TheTagFactory
ENGINEERING RFID SOLUTIONS

**Data Sheet**


# M-Crown Tag (3-in-1)

## FEATURES

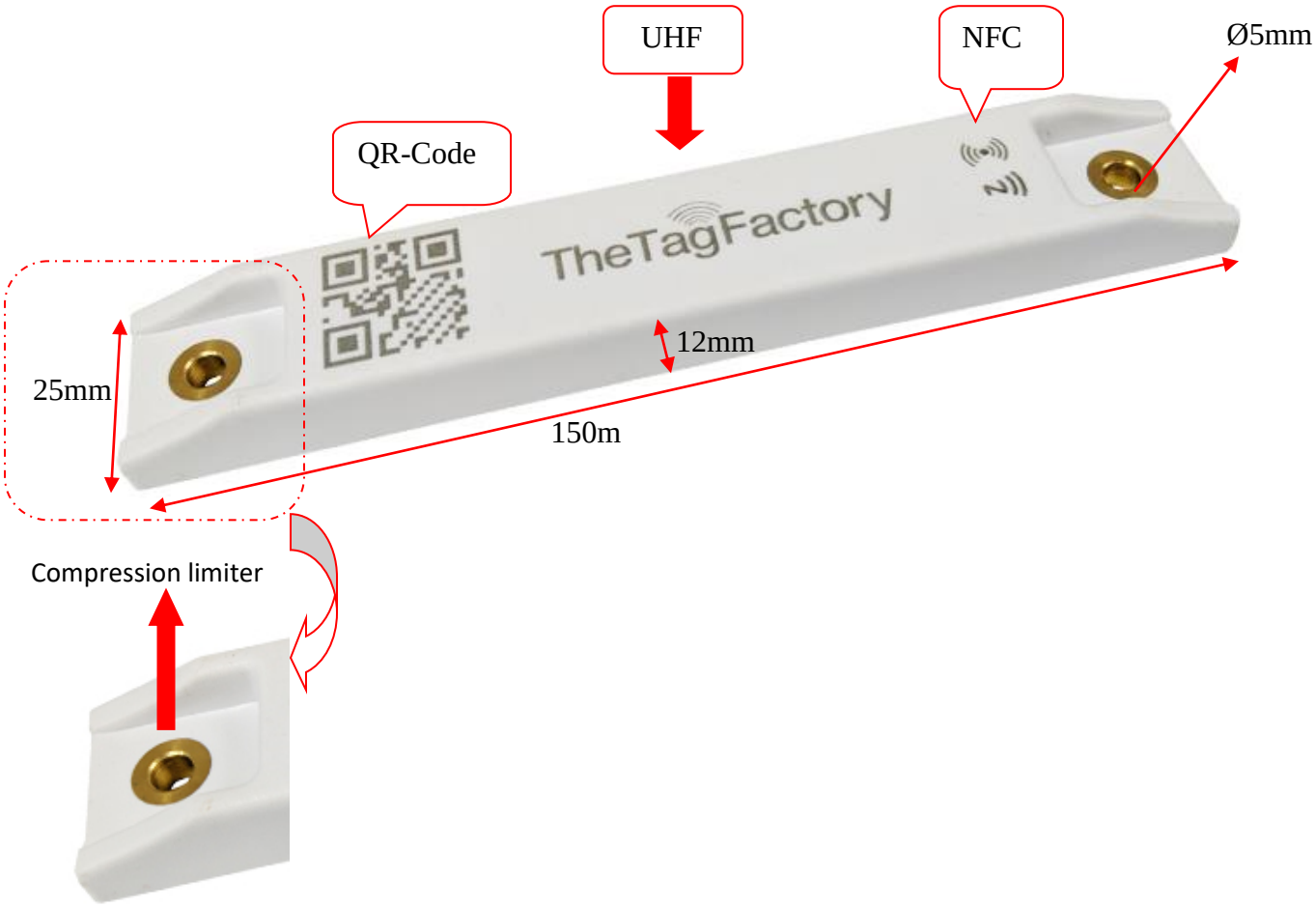
- 3 reading possibilities in single Tag
  - **UHF:** over 15m reading distance when tagged to metal substrate.
  - **NFC:** With any NFC enabled Smartphone.
  - **QR-Code:** With any Smartphone
- Rugged construction for high durability.
- Can be attached by screws/pop-nail with the help of two compression limiters.

## APPLICATIONS

- Can be effectively used in asset tracking, warehouse management, containers, and railway coaches' identification.
- Factory automation, automotive & security purpose.

| | | | |
|---|---|---|---|
| **Chip Type:** | **Description** | **Alien Higgs 9 chip, EPC Class 1 Gen 2** | **NTAG213, 13.56 MHz** |
| | **EPC Memory:** | Up to 496-EPC Bits (nominally 96 bits) | Fully compliant with NFC Forum Type 2 Tag and ISO/IEC14443 Type A specifications. |
| | **User Memory:** | 688 bits | 144 bytes user programmable read/write memory. |
| | **Data retention:** | 50 years | 10 years |
| | **Write endurance:** | 200,000 cycles | 100,000 cycles |
| | | | |
| **Mechanical:** | **Dimension** | 150 x 25 x 12 mm | |
| | **Material** | ABS | |
| | **Colour** | White | |
| | **Weight** | 32 g | |
| | | | |
| **Electrical:** | **Operating Freq.** | **UHF:** 865-868MHz, ETSI Freq. (Also available in FCC & Global frequency on request) | **NFC:** 13.56MHz |
| | **Operating mode** | Passive (battery-less transponder) | |
| **Ingress Protection:** | IP67 | | |
| **Thermal:** | **Storage Temp.** | -25°C to +85°C | |
| | **Operating Temp.** | -25°C to +85°C | |
| **Part Number:** | 415Z1 | | |
| **Options:** | **Available with:** | | |
| | Other IC type on request | | |
| | Other plastic material and colours e.g., PC | | |
| | Adhesive backing for easy mounting | | |

## Dimension



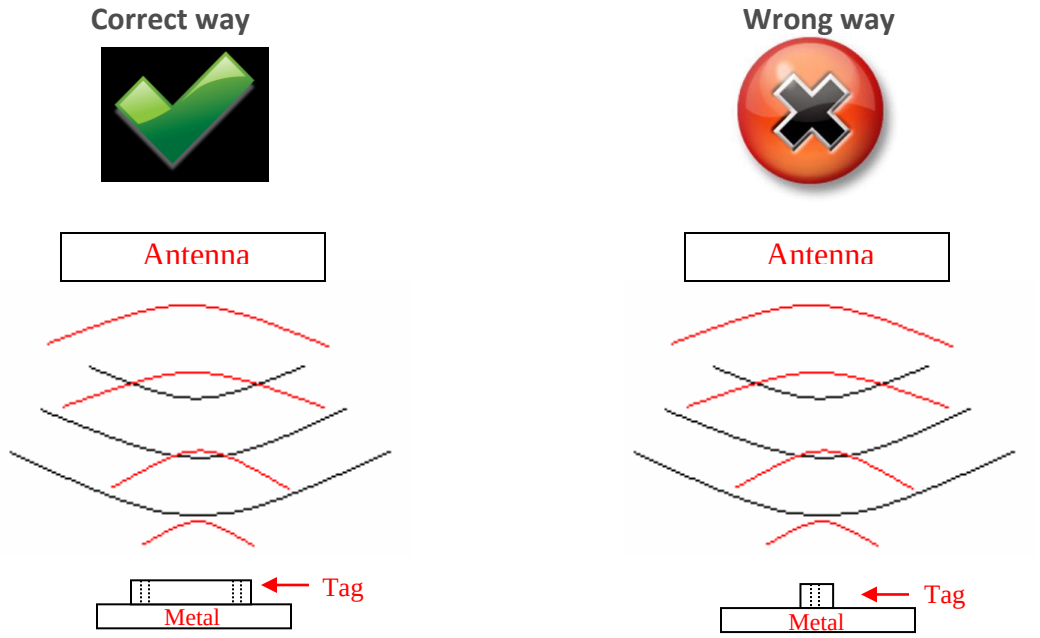

Note: Tolerance applicable are **Length:** ±1mm, **Width:** ±0.5mm and **Thickness:** ±0.3mm.

## Tag Placement

- M-Crown Tag is polarized perpendicular to length of tag.

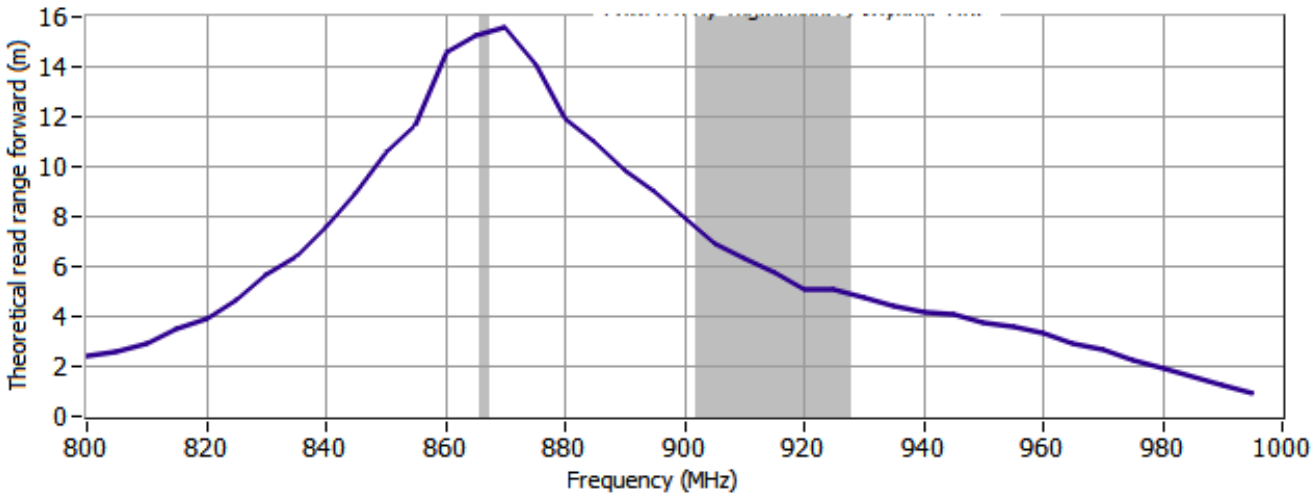

- Place the tag in such a way that most of its bottom area comes in direct contact with metal.
- Ensure that there is no hindrance between the tag and the reader antenna.

- Reader antenna should be parallel to the tag length as shown in below figure:



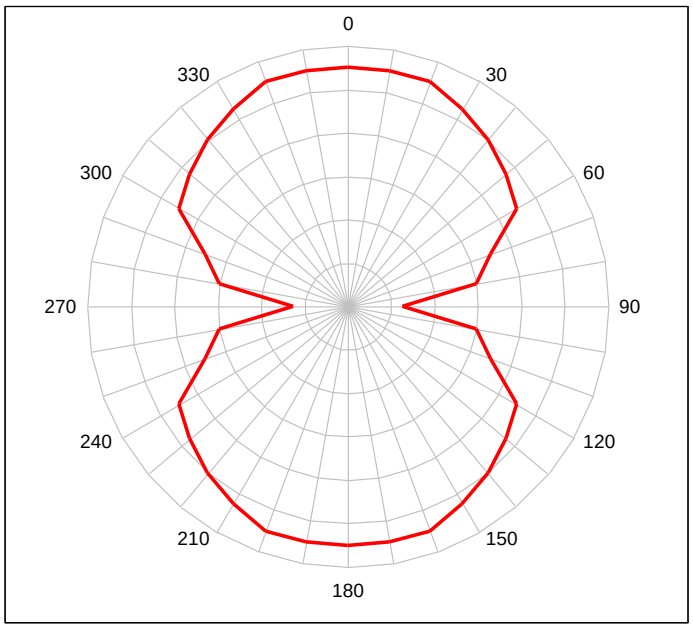

- Tag can be attached either through screw M4/M5 and adhesive tape.
- The distance between hole to hole is 126mm.

## Frequency v/s Read Range Graph

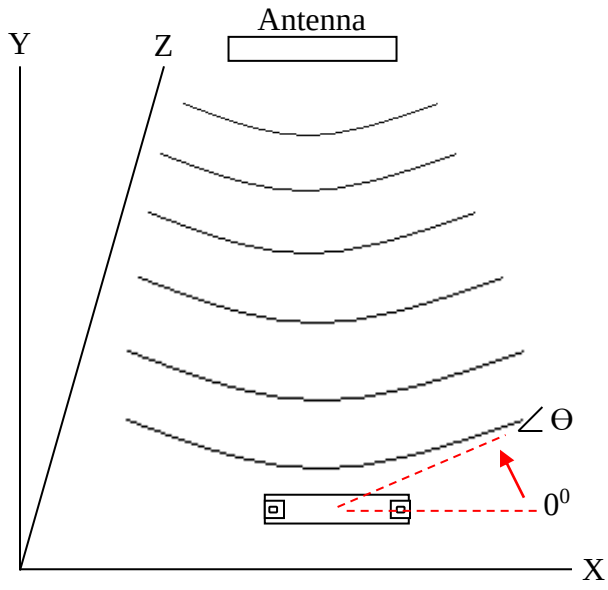


**M-Crown Tag Angular Sensitivity**

(Relative Read Range vs. Orientation)




Read range (in percent) at various angle




Tag is rotated in the X-Y plane about the z axis