

A3042 Robust SlimLine™ High Gain Antenna

We are a high-tech company specializing in the design and manufacture of fixed RAIN RFID antennas.

Our journey began in 2006, when Times-7 was founded. Since then, we have developed the **largest portfolio of fixed RAIN RFID reader antennas**, which are known for their SlimLine™ design, quality and performance.

Our antennas cover:

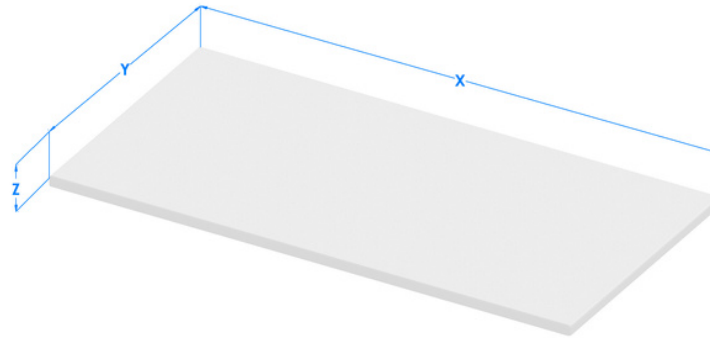
- A wide variety of RF characteristics
- A range of sizes
- Leading temperature performance
- Range of IP ratings

If your deployment requires a specialization that is not met by our standard portfolio, Times-7 can design and manufacture **customized antennas** to meet your needs.

We are based in Lower Hutt, New Zealand, with a **global reach** as we export our products through our **extensive authorized partner network**.

In addition to our world-class RAIN RFID antennas, customers appreciate Times-7's customer service and **in-depth technical support**.

We are **responsive** in supporting a large global customer base and ensuring the success of our customer's RFID implementations.

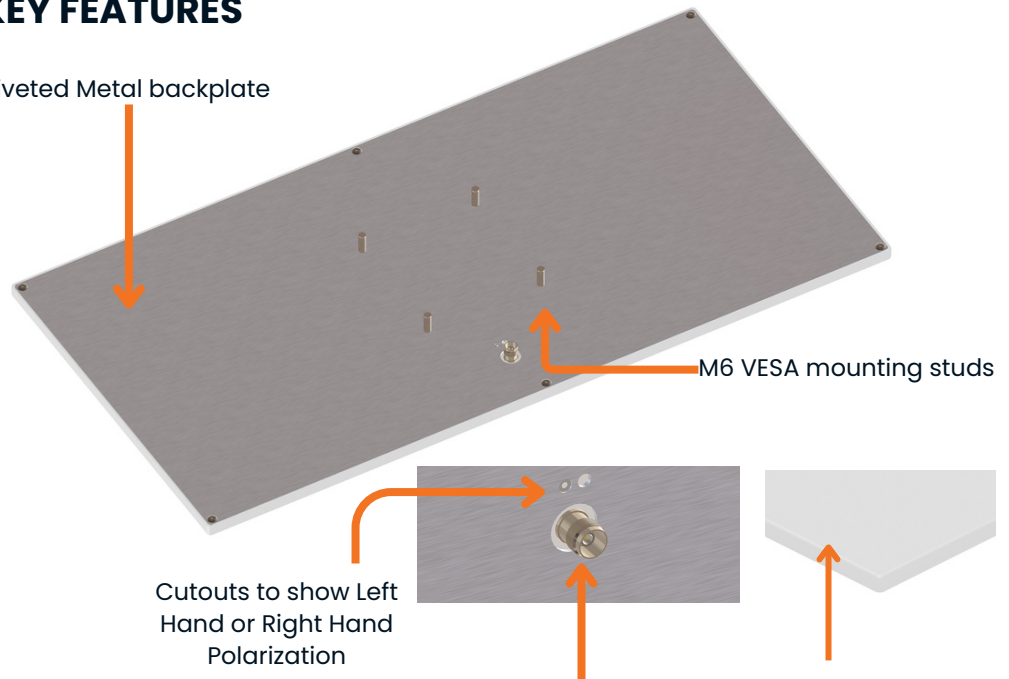


The A3042 offers high-gain, compact performance designed for tough RFID environments. It comes in a standard formed radome with an integrated backplate for ease of mounting.

The antenna's 10.5dBiC gain and 8-patch design, ensures precise, reliable tag detection. Its IP54 rating, solar-resistant materials, and circular polarization make it ideal for both indoor and outdoor use, while the rear RP-TNC connector and durable construction provide flexibility and long-lasting durability in any setting.

KEY FEATURES

Riveted Metal backplate



M6 VESA mounting studs

Cutouts to show Left Hand or Right Hand Polarization

Rear RP-TNC connector Solar-resistant, white, formed-radome

ORDERING INFORMATION

Note: Please quote product code, part number, band, cable type & part number

Antenna	Frequency	Part Number
A3042 Formed Radome (RHCP)	ETSI 865-868 MHz	75453
A3042 Formed Radome (RHCP)	FCC 902-928 MHz	75305
A3042 Formed Radome (LHCP)	ETSI 865-868 MHz	75454
A3042 Formed Radome (LHCP)	FCC 902-928 MHz	75452



Patent Info:
www.times-7.com/patents

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A3042 Robust SlimLine™ High Gain Antenna

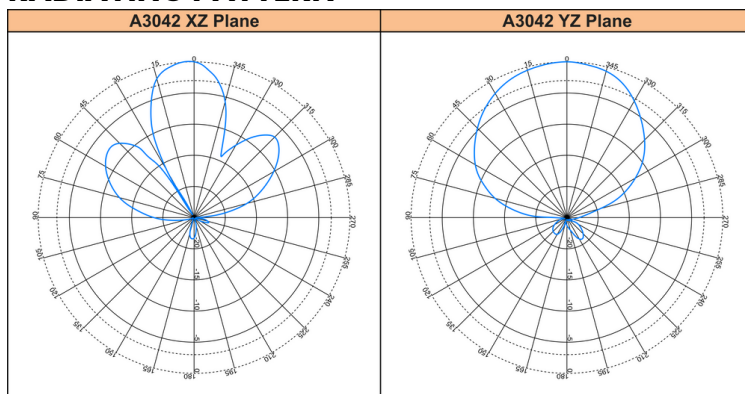
PHYSICAL / ENVIRONMENTAL SPECIFICATIONS

Dimensions: (L x W x D)	604 x 304 x 11mm* / 27.5mm** 23.78 x 11.97 x 0.43" / 1.1" (*panel only, **including full stud length)
Boxed Unit Dimensions: (L x W x D)	650 x 360 x 30mm 25.59 x 14.17 x 1.18"
Weight:	Net: 2.38kg / 5.25lbs. Gross: 2.69kg / 5.93lbs.
Radome Material:	White Flame-Retardant ABS
Environmental Rating:	IP54
Operating / Storage Temperature:	-20° to +55°C / -30° to +60°C -4° to +131°F / -22° to +140°F
Mounting:	Integrated 100 x 100mm VESA Mounting Studs
Connector Type:	RP-TNC Straight Jack

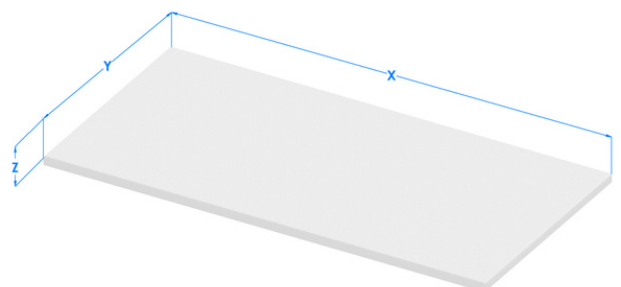
ELECTRICAL / ENVIRONMENTAL SPECIFICATIONS

Frequency Range:	865-868 MHz (ETSI) / 902-928 MHz (FCC)
Polarization:	Circularly Polarized, Left or Right-Handed
Far-Field Gain:	10.5dBiC typical
*Far-Field 3dB Beamwidth:	25° in XZ plane, 60° in YZ plane
VSWR:	1.4 typical
Front-To-Back Ratio:	-25dB
Axial Ratio:	2dB typical
Nominal Impedance:	50Ω
Anti-Static Protection:	Yes, DC grounded
Antenna Detection:	10kΩ resistance
Maximum Input Power:	3W

RADIATING PATTERN



AZIMUTH PLANES



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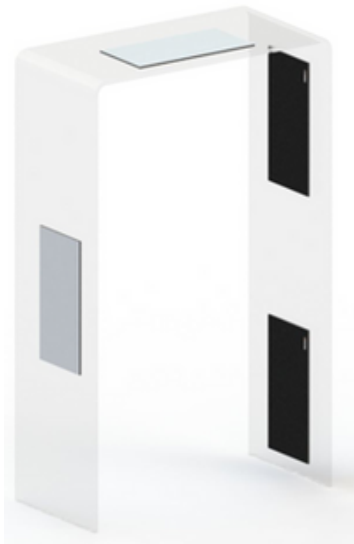
APPLICATIONS

INDUSTRIAL PORTAL

The IP54 rating and the 10.5dBiC gain makes this antenna highly suitable for industrial applications. A densely packed asset with numerous tags can be identified accurately and efficiently. A stand-alone portal can be realized with four A3042 antennas*.

All possible tag orientations will be captured due to its circular polarization and positions. The antennas on the sides are offset so that they do not face each other and induce maximum coverage within the portal. Almost all assets can be tracked with greater accuracy using our A3042 antenna.

The A3042 features an impressive front-to-back ratio of -25 dBm, meaning it focuses energy toward the desired coverage area while minimizing interference from the back. This ensures more accurate and consistent tag reads, particularly in environments with a high density of RFID tags or competing signals.



*A3042 pictured above in black for easy visualisation

The vertical configuration is recommended for high density asset tracking (such as palatized boxes, a trolley of laundry goods, etc.,) where you will need a larger RF zone to efficiently read all the tagged items. The RF read window is expanded in and out of the portal.

The horizontal configuration is recommended to avoid stray reads due to a confined RF read window. The RF read zone is restricted within the width of the portal. Assets that are not densely packed can be read efficiently using this configuration.

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APPLICATIONS

VEHICLE TOLLING / ACCESS CONTROL

The A3042s 10.5dBiC gain is powerful enough to read vehicular tags, e.g., embedded in the windscreen or the number plate, from greater distances. The 25° narrow beam can be used to create confined RF zones for each lane.



LAUNDRY APPLICATIONS

With its high gain, the A3042 antenna has the potential to read through densely packed laundry items. The antennas can either be configured as a standalone industrial portal to track trolleys full of laundry goods, or they can be used in a conveyor to track movement. The antenna's confined RF emission eliminates stray tag reads. The antennas can also be used over bench tops in packing/folding stations.

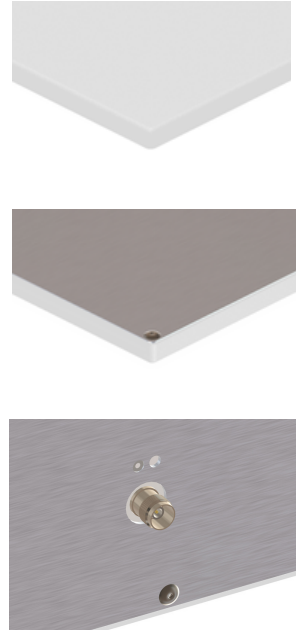
The A3042 includes built-in anti-static protection, which is critical for preventing electrostatic discharge (ESD) from damaging the antenna or connected RFID equipment. This feature extends the operational life of the antenna and ensures more reliable performance, particularly in environments prone to static electricity.



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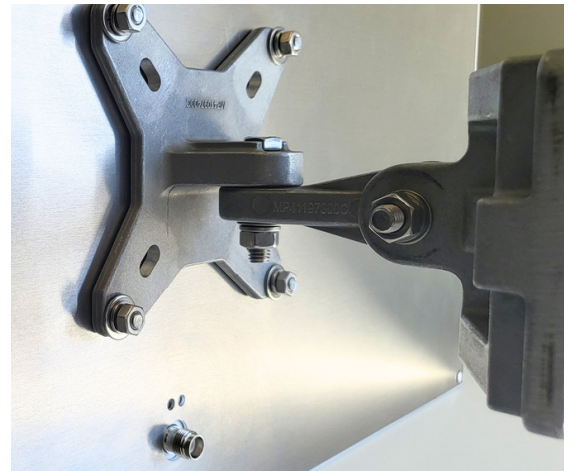
KEY FEATURES

- The white flame-retardant ABS plastic formed radome offers protection against solar radiation. Its sleek, aesthetic design for customer-facing environments, also provides enhanced edge protection and resistance to environmental degradation.
- Integrated, riveted backplate provides additional durability, safeguarding the internal components from mechanical stress and ensuring long-term reliability.
- M6 VESA mounting studs, offers a flexible and robust solution that allows for quick and easy installation using standard brackets.
- Rear RP-TNC Connector ensures secure, convenient mounting in tight spaces or on vertical surfaces, while reducing cable strain for enhanced durability and reliability, especially in industrial or outdoor environments.
- Left and right-handed circular polarized models are available allowing for ease of deployment in large multi-reader portal installations without the worry of creating nulls in the read zone.



MOUNTING INSTRUCTIONS

- The Times-7 A3042 has an integrated M6 studded backplate that support VESA-100 mounting.
- Using the provided mounting hardware (M6 Nuts, flat and spring washers) fix the antenna to a selected appropriate mount. It is recommended you do not exceed an individual mounting torque of 5Nm.
- Ensure that the cable is tightened to the rear RP-TNC connector to finger-tightness only. Allow the cable to be attached straight and without strain to the back of the antenna before routing. The A3042 may be rotated 180 degrees to position the connector in a favorable location.
- Avoid any excessive pulling force on the cable/connector and be mindful of maintaining its rated bend radius to prevent damage to the connector or cable and ensure proper function

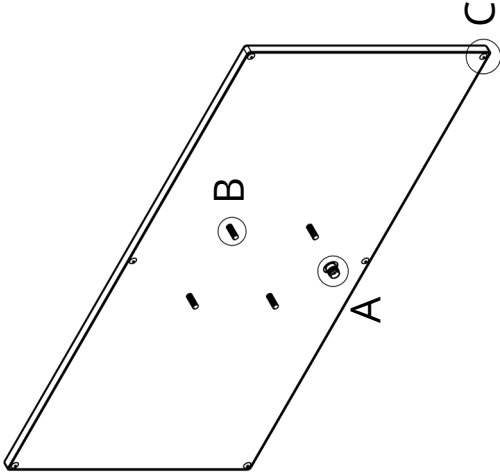
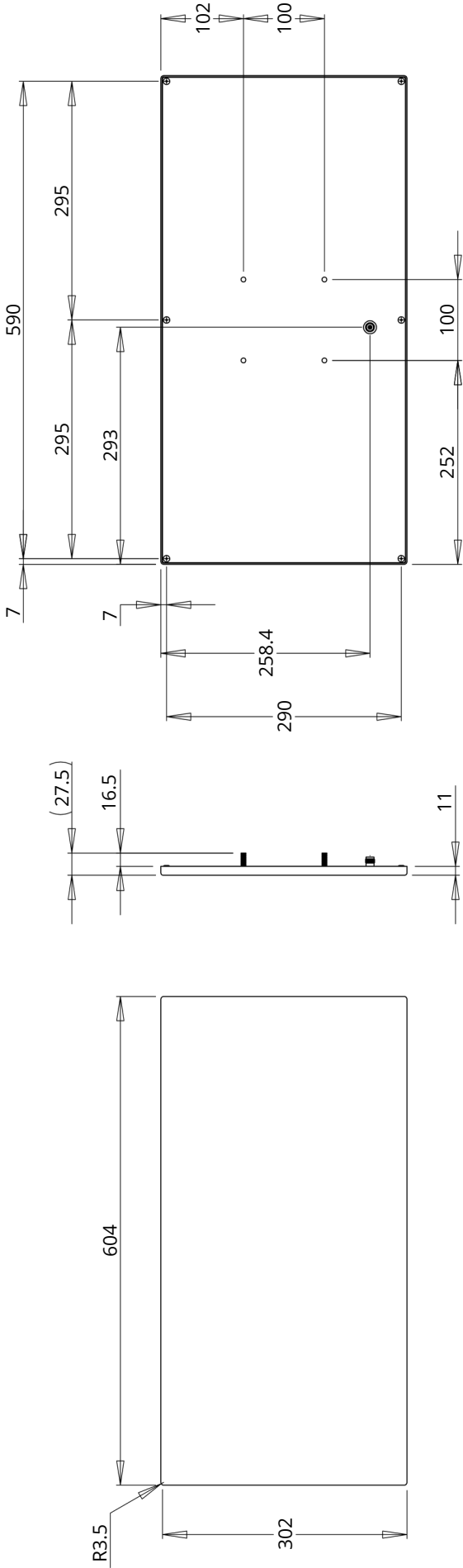


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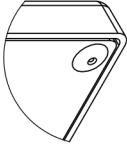
MECHANICAL DRAWING FOR THE A3042 ROBUST SLIMLINE™ ANTENNA



DETAIL A
RP-TNC Connector
SCALE 1 : 1



DETAIL B
M6 Studs (4x)
SCALE 1 : 1



DETAIL C
Aluminium Rivets (6x)
SCALE 1 : 1

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DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED. TOLERANCES: NO DECIMAL PLACES ONE PLACE ± 0.5

DATE: 01-10-24

DATE: 02-10-24

DRAWN BY: Maria Price

APPROVED BY: Peter Wilcock

DO NOT SCALE DRAWING

SHEET 1 OF 1

DESCRIPTION
A3042 Antenna

SIZE PART NO. 75305 A3042 Right Hand FCC
75452 A3042 Left Hand FCC
75453 A3042 Right Hand ETSI
75454 A3042 Left Hand ETSI

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