

# PRODUCT DATASHEET

## Confidex Carrier Dual™



Dual-frequency label with shared RAIN RFID and NFC memory for logistics and consumer interaction

### ELECTRICAL SPECIFICATION

#### Device type

RAIN RFID / EPCglobal Gen2v2  
NFC Forum Type 5

#### Air interface protocol

ISO/IEC 18000-63  
ISO/IEC 15693

#### Operational frequency

RAIN RFID 865-928 MHz  
NFC 13,56 MHz

#### IC type

EM Microelectronic EM4425™

#### Memory configuration

EM4425 V10:

- HF: 64 bit UID
- UHF: 288 bit EPC, 256 bit User, 96 bit TID
- Shared user memory for HF and UHF: 1472 bits
- Optimized for simple consumer engagement

EM4425 V12:

- HF: 64 bit UID
- UHF: 96 bit TID
- 2048 bit configurable memory can be divided to 96 - 480 bit UHF EPC and shared user memory for HF and UHF
- Web authentication uses AES-128 to create a one-time password (OTP) crypto signature

#### Read range\*

RAIN RFID

- On cardboard up to 11m / 36 ft
- On plastic up to 10m / 33 ft

HF/NFC

- Mobile phone up to 3cm
- Fixed reader up to 60cm

#### Applicable surface materials

Non-metallic surfaces.

\* 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). Different surface materials may have an effect on performance.

### MECHANICAL SPECIFICATION

#### Tag materials

Printable white PET, resin ribbon recommended.

#### Background adhesive

High performance acrylic adhesive optimized for low surface energy plastics.

#### Weight

< 1 g

#### Delivery format

1000 pcs / reel

#### Pitch on reel

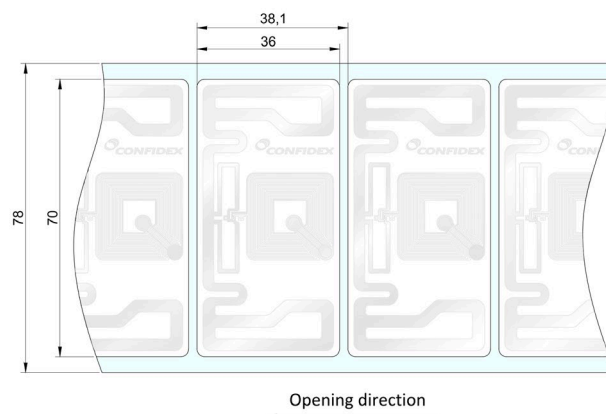
38,1 mm / 1.5 in

#### Reel core inner diameter

76 mm / 3 in

#### Tag dimensions

36 x 70 x 0.2 mm / 1.41 x 2.75 x 0.01 in



### ENVIRONMENTAL RESISTANCE

#### Operating temperature

-35°C to +85°C / -31°F to +185°F

#### Ambient temperature

-35°C to +90°C / -31°F to +194°F

#### Water resistance

Good, tested 5 hours in 1m deep water (IP68)

#### Chemical resistance

No physical or performance changes in:

- 168h Motor oil exposure
- 168h Salt water (salinity 10%) exposure
- 168h Sulfuric acid (10%, pH 2) exposure
- 24h NaOH (10%, pH 13) exposure
- 20min Acetone exposure

#### Storage condition

1 year in +20°C / 50% RH (shelf life for adhesive)

#### 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.

## PERSONALIZATION

### Pre-encoding

- Customer-specific encoding

### Visual marking

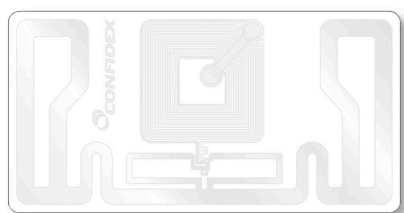
- Customer-specific layout including logo, text, numbers, barcodes etc.

## PRINTER COMPLIANCY

Confidex Carrier Dual™ is tested to be compliant with following printers. For more information regarding printing and encoding please reach out to Confidex.

- Zebra ZT411
- SATO CL4NX Plus

## INSTALLATION INSTRUCTIONS



← Tag polarization →

Ideal installation conditions are +20°C (+68°F) / 50% RH. For exceptional conditions, please contact Confidex. Bond strength can be improved with firm application pressure. Always ensure clean surface for obtaining the maximum bond strength.

During attachment to the identified item, please avoid touching the background adhesive. If the location on the asset needs to be changed, please use a new tag instead of re-placing the used one; the adhesion will suffer from the re-placement.

Minimum bending diameter of the label is defined to be 50mm. Do not bend the label above the limit. Never touch on the IC location. IC is a sensitive electrical component and can be damaged if unexpected pressure is applied on it.

## ORDER INFORMATION

**Product number:** 3003473

**Product name:** Confidex Carrier Dual™ EM4425V10

**Product number:** 3004087

**Product name:** Confidex Carrier Dual™ EM4425V12

For additional information and technical support contact Confidex Ltd.

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