

PRODUCT DATASHEET

Confidex Steelwave™



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1 PRODUCT DESCRIPTION

Confidex Steelwave™ on-metal tag is designed for indoor asset management and tracking solutions where small size but best achievable performance of passive UHF RFID technology needs to be utilized.

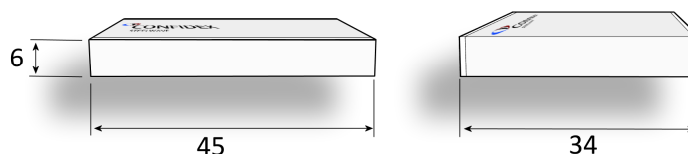
Typical applications include high value asset tracking, IT asset tracking and all of the asset management applications where items need to be tracked with economical and reliable way. Steelwave is used for tracking pieces of art, medical devices in healthcare and IT assets.

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	865-869 MHz (EU), 902-928MHz (US)
IC options	Impinj Monza
EPC memory	96 bit
Extended memory	-
Read range	up to 4-6 m / 13-20 ft, reader power 2W ERP (dependent on application)
Applicable surface materials	Metal surfaces
Face material	White synthetic material
Background adhesive	High performance acrylic adhesive
Weight	6.5 g
Delivery format	Single
Amount in box	500pcs
Product is RoHS compliant	

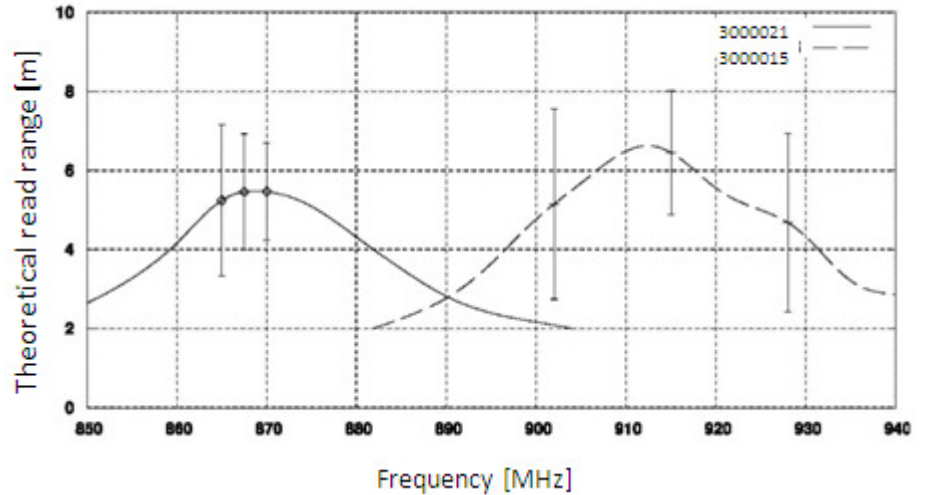
1.2 DIMENSIONS

General dimensions (Width x Height x Thickness)	45 x 34 x 6 mm / 1.8 x 1.3 x 0.24 in
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1.3 ELECTRICAL PERFORMANCE

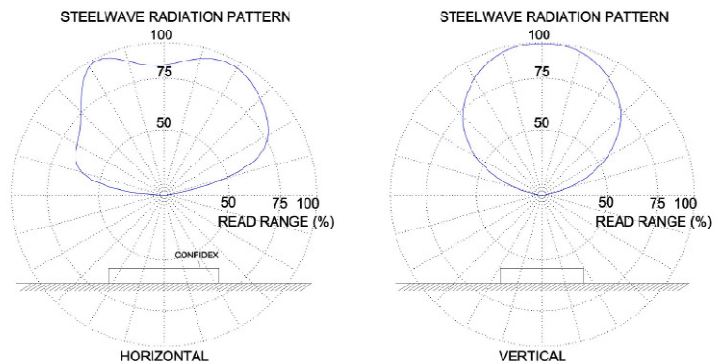
Steelwave



* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Variation of 3σ from test batch marked in the picture. Note, tag performance in other frequency bands is not marked in the picture; tag will remain functional but the performance is low.

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	-20°C to +65°C / -4°F to +149°F
Ambient temperature	-20°C to +85°C / -4°F to +185°F
IP classification	IP54: - Protection against dust - Protection against splashing water
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 SUPPORTING COMPONENTS

3M background adhesive

Purpose	High performance adhesive for attaching Steelwave on metal surfaces.
Advantages	Quick and simple attachment method without additional tools
Size	Die-cut according to the tag shape
Type	3M High performance acrylic adhesive
Delivery format	Attached to the tag

Delivered by default on the Steelwave background

1.7 SUPPORTED SERVICES

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

- Pre-encoding
- Customized data label

For exact specifications, please refer “Personalization Datasheet”.

1.8 POSSIBLE APPLICATIONS

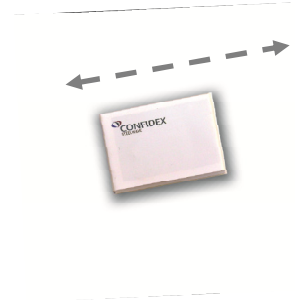
Metal surfaces	Indoor applications; fixed and mobile high value assets, IT asset tracking
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2 INSTALLATION INSTRUCTIONS

2.1 TAG PLACEMENT

Steelwave tag polarization is aligned with the “Confidex” text.

Tag design is optimized for on-metal use: In order to achieve the optimum performance Steelwave must be placed on metal surface without covering its front side.



When selecting the location on metal surface, ensure the following:

- Select an even surface so that there is direct metal contact underneath the whole tag.
- The metal background should be preferably as large as possible and tag should be placed in the middle of the surface.
- If surface is small, install the tag in such way that **most free metal area is left on the tag’s right side**.

Example:

In the two pictures below a tagged metal item is shown. Left picture shows better and recommended placement for Steelwave; free metal area is left on the right side of the tag which will enhance tag’s RF performance. Other shown placement is not recommended if maximum tag performance should be reached.

Recommended:



Not recommended:



2.2 TAG FIXING METHODS

Adhesive fixing

- 3M acrylic adhesive

Procedure: When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Application at temperatures below 10°C (50°F) is not recommended.