



## M-Knight Tag

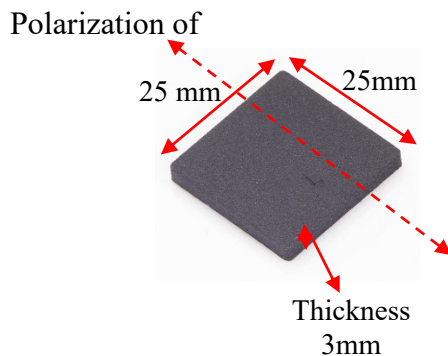
### FEATURES

- 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.

<b>Chip Type:</b>	<b>Alien Higgs 3 EPC Class 1 Gen 2</b>	
	EPC Memory : 96 bit extendable up to 480 bits	
	User Memory : 512 bit	
	Data retention : 50 years	
Write endurance : 100,000 cycles at Room temperature		
<b>Mechanical:</b>	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
<b>Electrical:</b>	Operating Frequency	865-868MHz, (902-928MHz also available on request)
	Operating mode	Passive (battery-less transponder)
<b>Ingress Protection:</b>	IP68	
<b>Thermal:</b>	Application Temp.	-40°C to +150°C (+150°C for 30min)
	Operating Temp.	-40°C to +85°C
<b>Part Number:</b>	383V1	
<b>Options:</b>	Available with	
	Other Frequency on request	
	Adhesive backing	



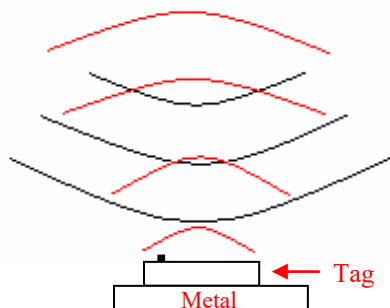
### Tag Placement

- 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



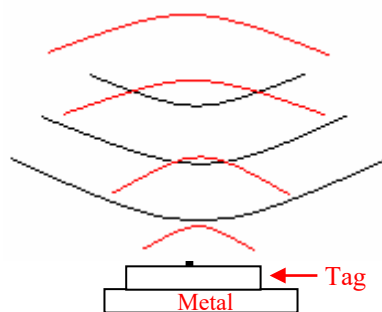
Antenna



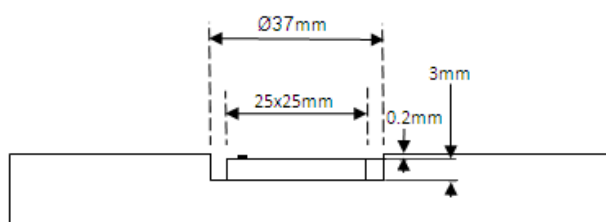
#### Wrong way



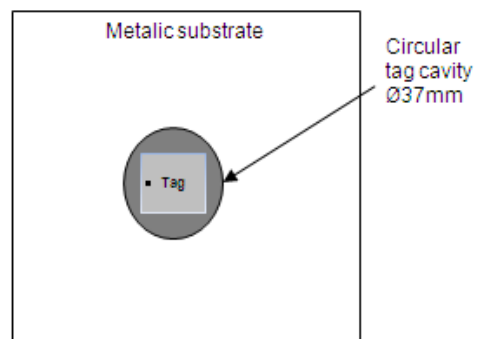
Antenna



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

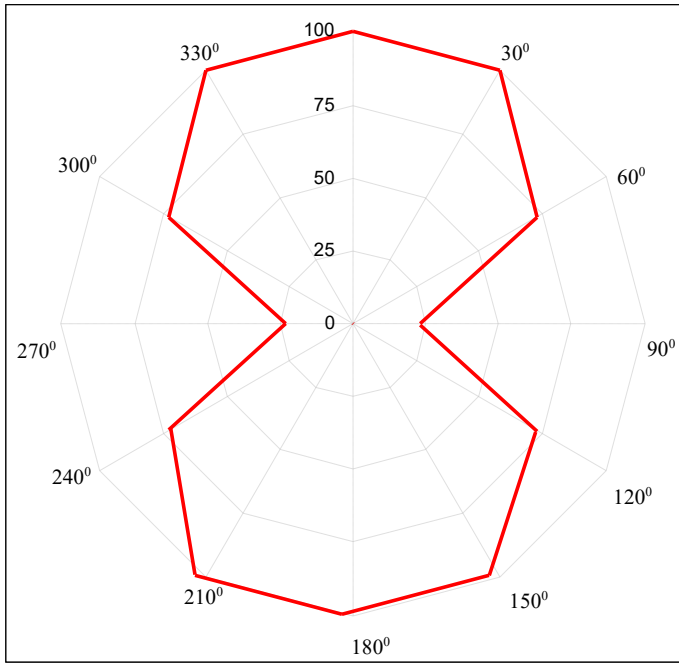


Side view

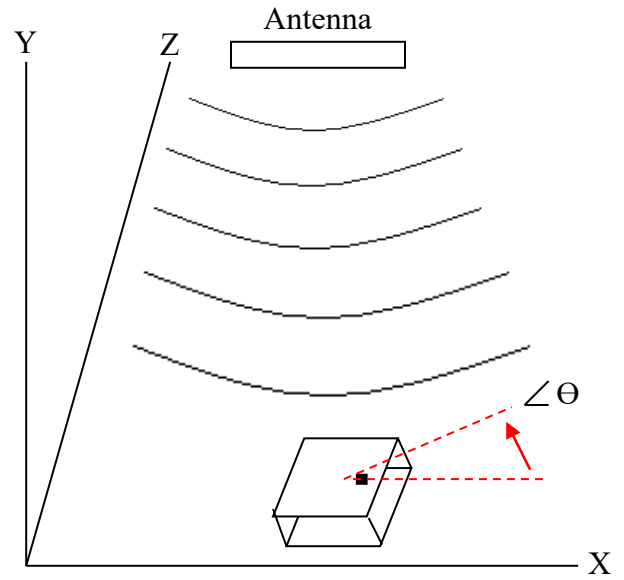


Top view

**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