



Electrical specifications

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.



Description

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



Mechanical specifications

Tag materials

Printable white PET, resin ribbon recommended.

Background adhesive

High performance acrylic adhesive optimized for low surface energy plastics.

Weight

< 1g

Delivery format

1000 pcs / reel

Pitch on reel

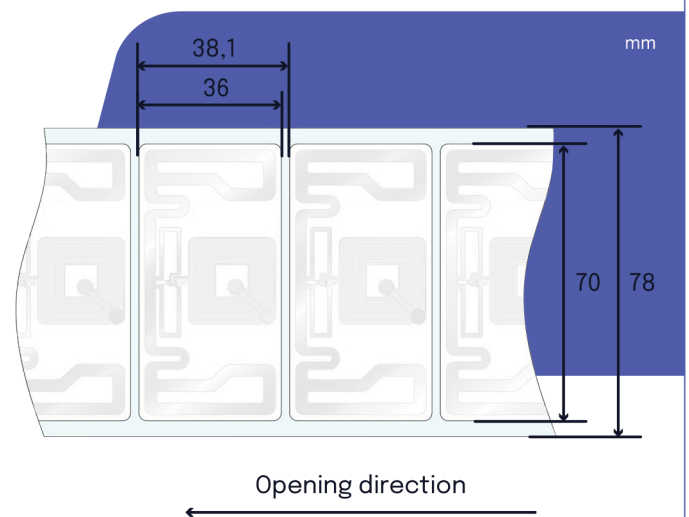
38,1 mm / 1.5 in

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



Personalization options

Pre-encoding

Customer specific encoding of EPC or user memory. Locking permanently or with password.

Visual marking

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



Environmental resistance

Operating temperature

-35°C to +85°C / -31°F to +185°F

Ambient temperature

-35°C to +85°C / -31°F to +185°F

IP classification

IP68

Chemical resistance

No physical or performance changes in:

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

Acetone should be avoided. For achieving increased chemical tolerance, the tag is designed to be attached with industrial adhesives such as polyurethane adhesives or epoxies.

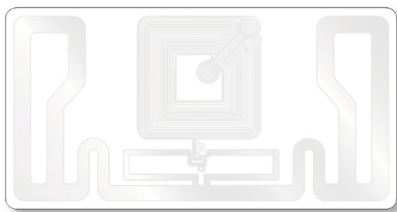
Expected lifetime

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 Beontag for more specific information.



Installation instructions



Tag polarization



Ideal installation conditions are +20°C (+68°F) / 50% RH. For exceptional conditions, please contact Beontag. 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 below 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.



Printer compatibility

Beontag Carrier Dual is tested to be compliant with the following printer. For more information regarding printing and encoding, please reach out to Beontag. - Zebra ZT411



Order information

Product number: **3003473**

Product Name: **Beontag Carrier Dual EM4425V10**

Product number: **3004087**

Product Name: **Beontag Carrier Dual EM4425V12**

For other versions, additional information and technical support please contact Beontag.

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From the science of graphic and label materials, RFID and wireless IoT enablers, we create solutions across the value chain to deliver digital transformation for businesses around the world.

Sustainability is at the core of what we do and we strongly believe that by substituting non-renewable materials and innovating through more sustainable and renewable products, we act as an ESG enabler for our customers' value chain.

Beontag is one of the world's leading providers of RFID and wireless IoT solutions, being present in more than 40 countries with 7 R&D centers and 2,000 employees, in constant development of technological and sustainable solutions designed to connect items, and gain efficiency and end-to-end traceability

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