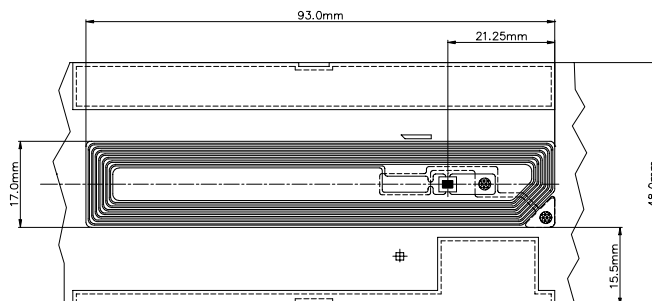


## Data Sheet

# Tag-it™ HF Transponder Inlay - Strip

## Specifications:



| Part Number                                        | RI-I14-110A                                                                                                                                                                  |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended Operating frequency                    | 13.56 MHz                                                                                                                                                                    |
| Passive Resonance Frequency (at +25°C)             | 14.36 MHz $\pm$ 200kHz (includes frequency offset to compensate further integration into paper; drops down to operating frequency when exposed to activation field strength) |
| Typical activation field strength read (at +25°C)  | 108 dB $\mu$ A/m (preliminary value)                                                                                                                                         |
| Typical activation field strength write (at +25°C) | 113 dB $\mu$ A/m (preliminary value)                                                                                                                                         |
| Factory programmed Read Only Number                | 32 bits                                                                                                                                                                      |
| Memory (user programmable)                         | 256 bits organized in 8 x 32-bit blocks                                                                                                                                      |
| Typical programming cycles (at +25°C)              | 100,000                                                                                                                                                                      |
| Data retention time (at +55°C)                     | > 10 years                                                                                                                                                                   |
| Simultaneous Identification of Tags                | Up to 50 per second (reader/antenna dependant)                                                                                                                               |
| Uplink / downlink data rates                       | 26.7 kBd / 6.2 and 9 kBd                                                                                                                                                     |
| RX modulation                                      | Pulse-width coded, AM 100% modulation                                                                                                                                        |
| TX frequencies                                     | Manchester encoded, A = $f_c \pm 423.75$ kHz, B = $f_c \pm 484.29$ kHz<br>Low bit: transition A to B. High bit: transition B to A                                            |
| Antenna size                                       | 17 mm x 93 mm (~0.67 x ~3.66 in)                                                                                                                                             |
| Foil width                                         | 48 mm $\pm$ 0.5 mm (~1.89 in)                                                                                                                                                |
| Foil pitch                                         | 101.6 mm +0.1mm/-0.4mm (4 in)                                                                                                                                                |
| Thickness                                          | Chip: 0.355mm (~0.014 in)<br>Antenna: 0.085mm (~0.0033 in)                                                                                                                   |
| Base material                                      | Substrate: PET (Polyethyleneterephthalate)<br>Antenna: Aluminum                                                                                                              |
| Smallest bending radius allowed                    | 18 mm (~0.71 in)                                                                                                                                                             |
| Operating temperature                              | -25°C to +70°C                                                                                                                                                               |
| Storage temperature (single Inlay)                 | -40°C to +85°C (warpage may occur with increasing temperature)                                                                                                               |
| Storage temperature (on reel)                      | -40°C to +40°C                                                                                                                                                               |
| Delivery                                           | Single row tape wound on cardboard reel with 500 mm diameter<br>Reel width: approx. 60 mm (~2.36 in); inside 50 mm (~1.97 in)<br>Hub diameter: 76.2 mm (3 in)                |
| Typical quantity per reel                          | 5,000                                                                                                                                                                        |

For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: <http://www.ti-rfid.com>

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