M-Knight Tag

FEATURES

- M-Knight Tag has very good size to performance ratio, when attached to metal.
- The product has been designed to be easily attached by adhesive.
- Flexible Read/Write Range (reader dependant).

APPLICATIONS

- Used in IT asset tracking applications such as backup tapes, servers, hard drives and media tapes without any human intervention.
- Inventory control of small tools and manufacturing equipment, servers and network routers.

Chip Type:	**Alien Higgs 3 EPC Class 1 Gen 2**
	EPC 96 bit extendable up to 480 bits
	User Memory 512 bit
	Data retention of 50 years
	Write endurance 100.000 cycles at Room temperature

Mechanical:	Length	25±0.5 mm
	Width	25±0.5 mm
	Thickness	3±0.5 mm (at chip area: 3.5±0.5mm)
	Material	Ceramic
	Encasing	Durable Paint
	Colour	Black
	Weight	8.6 g

Electrical:	Operating Frequency	865-868MHz, (902-928MHz also available on request)
	Operating mode	Passive (battery-less transponder)

Ingress Protection:	IP68

Thermal:	Storage Temp.	-40°C to +150°C
	Operating Temp.	-40°C to +85°C

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Part Number:	383V1

Polarization of

25mm

25 mm

Thickness
3mm
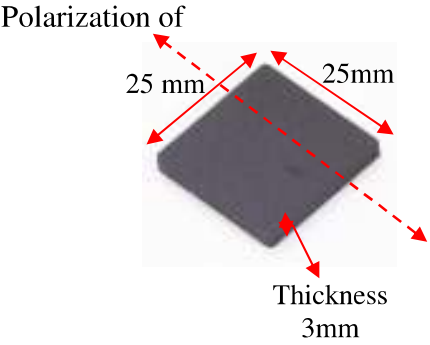
- Tag can be easily attached through adhesive tape at back.
- M-Knight tag is polarized along with the dotted line in the above picture (Dimension section).
- Place the tag in such a way that most of its bottom area comes in direct contact with metal.
- Ensure that there is no hindrance between the tag and the reader antenna.
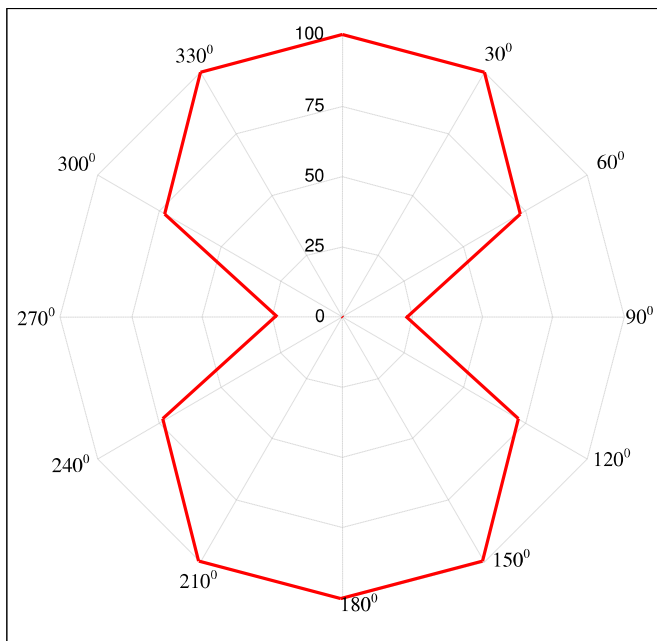- Reader antenna should be parallel to the dotted line as shown in above figure:

Correct way   **Wrong way**

Antenna

Antenna

Tag
Metal

Tag
Metal
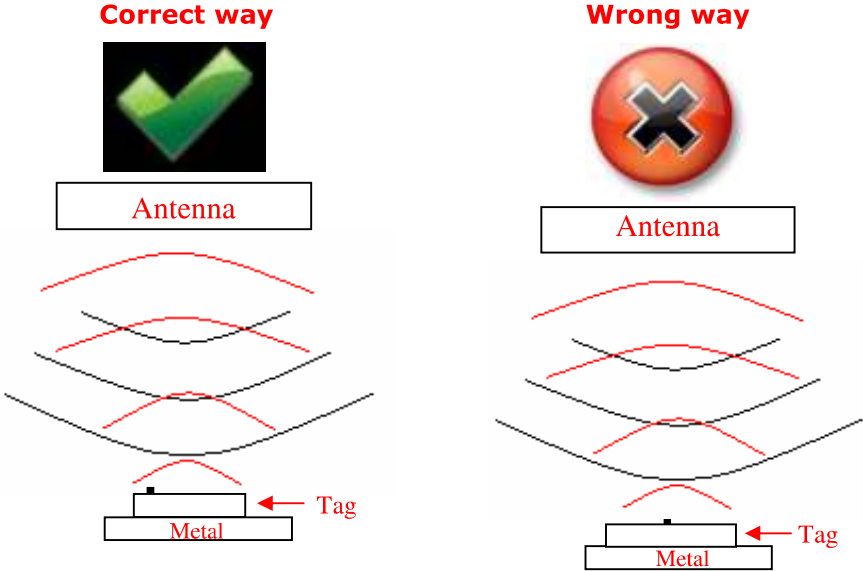
- If the tag is to be placed/embed in metal then:
  a.) Ensure that the tag should be surrounded by metallic surface to get optimum read range.
  b.) It is recommended to make a round cavity in metal substrate having dimensions as per below drawing

Ø37mm

25x25mm

3mm

0.2mm

Side view

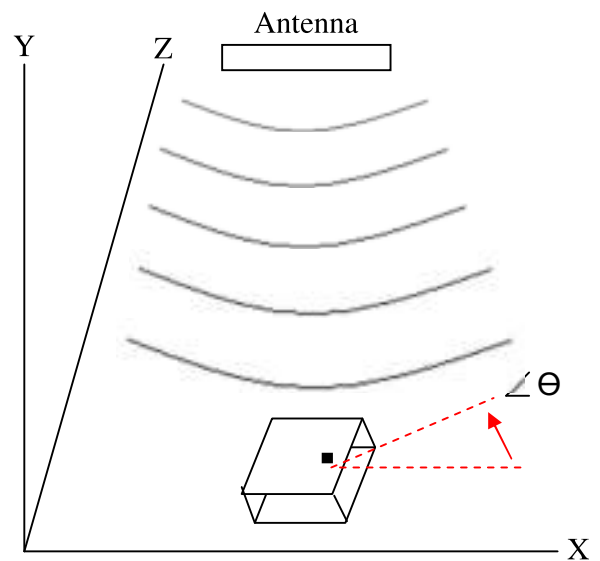Metalic substrate

Circular
tag cavity
Ø37mm

Tag

Top view
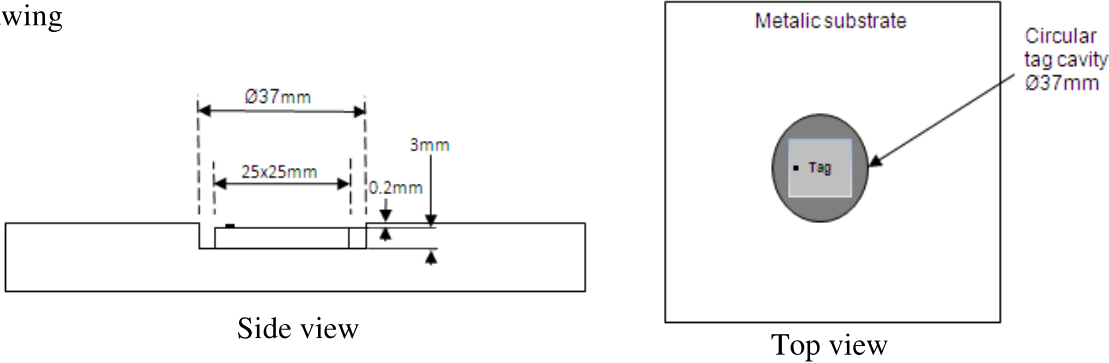
M-Knight Tag Angular Sensitivity
(Relative Read Range vs. Orientation)

Read range (in percent) at various angle.

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