RHINO™ HARD TAGS

HT 5050 Global



Square shaped rugged UHF hard tag with global tuning, optimised to perform on metal, featuring brass inserts that withstand heavy duty riveting. Laser engravable with optional adhesive backing

PHYSICAL SPECIFICATION

Tag Material
ABS Plastic

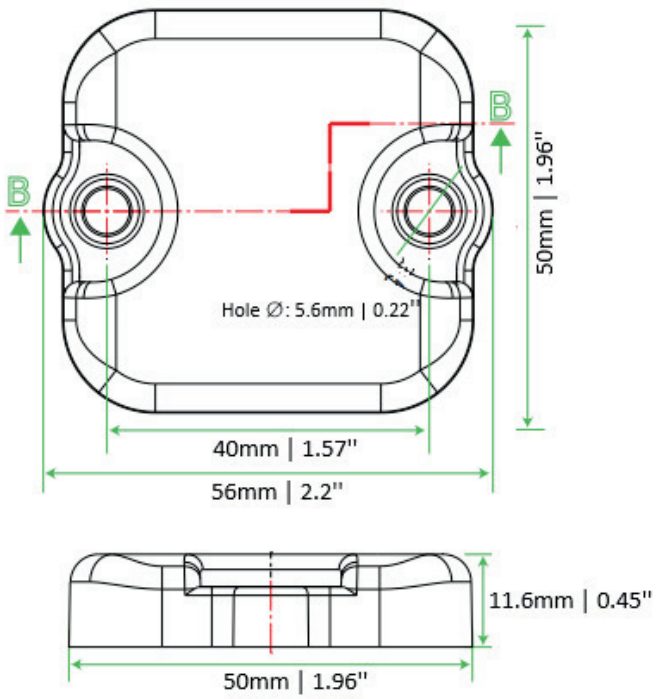
Tag Size
50 x 50 x 11.6 mm | 1.96" x 1.96" x 0.45"
Hole Dia: 5.6mm | 0.22"

Adhesive (optional)
High performance acrylic adhesive

Delivery Format
Single

Tags in box
100 pcs per box (100% performance checked)

Weight
34g



RF SPECIFICATION

Air interface protocol
ISO 18000-6C and EPC Global Gen2v2 complaint | Rain RFID

Operational frequency
Global: 865-928 MHz

IC
NXP UCODE 9xe

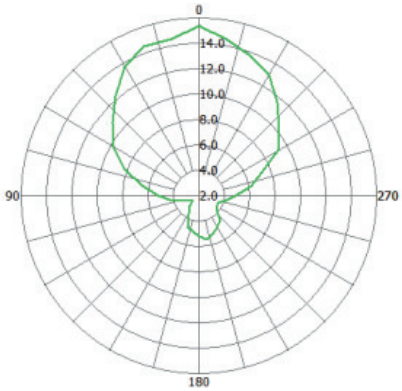
Memory configuration
EPC 128bit; TID 96bit

Applicable Surface Materials
Metallic Surfaces

Read range (2W ERP)**

	Meter	Feet
On Metal	13	42.65

RADIATION PATTERN



PERSONALISATION OPTIONS

Pre-encoding
• Customer specific encoding of EPC memory and User memory

Customised Laser Engraving
• Customer specific artwork including logo & text, numbers, barcodes etc.

ORDER INFORMATION

Part Number
• RF.HT.5050.U9xe

Packaging
• 100 pcs per box;
5 boxes per carton

PRODUCT INSTALLATION



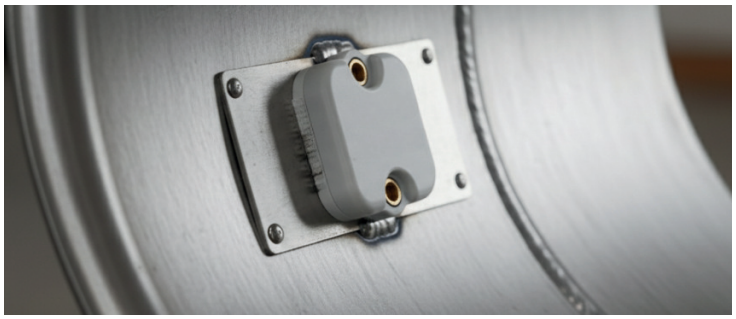
HT5050 Global supports multiple attachment methods for different mechanical and environmental requirements.

1.Adhesive Backing (optional)
Ensure the surface is clean, dry, and free of oils or dust. Ideal application temperature: +21°C to +38°C (70°F to 100°F).
Apply firm pressure to enhance bond. Installation below 10°C (50°F) is not recommended.

2.Mechanical Fixing – Screws or Rivets
Mechanical attachment is strongly recommended for industrial settings involving vibrations, shock, or extreme temperatures.
Mount using M5 screws or 5 mm pop rivets through pre-molded holes.
Ensure flush contact with the metal surface to avoid air gaps that may degrade read performance.

3.Structural Adhesive
For stronger, permanent installations in environments with mechanical stress, we recommend structural adhesives like 3M DP110 or SikaFast 5215.Apply a thin layer (≤2mm) of adhesive to the back of the tag.
Press the tag onto the mounting surface with firm pressure.
For enhanced fixation, inject sealant through mounting holes.
Follow the adhesive manufacturer's guidelines for cure time and handling strength.

4.Additional fixing tools – welding bracket
In applications where adhesives are not sufficient and punching the metal surface for screws or rivets is not feasible, the tag can be mounted using a special welding bracket. Made of stainless steel, this bracket enables secure attachment on both flat and curved surfaces.



ENVIRONMENTAL RESISTANCE

Operating Temperature
-40°C to +85°C | -40°F to +185°F

Installation Temperature
+10°C to +38°C | 50°F to +100.4°F

Peak Temperature
+125°C | +257°F 1h duration

Vibration resistance
JESD22-B103B, service condition 2; vibration that is aligned with tag thickness (z-axis)

IP Classification
IP68

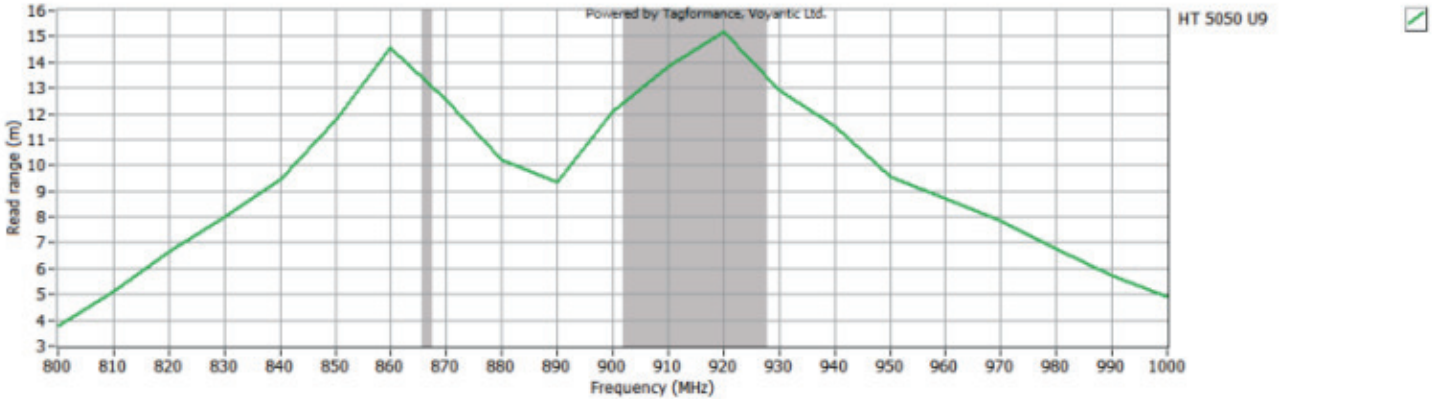
Chemical resistance
No physical or performance changes in:
- 168 hour Motor oil exposure
- 168 hour Salt water (salinity 10%) exposure
- 168 hour Sulfuric acid (10%, pH 2) exposure
- 24 hour NaOH (10%, pH 13) exposure

Generally good against: Methanol (moderate concentrations), ethanol (moderate concentrations), glycerine, ethylene glycol, consistent grease, most acids, bases and tensides such as sulfuric acid 96%, nitric acid 10%, NaOH 50%, soap solution 30%.

Testing recommended for hydrocarbons and carboxylic acids.
Acetone should be avoided.

Expected Lifetime
Years in normal operating conditions

READ RANGE GRAPH



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** The indicated read range values are measured in our laboratory testing environment, where antennas with optimum directivity are used with maximum allowed operating power. Different surface materials and environments may exhibit different results.