4. Application Examples

Automotive, Leather Seat



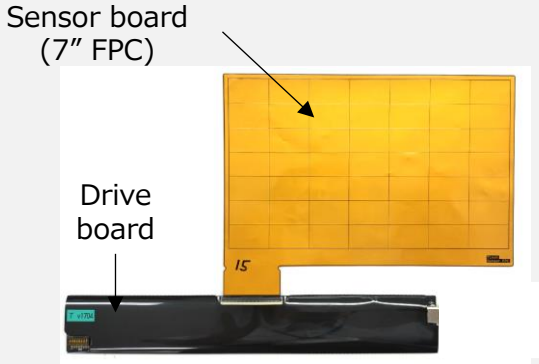
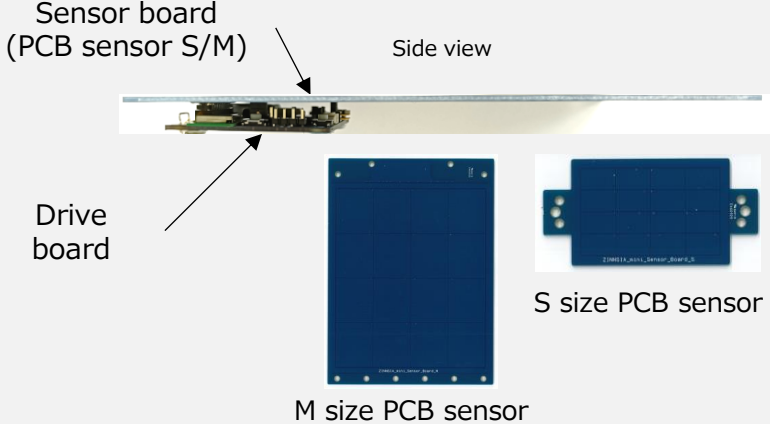
Armrest:

Provides a natural control method that harmonizes with the surroundings while preserving the original material's texture.

5. Product information



◆ Product line-up

Items		ZINNSIA-Full	ZINNSIA-Mini
Features		High sensitivity, Low noise, High precision, Fast response	Compact size, Low power consumption
Configuration		 Sensor board (7" FPC) Drive board 15	 Sensor board (PCB sensor S/M) Side view Drive board M size PCB sensor S size PCB sensor
Basic function	Drive Method	Capacitive	←
	Sensor Type	FPC/PCB/Wire	PCB/Wire
	Number of Channels	Max. 63ch	Max. 18ch
	Interface	USB/I2C/SPI	USB/I2C/SPI
	Power Consumption	Approx. 800mW	Approx. 60mW

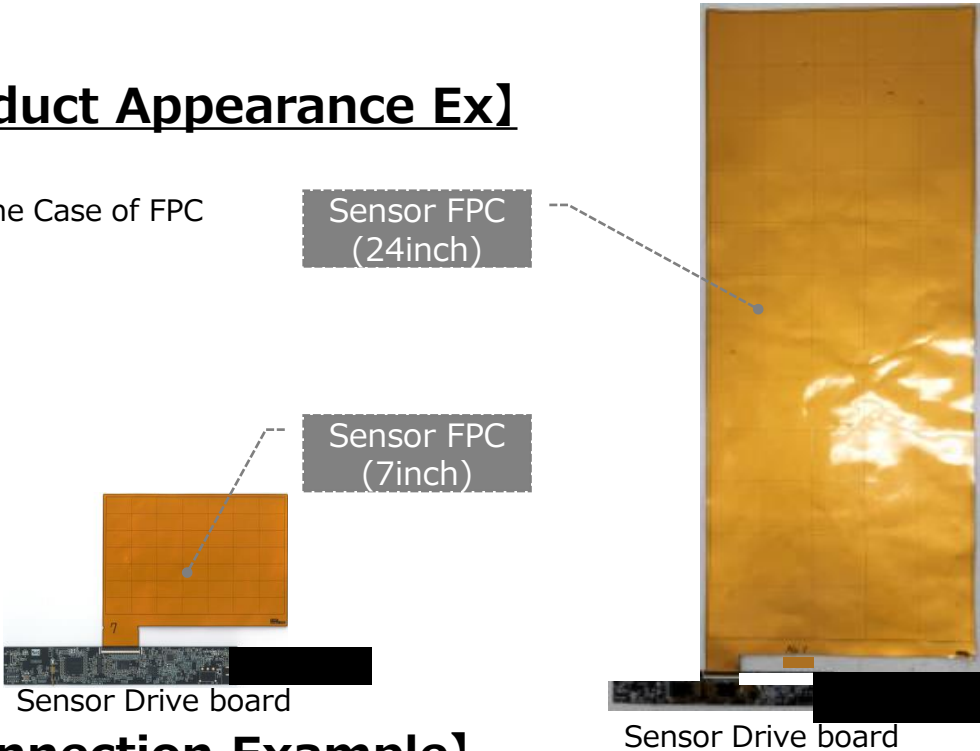
5. Product information

◆ ZINNSIA-Full

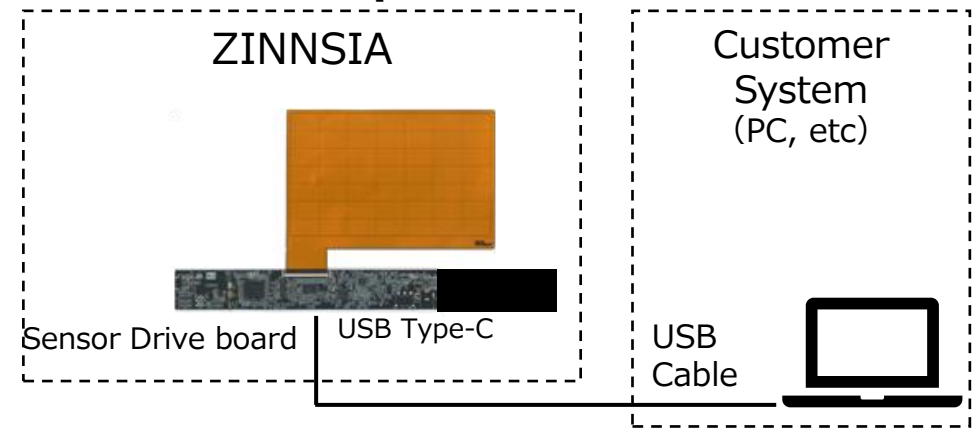
Category	Item	ZINNSIA-Full
System	Drive Method	Capacitive
	Number of Channels	Max. 63ch
	Interface	USB (HID/CDC) I2C/SPI
	Power Supply Voltage	5V(USB VBUS)
	Detection Capability	Presence:~100mm, Position:~50mm ※Performance belongs to sensor types
	Communication Speed	120Hz
	Power Consumption	Approx. 800mW
Drive board	Dimensions	30 x 200mm
	Thickness	1.6mm
	USB	Type-C
Sensor substrate ※7inch FPC	Dimensions	158 x 104 mm
	Thickness	0.2mm
	Detection Area	152.38x91.41mm
	# of ch	7 x 7

【Product Appearance Ex】

※In the Case of FPC



【Connection Example】



5. Product information

Specifications are subject to change without notice

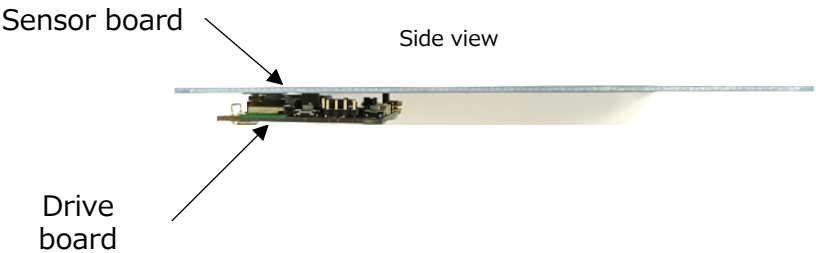


◆ ZINNSIA-Mini (Evaluation model)

Categor y	Item	ZINNSIA-Mini
System	Drive Method	Capacitive
	Number of Channels	Max. 18ch
	Interface	USB/I2C※1/SPI※2
	Power Supply Voltage	USB or 3.7V~5V
	Detection Capability	Presence: ~30mm, Position: ~15mm; Outer Sensor: ~60mm(outer sensor)
	Communication Speed	60Hz
	Power Consumption	Approx. 60mW (12mA / 5V)
Drive Board	Dimensions	47 × 62mm
	Thickness	1.6mm
	Maximum part height	6mm (※w/o solder height)
	USB	Type-C
	Connector for sensor	FSS-42035-10 (2.54mm pitch dual-row connector)
Sensor Board (M-size)	Dimensions	113.5 x 155.0 mm
	Thickness	1.6mm connector portion9.3mm (※w/o solder height)
	Detection Area	109.5 x 129.5mm
	Electrode Size	25 x 30mm
	# of Ch	16(S1-1~S4-4)

※1) I2C connector is an option
※2) SPI: Coming soon

[System]

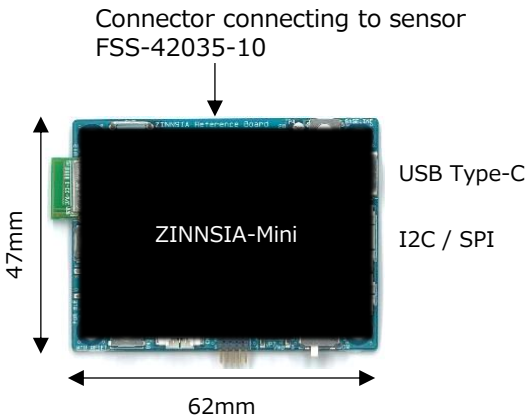


Sensor board (M)



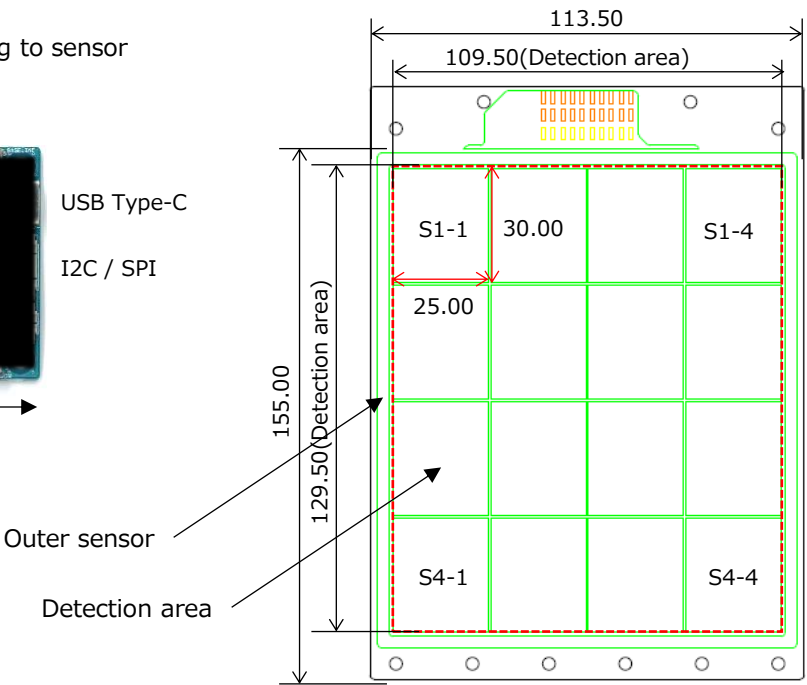
Top view

[Drive board]



[Sensor board]

※M size



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