

# PRODUCT DATASHEET

## Confidex Steelwave Micro™



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## 1 PRODUCT DESCRIPTION

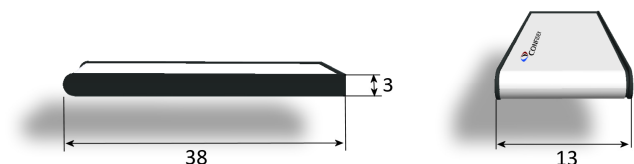
Confidex Steelwave Micro™ is a miniature UHF on-metal tag, which for its size provides unparalleled performance. It offers new possibilities for companies to improve their asset management, especially computers and other devices that contain valuable information. The performance and value of Steelwave Micro has excited organizations as more accurate information about their property can be retrieved faster and with less error. Increasing demand for recycling of electronics will also require better practices than currently in use.

### 1.1 SPECIFICATION DATA

<b>Device type</b>	Class 1 Generation 2 passive UHF RFID transponder
<b>Air interface protocol</b>	EPCGlobal Class1 Gen2 ISO 18000-6C
<b>Operational frequency (See IC option below)</b>	865-869 MHz (EU) (*) 902-928MHz (US) (* and **) 952-955MHz (JPN) (*)
<b>IC options</b>	Impinj Monza (*) Alien Higgs3 (**)
<b>EPC memory</b>	96 bit (* and **)
<b>Extended memory</b>	512 bit (**)
<b>EPC memory content</b>	Unique number encoded as a default
<b>Read range</b>	3 m / 9.8 ft *, reader power 2W ERP 4 m / 13 ft **, reader power 2W ERP (dependent on application)
<b>Applicable surface materials</b>	Metal surfaces and plastic
<b>Face material</b>	White synthetic material
<b>Background adhesive</b>	High performance acrylic adhesive
<b>Weight</b>	2 g
<b>Delivery format</b>	Single
<b>Amount in box</b>	1000pcs
<b>Product is RoHS compliant</b>	

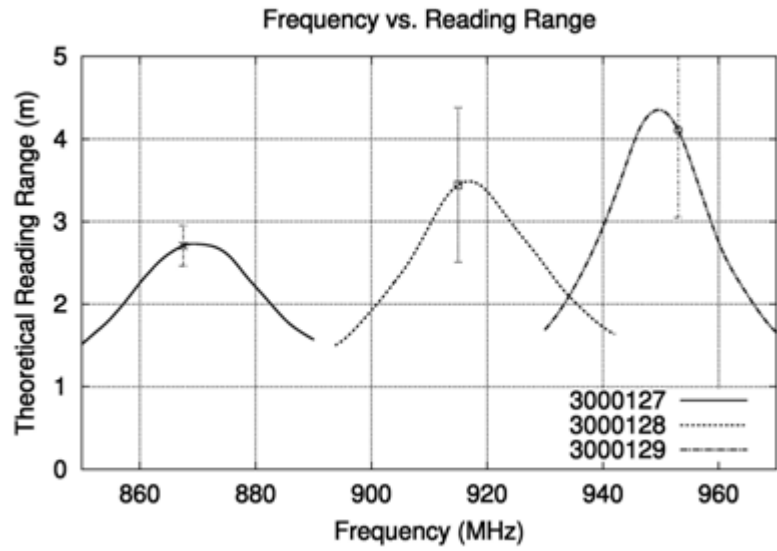
### 1.2 DIMENSIONS

**General dimensions  
(Width x Height x  
Thickness)** 38 x 13 x 3 mm / 1.5 x 0.5 x 0.12 in



### 1.3 ELECTRICAL PERFORMANCE

**Steelwave Micro Monza3,  
On metal**

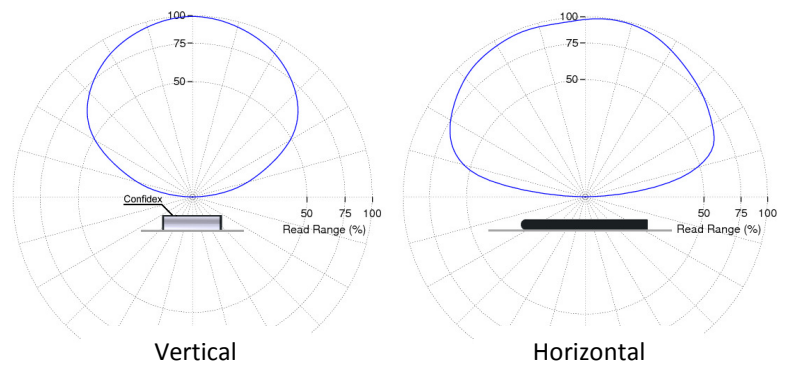


\* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Variation of 3σ from test batch marked in the picture. Note, tag performance in other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

<b>Steelwave Micro Monza3; on plastic</b>	1-1.5 m / 3-5 ft
<b>Steelwave Micro Higgs3; on metal</b>	4 m / 13 ft

### 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

<b>Operating temperature</b>	-20°C to +85°C / -4°F to +185°F
<b>Ambient temperature</b>	-20°C to +85°C / -4°F to +185°F
<b>IP classification</b>	IP67: - Complete protection against dust - Protection against temporary immersion in water
<b>Chemical resistance</b>	No physical or performance changes in: - 2 hour Salt water exposure (salinity 10%) - 2 hour Motor oil exposure Additionally, short time exposure resistant against sulfuric acid. Acetone and sodium hydroxide should be avoided.

<b>Expected lifetime</b>	Years in normal operating conditions
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*\* 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

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

## 1.7 SUPPORTED SERVICES

There are several personalization options available for Confidex Steelwave Micro™ 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

<b>Metal surfaces</b>	Indoor applications; fixed IT assets, other metal assets
<b>Plastic surfaces</b>	IT assets with plastic cover

## 2 INSTALLATION INSTRUCTIONS

### 2.1 TAG PLACEMENT

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

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

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

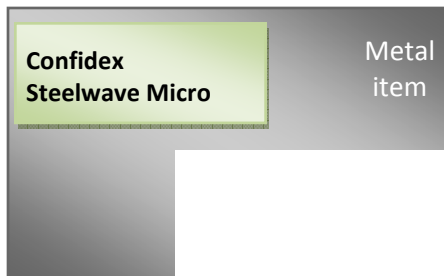
- Select an even surface so that there is direct metal contact underneath the whole tag.
- The metal background should be preferably as large as possible and tag should be placed so that it's left side is on the metal edge.
- If surface is small, install the tag in such way that **most free metal area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



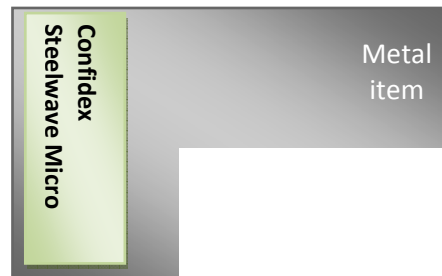
#### Example:

In the two pictures below an unsymmetrical metal item is shown which has basically two options for placing the tag. **Left picture shows better and recommended placement for Steelwave Micro; 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.

### 3 ORDER INFORMATION

Product number	Product name
3000127	Steelwave Micro ETSI Monza
3000128	Steelwave Micro FCC Monza
3000129	Steelwave Micro JPN Monza
3000180	Steelwave Micro FCC Higgs3

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