

Confidex Corona™ NXP G2XM
600014

Technical Product Specification
Version 1.0
September 2008

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1. Product description

Confidex Corona™ is UHF EPC Class1 Generation2 (ISO 18000-6C) compliant product for industrial manufacturing applications designed to be used as a Hang-Tag particularly in harsh environments. The Confidex Corona is ideally suited for tracking items through industrial electrophoretic painting processes such as is used in the automotive industry. With Corona, industrial manufacturers can leverage standards based passive RFID technologies to provide discreet visibility for monitoring WIP (work-in-progress) inventory in environments that have historically proven to be challenging for Auto ID technologies.

In its primary application Confidex Corona can be used for tracking car bodies through the manufacturing processes, including the coating and painting processes, which have been challenging for RFID tags due to several chemicals and high temperatures of the painting process. The tag can be used in applications where reusability is not a definite requirement.

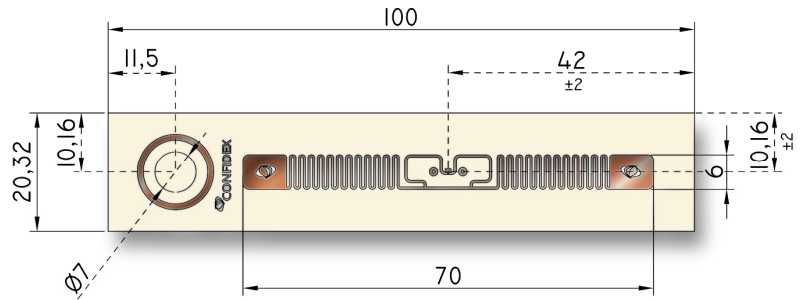
1.1 Specification data

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 G2XM
EPC memory	240 bit
Extended memory	512 bit
Read range	up to 5-9m / 16-29ft, reader power 2W ERP
Weight	1 g
Material	Transparent plastic film
Delivery format	On reel
Pitch on reel	20.32mm / 0.8"
Amount on reel	2500pcs (default)
Reel core inner diameter	76mm / 3"
Protection class	IP67
Environmental compliance	Product is RoHS compliant

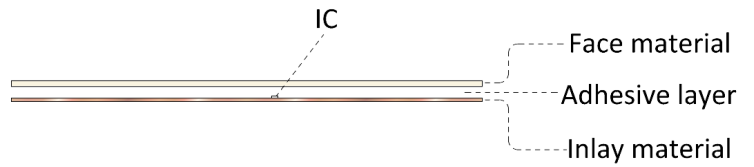
1.2 Dimensions

General dimensions
and IC location

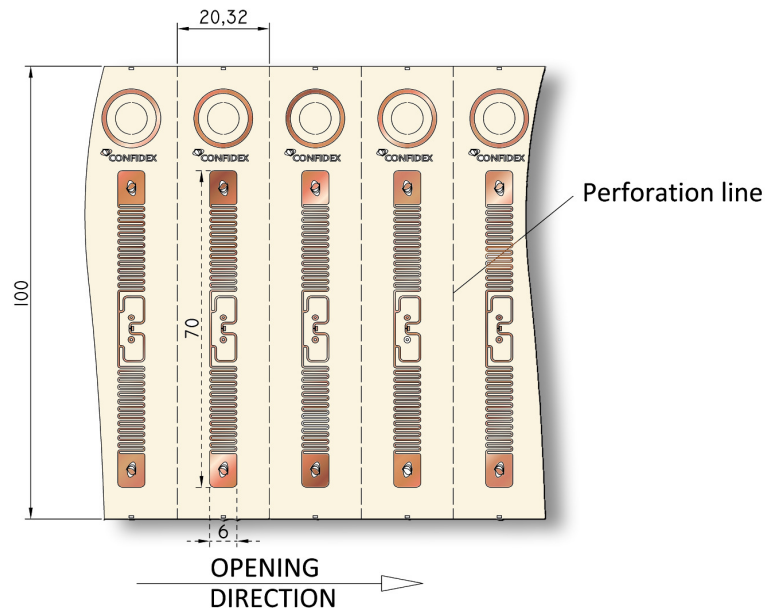
100 mm x 20.32 mm x 0.3 mm (3.93" x 0.80" x 0.01")



Cross section



Delivery in reel format

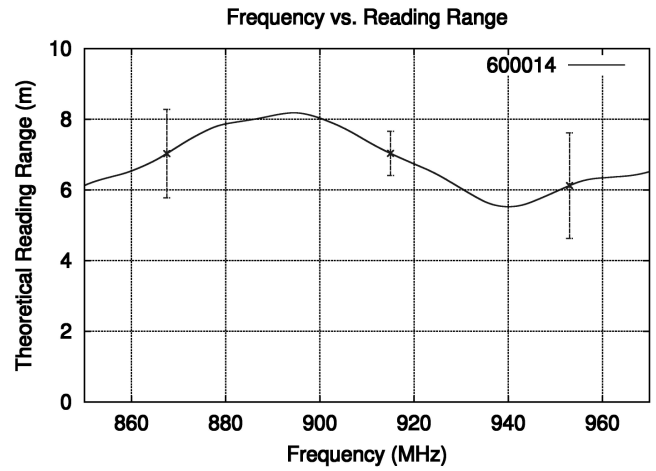


1.3 Performance data

Electrical performance

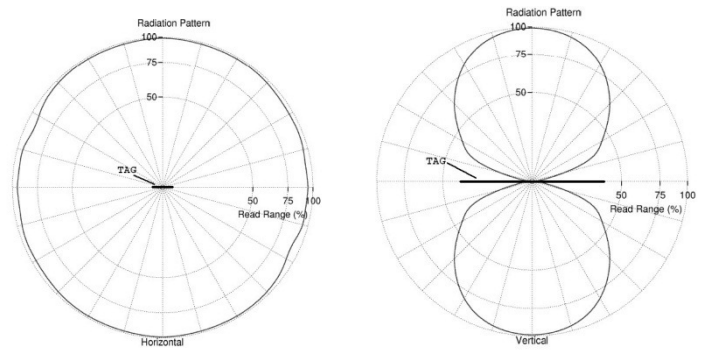
Theoretical reading range, free air

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).



Radiation patterns

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



Resistance against environmental conditions*

Operating temperature	-35°C to +65°C / -31°F to +149°F
Ambient temperature	-35°C to +200°C / -40°F to +392°F (tested 10 times 0,5 h) +220°C / 428°F at 0,5 h duration
Storage condition	+20°C / 50% RH
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 168h exposure - NaOH (10%, pH 13), tested in 168h 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.

1.4 Supported components

There are no additional components available for this product.

1.5 Supported services

Standard customer personalization

EPC coding	Customer specific EPC code can be programmed to IC.
EPC printing	Customer specific EPC code can be printed onto the label.*)
UID printing	IC UID code can be printed onto the label.*)
Minimum order quantity	10 000 pcs for standard customer specific personalization. Consult with Confidex Sales for lower quantity.

*) Tag's physical dimensions are limiting the printability

1.6 Information of used materials

Surface and back side material	Designed to have good resistance against high temperature and chemicals. Product is inkjet printable.
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1.7 Possible applications

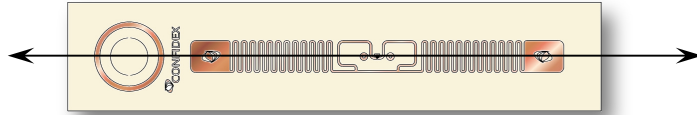
Hang-tag	Work-in process follow-up
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2 Installation instructions

Label orientation and application

Confidex Corona™ is a free air tag, which best performance is achieved when it's not applied close to any material.

Tag polarization is along the tag's longest dimension



Mechanical attachment

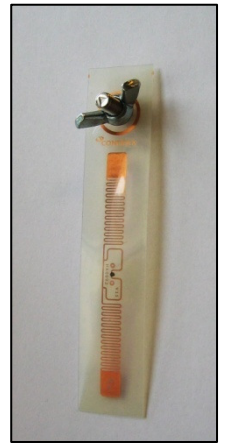
Screws (>8 mm)

- Corona tag has $\varnothing 7\text{mm}$ hole in its other end for fixing purposes. Use minimum 8mm screws, but notice that no metal part should be in contact with the tag antenna.

In between metal plates etc.

- Tag can also be attached by inserting it in the middle of two metal parts/plates. For ensuring the best performance, fix the tag from its narrow end and avoid metal touching the tag antenna.

Note: if tag is attached in between metal plates from its long side the performance will decrease.



Protection of tag during usage

Minimum bending diameter of the Confidex Corona 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 Corona. IC and antenna may be damaged due to mechanical shocks.

Recommended operation conditions

Although the Confidex Corona 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 Corona is defined to be its maximum if label is positioned in such safe place.

3 Order information

Product number	Product name
600014	Corona NXP G2XM

For additional information and technical support contact Confidex Ltd.

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