

IM5-X07 Specification
UHF RFID Weldable Metallic Tag

REV 1.0 March, 2012

Hitachi Chemical Co.,Ltd.
Marketing Dept. RFID Project
Advanced Performance Materials Marketing & Sales Operations

1. Scope

This specification defines UHF RFID Weldable Metallic Tag IM5-X07.

2. Model No.

Model No. is shown in Table 1.

Table 1. Type

No.	Model No.	Note
1	IM5-X07	

3. RFID Protocol

The tag is compliant with RFID standards shown in Table 2.

Table 2. Compliant Standards

No.	Item	Spec
1	Protocol	ISO/IEC 18000-6 TypeC EPC global™ Class1 Generation2

4. Operating Conditions

Operating conditions are shown in Table 3.

Table 3. Operating Enviroment

No.	Item	Spec	Note
1	Operating Temp.	-40 to 85°C	Humidity : 10 to 80%RH
2	Storage Temp.	-40 to 85°C	Humidity : 10 to 80%RH

5. General specs

General specs are shown in Table 4.

Table 4. General Specs

No.	Item	Spec		Note
1	Carrier Frequency	860 to 960MHz		
2	Memory	TID	96bit	48bit : Serial No 16bit : TID Header 32bit : Manufacturer/Model No
		EPC	128bit	
		Passwords	64bit	Kill/Access
3	Data Retention	50 years		Reference
4	Write Endurance	100,000 cycles		Reference

6. Figure

The tag figure is shown in Fig 1.

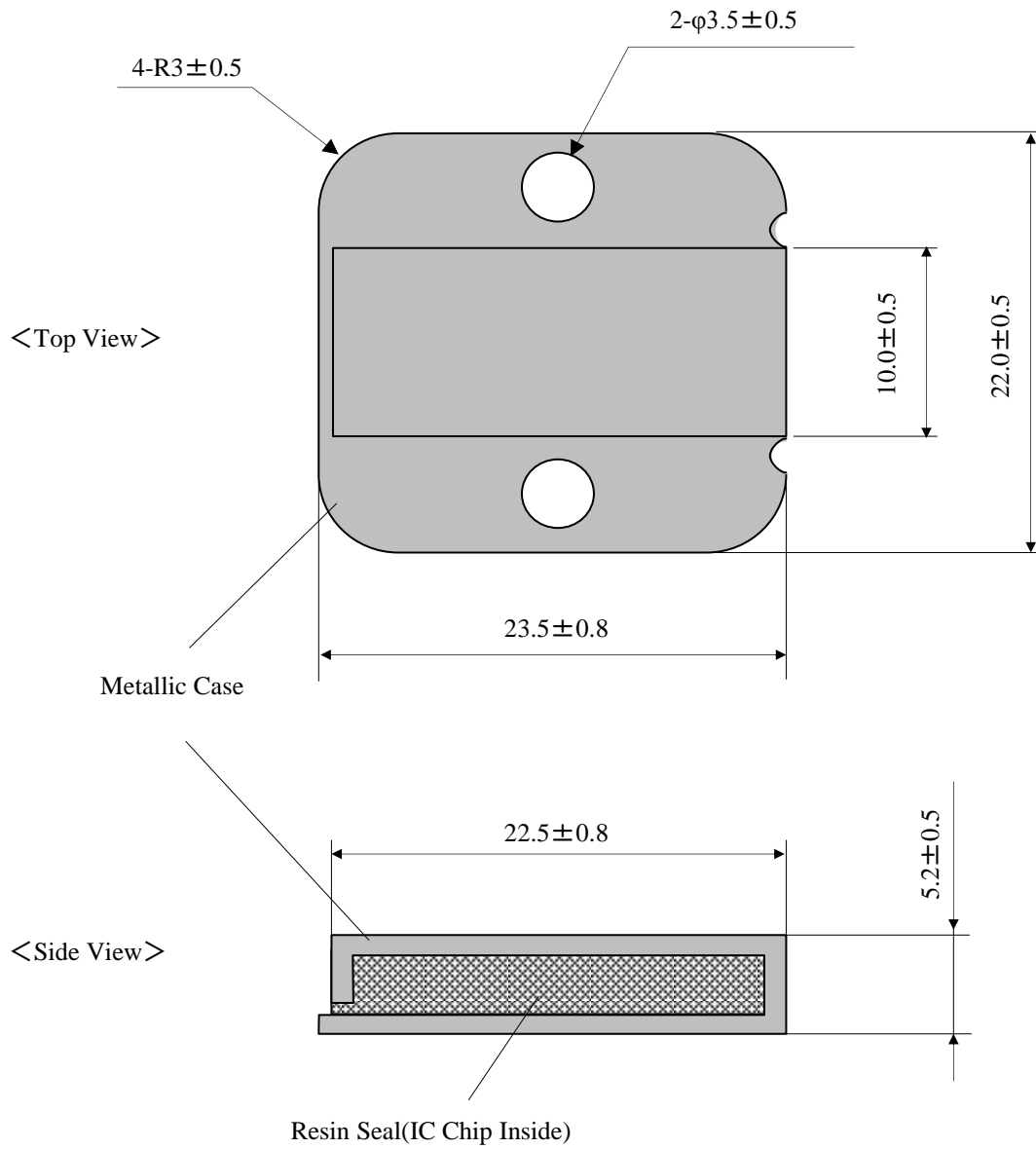


Fig 1. Figure

7. Material

Material of tag is shown in Table 5.

Table 5. Material

No.	Parts	Spec	Note
1	IC Chip	Monza5 by Impinj	
2	Metallic Case	SUS304 1.0mmt	
3	Resin Seal	PPS Type Resin	

8. Read Range

Read range is shown in Table 6.

Table 6. Read range

No.	Item	Spec	Condition	
			Reader	HHT
1	Read Range	over 50cm	Frequency	920MHz, 953MHz
			Power	1W
			Enviroment	Antenna surface of tag is facing reader antenna surface. (Free Air/Room Temp. and Humidity)
				Put tag on tha center of SUS304 plate(300mm×400mm×0.5mmt) (Fig 2.)

Noto : Read range will change by the reader model, power, enviroment.

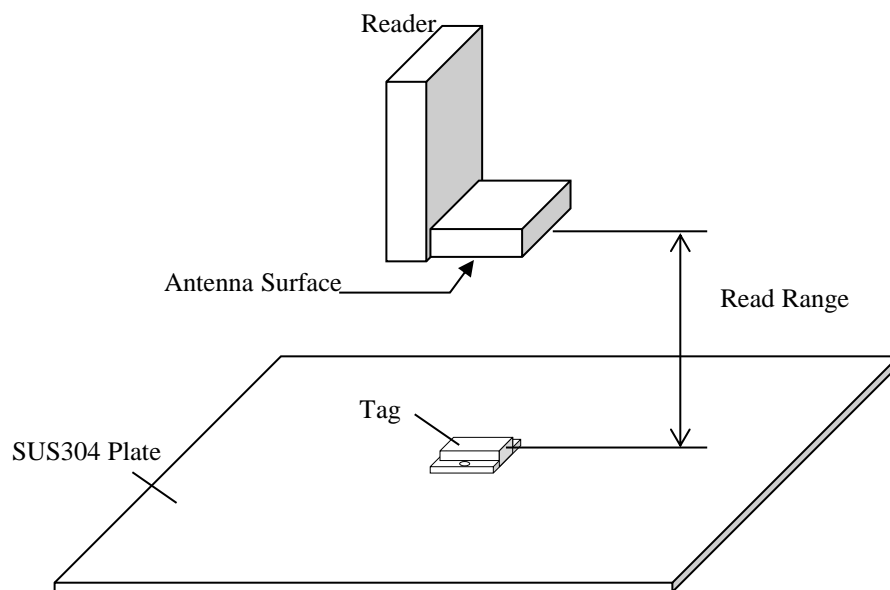


Fig 2. Communication Condition

Note

1. Read range will be change depend on enviroment.
2. When you write data in the tag, plaease keep certain distance and modify wrote data.
3. When you use welding to attached the tag, please do not heat the tag long time.
Please reconfirm with us when you use welding.

For safety designing

1. Although Hitachi Chemical endeavors to improve the quality and reliability of its products, IC Tag products have specific characteristics such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Please be sure to implement safety measures to guard against the possibility of physical injury, and injury or damage caused by fire in the event of the failure of a Hitachi Chemical product, such as safety design for hardware and software including but not limited to redundancy, fire control and malfunction prevention.

- Illustration in this specsheet will be different from actual products.
- This specification will be changed without notices.