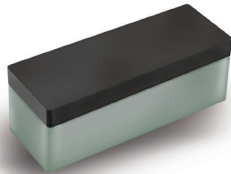


Application Guide

On-Metal RFID RAIN Tags

Improved automation and efficiencies, accurate inventory count, define data & analytics parameters, cost savings, error reduction

LXTB Series



General Description

The LXTB series of on-metal tags are designed to work with the metal object it's attached too. The metal object functions as a booster antenna greatly increasing the overall read range.

Part Number: LXTBKZMCMG-010

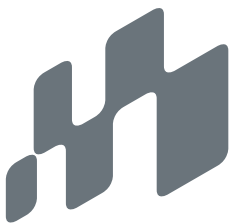
Features

- Small package size: 6.0 x 2.0 x 2.3mm
- Robust design
- EPC Global Gen 2v2 compliant
- EPC memory: 128bit
- Read range (ref): up to 1.5m (4W EIRP)
- Covers global UHF frequency band (865~928MHz)
- 100% RoHS compliant

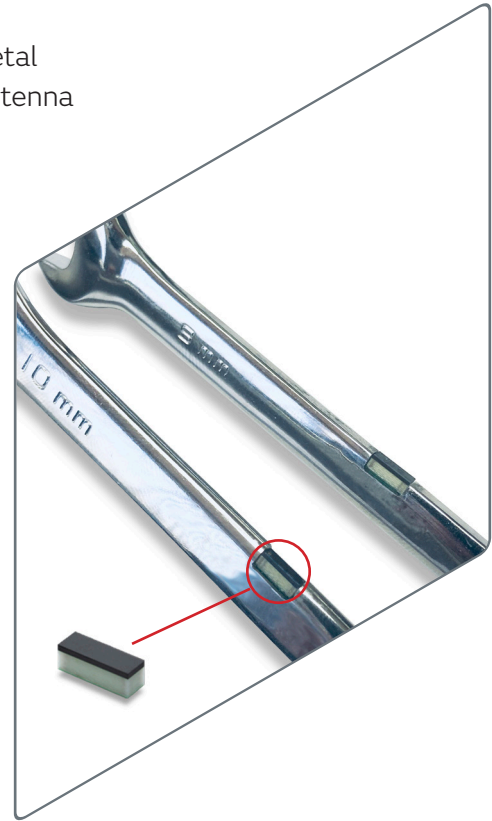
Market / Applications

- Industrial – Tools / item level tracking
- Healthcare – Surgical tool tracking
- IT / Consumer – Data / EDP equipment
- Manufacturing – Reusable metal objects

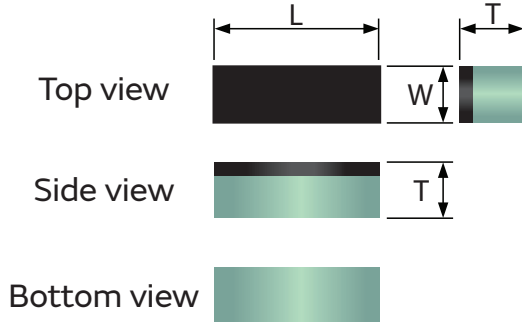
Use Cases



- Simplify product identification
- Item level tracking
- Accurate inventory count
- Reduce manual processes
- Capture and improve data analytics
- Real-time data



Dimensions



Mark	Dimensions
L	6.0 ±0.20
W	2.0 ±0.20
T	2.3 max

Unit: mm

Electrical Parameters








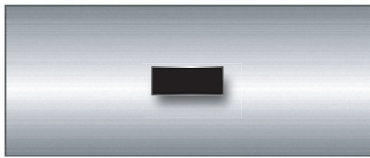


- Operating frequency: 865 ~ 928MHz
- Operating & storage temperature: -40C ~ +85C


Parameter		Description	Remarks
IC		Impinj Monza R6P	
Protocol		ISO/IEC 18000-63	
		EPC Global Gen2 V2	
Memory *1	EPC	Default Memory Profile: 128 bit Max User Memory Profile: 96 bit	Read & Write
	TID	96 bit	Read Only
	Reserved Memory	64 bit	
	User	Default Memory Profile: 32 bit Max User Memory Profile: 64 bit	
Data Retention Time		50 Years*	Tamb=22C

* Reference value

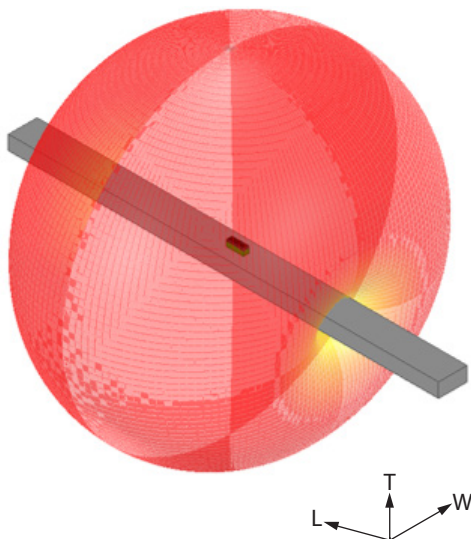


Tag Placement Recommendations

	 Optimal tag reading placement position	 Poor tag reading placement position
Narrow Object		
Narrow Object		
Wide Object		
Various Width		

 = on-metal tag - LXTBKZMCMG-010

Metal Dimension Comparison



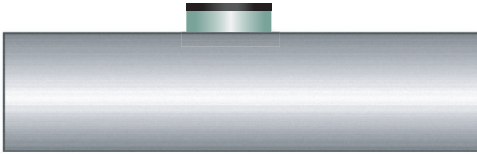
4WEIRP

No.	Metal Dimensions (mm)			Reading Distance (cm)	
	L	W	T	865MHz	920MHz
1	100	20	5	62	102
2	150	20	5	183	197
3	200	20	5	98	107

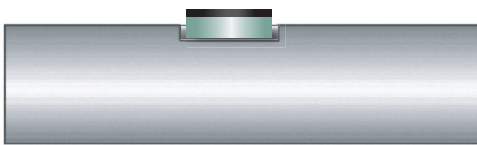


Mounted in Cavity Performance

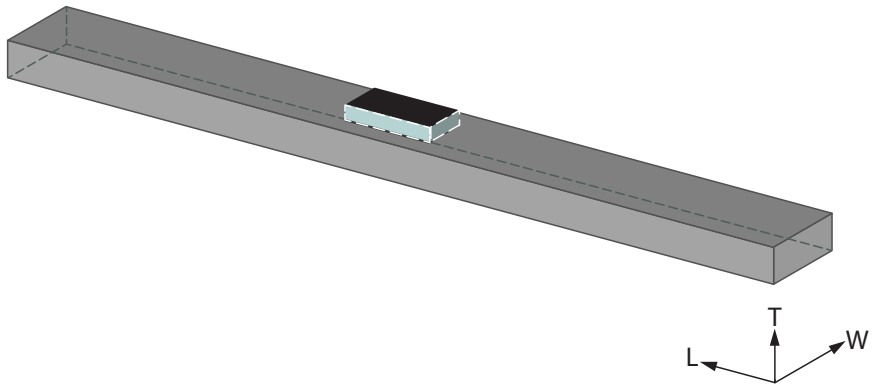
No. 1: No cavity



No. 2: Cavity depth 1.1mm



No. 3: Cavity depth 2.2mm

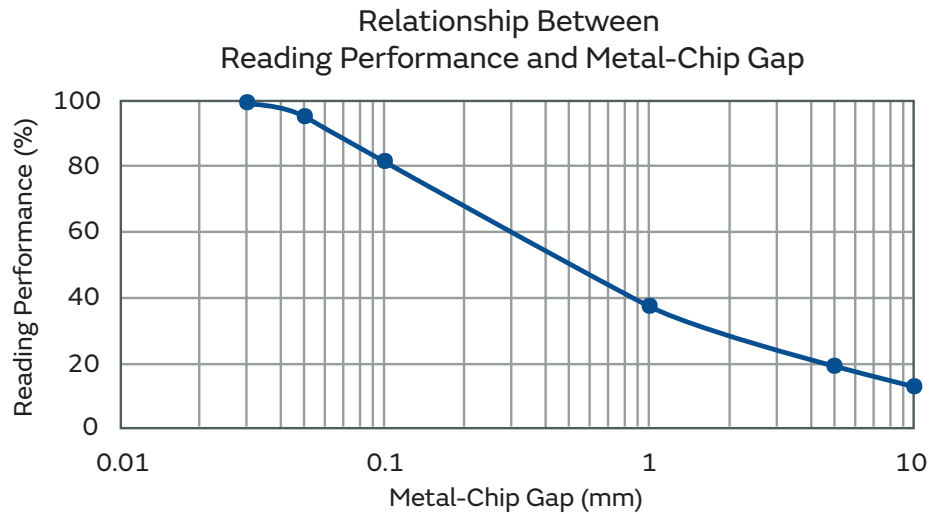
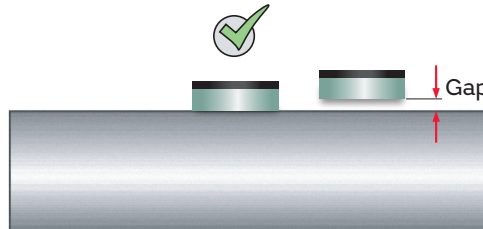


No.	Cavity Depth (mm)	Metal Dimensions (mm)			Reading Distance (cm)	
		L	W	T	865MHz	920MHz
1	0	150	20	5	183	197
2	1.1	150	20	5	145	81
3	2.2	50	20	5	60	50

Cavity size: 8.0 x 4.0 x Z mm (Z variable)

Gap Performance

Read distance decreases the larger the gap between the tag and metal surface



100% represents direct contact with metal surface
(measured with Japan frequency)

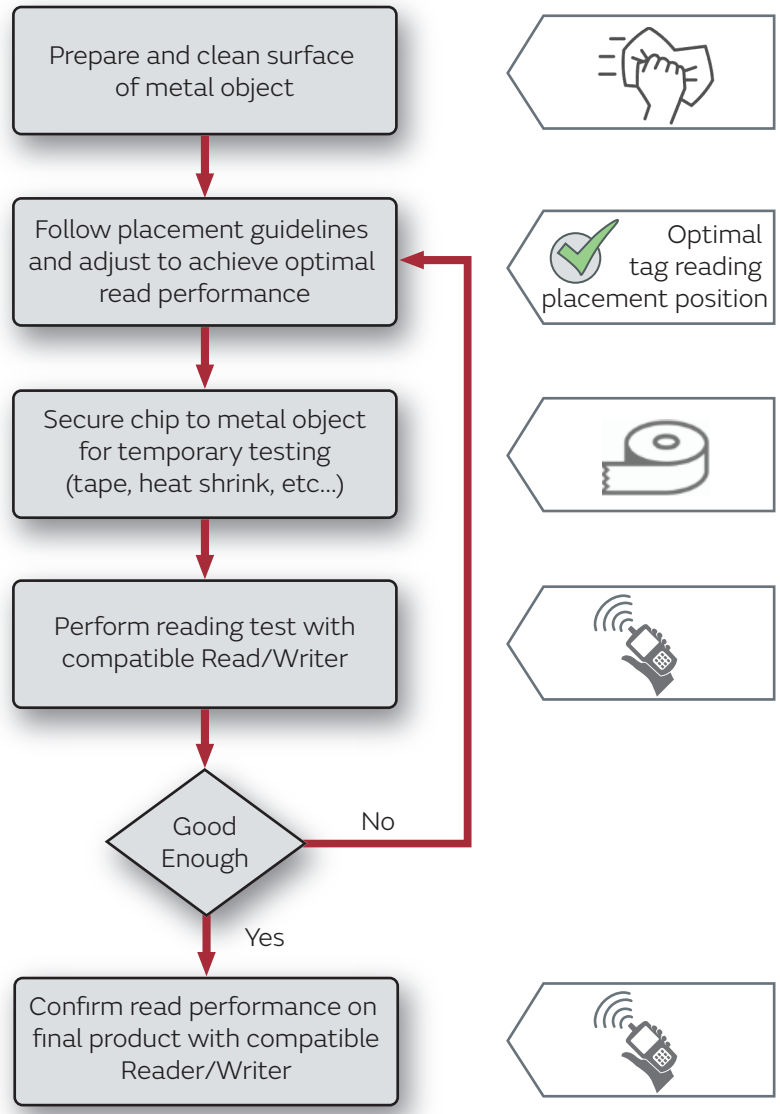
Tag Attachment Methods

- Epoxy glue (non-conductive)
- Heat shrink tape
- Polymer wrap
- (contact Murata for additional information)

Mounting Notes

- Prior to tag attachment, surface area should be cleaned for optimum results.
- Read distance will vary based on structure of object and tag location.
- Confirm reading performance under use case conditions.
- Avoid placing tag in locations that are exposed to external stress

Steps to Evaluate Tag on Metal Object





Note

Export Control

For customers outside Japan:

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- ① Aircraft equipment
- ② Undersea equipment
- ③ Medical equipment
- ④ Traffic signal equipment
- ⑤ Data-processing equipment
- ⑥ Aerospace equipment
- ⑦ Power plant equipment
- ⑧ Transportation equipment (vehicles, trains, ships, etc.)
- ⑨ Disaster prevention crime prevention equipment
- ⑩ Application of similar complexity and/or reliability requirements to the applications listed above

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Please read rating and & CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.

This catalog has only typical specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.

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