

PRODUCT
DATASHEET

Confidex Casey™



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1. PRODUCT DESCRIPTION

Confidex fulfills the special labels product portfolio by offering a special general label, Confidex Casey™, designed to be used with difficult high loss RFID materials in materials tracking. With proven Class1 Gen2 –compliant RFID technology and reliable material selection Casey makes it possible to improve the management of various goods in daily use.

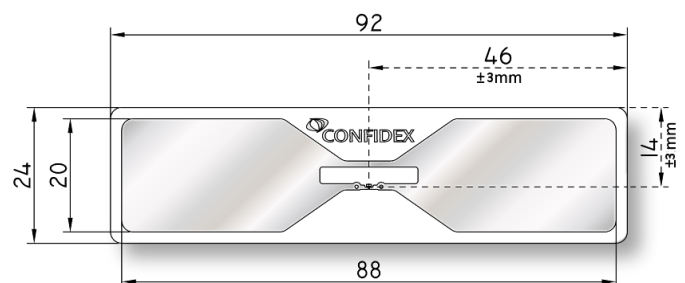
1.1 SPECIFICATION DATA

Device type	Class 1 Generation 2 passive UHF RFID transponder
Air interface protocol	EPCGlobal Class1 Gen2 ISO 18000-6C
Operational frequency	860-960 MHz
IC	NXP UCODE G2XL
EPC memory	up to 240 bit
Extended memory	-
Read range	up to 4-6m / 13-19ft, reader power 2W ERP (dependent on application)
Face material	Synthetic paper
Background adhesive	Permanent adhesive
Weight	1 g
Delivery format	On reel
Pitch on reel	28,575mm
Amount on reel	2000pcs (default)
Reel core inner diameter	76mm / 3"
Product is RoHS compliant	

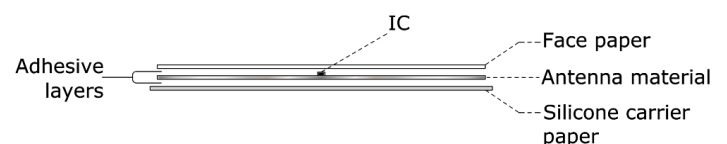
1.2 DIMENSIONS

**General dimensions
(Width x Height x
Thickness)**

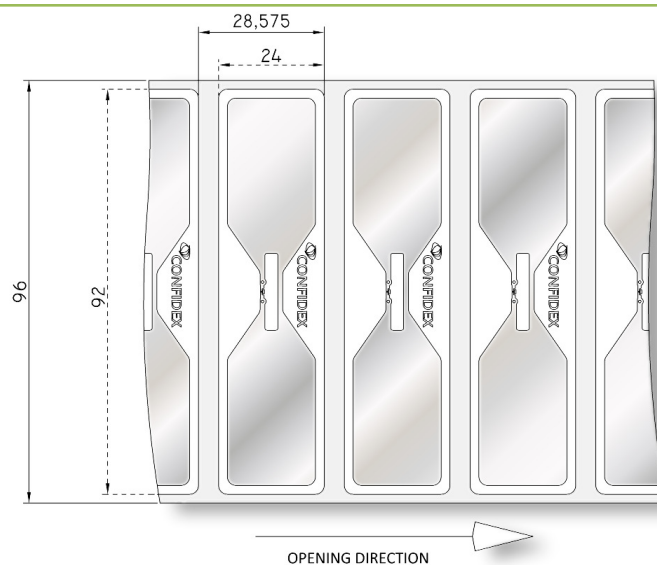
92mm x 24mm x 0,2mm / 3.62" x 0.94" x 0.01"



Cross section



Delivery in reel format



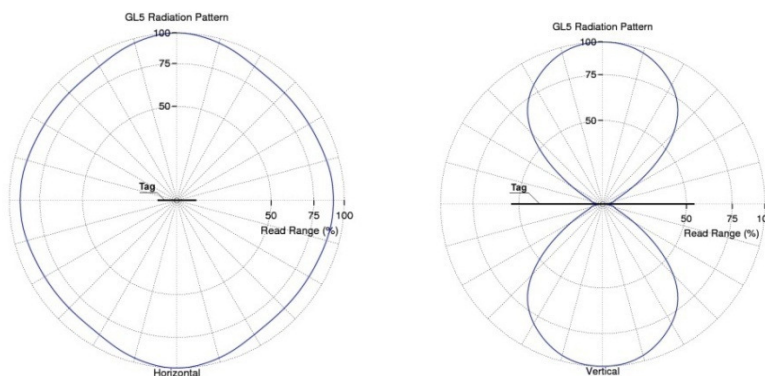
1.3 ELECTRICAL PERFORMANCE

Material / Read range	Medium (~2-4m)	Good (~4-6m)	Excellent (~6-8m)
Free air		EU, JPN	US
Glass	JPN	EU	US
Cardboard		EU, JPN	US
Plastic		JPN	EU, US
Rubber		EU, US, JPN	
Close to liquid	EU, US, JPN		

*Presented reading ranges are calculated values in non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power: EU 865-868 MHz (2W ERP), US 902-928 MHz (4W EIRP), and JPN 952-954MHz (4W EIRP).

1.4 RADIATION PATTERNS

Estimated radiation pattern when tag orientation towards reader antenna is optimized.



1.5 RESISTANCE AGAINST ENVIRONMENTAL CONDITIONS*

Typically values are valid for all tag versions. If not, applicable IC versions are marked

Operating temperature	-35°C to +85°C (-31°F to +185°F)
Ambient temperature	-35°C to +85°C (-31°F to +185°F)
Storage condition	2 years in +20°C / 50% RH (shelf life for adhesive)
Water resistance	Good, tested for 5 hours in 1 meter deep water
Chemical resistance	No physical or performance changes in: - Salt water (salinity 10%), tested in 24h exposure - NaOH (10%, pH 13), tested in 2h exposure - Sulfuric acid (10%, pH 2), tested in 168h exposure - Acetone, tested in 30min exposure - Motor oil, tested in 168h exposure
Expected lifetime	Years in normal operating conditions

** Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.*

1.6 SUPPORTED SERVICES

There is several personalization options available for Confidex Casey™ in order to “fine tune” the tag to match with the application requirements:

- Pre-encoding
- Ink-jet printing

For exact specifications, please refer “Personalization Datasheet”.

1.7 INFORMATION OF USED MATERIALS

Back side adhesive	Good adhesion on various surfaces.
Paper	A matt white polypropylene film designed for top quality printing.
Printing possibility	The face paper includes a specially coated surface and is suited to provide top printing quality in all printing processes, whether it is single or multicolor, line or process color printing.

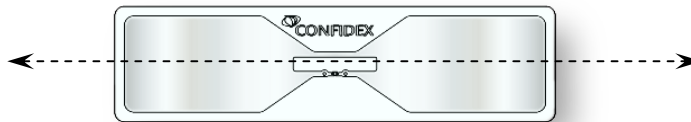
1.8 POSSIBLE APPLICATIONS

Glass	Windshield label
Plastic	Retail items, in which absorbing materials close to the label
Cardboard	Retail items, in which absorbing materials close to the label
Rubber	Returnable carpets with rubber bottom

2. INSTALLATION INSTRUCTIONS

2.1 LABEL ORIENTATION AND APPLICATION

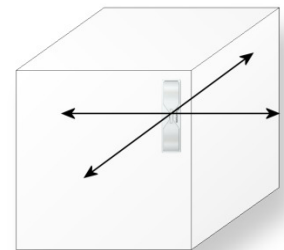
Label polarization is along the tag's longest dimension:



Preferred label location in a product: The best readability is achieved when Confidex Casey is placed in a vertical direction to the top corner in a product.

Recommended application to a product is in room temperature to a clean surface.

Label antenna parts should not be in contact with metal to enable best possible performance of the label.



2.2 PROTECTION OF TAG DURING USAGE

Minimum bending diameter of the Confidex Casey is defined to be 50mm. Do not bend the label above the limit. Never touch on the location of the IC. IC chip is sensitive electrical component and can be damaged if unexpected pressure is applied on the chip. Try to avoid mechanical impacts to the Confidex Casey. IC and antenna may be damaged due to mechanical shocks.

2.3 RECOMMENDED OPERATION CONDITIONS

Although the *Confidex Casey*TM is tested to be resistant in certain environmental conditions it is recommend to install the label into the place, which is protecting the label against contaminations and mechanical shocks. Reliability of the Confidex Casey is defined to be its maximum if label is positioned in such safe place.

3. ORDER INFORMATION

Product number	Product name
3000104	Casey NXP G2XL

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