

## ABOUT TIMES-7

We are a high-tech company specializing in the design and manufacture of RAIN (UHF) 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 famous for their quality and performance.

We are based in Lower Hutt, New Zealand, but our reach extends worldwide as we export our products through our authorized partner network.

In addition to our world-class products and in-depth expertise, our customers appreciate Times-7's customer service and technical support.

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



A5020MR Mid-Range Antenna

The A5020MR Mid-Range Antenna is a member of our A5020 antenna family, a versatile range of high-performing antennas for various applications.

Equipped with our familiar and industry-leading ultra-low profile, the A5020MR offers a compact footprint of only 150.7mm (5.93") square in a very smart-looking design. The A5020MR is designed to operate in complex, busy environments where stray reads risk productivity and accuracy. This antenna is specifically tuned to read just beyond the near-field zone, ensuring items in the mid-range proximity of up to 1.5m are accurately tracked while ignoring those further away.

The A5020 Antenna Family adheres to our rigorous quality and ruggedness standards, boasting an IP68 rating suitable for permanent outdoor installations. Its aesthetically pleasing and timeless design seamlessly complements most indoor environments, making the A5020MR the ideal antenna for customer-facing environments.

## Ordering Information

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

Antenna Product Code	Band	Part Number
A5020MR	902-928 MHz / FCC	72388
A5020MR	865-868 MHz / ETSI	72389
Cable Accessories Product Code	Cable Type	Part Number
Cable 2m, SMA to RPTNC	T7 195 / 240 / 400	71436 / 71782 / 72042
Cable 4m, SMA to RPTNC	T7 240 / 400	71784 / 72043
Cable 6m, SMA to RPTNC	T7 240 / 400	71904 / 72044
Cable 8m, SMA to RPTNC	T7 240 / 400	71788 / 72045
Other Accessories	Compatibility	Part Number
A5020 Connector Protection Backplate	A5020 LX / CP / MR / NF	72394

For additional information such as RoHS, CE, REACH, please contact us

View the Times-7 Cable Accessory datasheet [here](#).



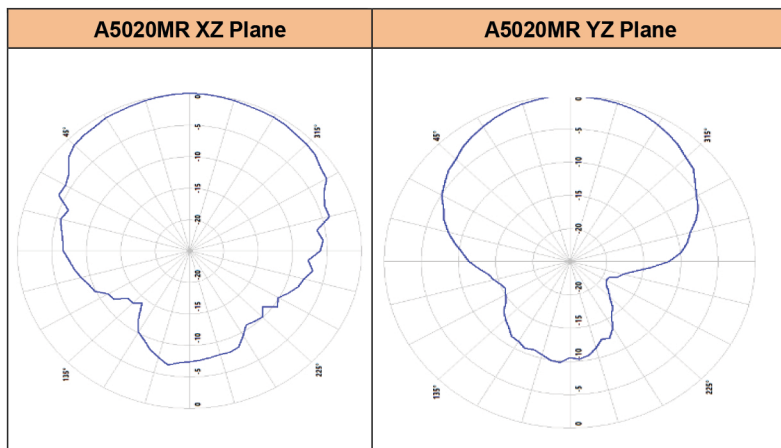
## Physical / Environmental Specifications

<b>Unboxed Dimensions:</b> *Length (x) x Width (y) x Depth (z)	150.7 x 149.4 x 14.5mm 5.93 x 5.88 x 0.57"
<b>Boxed Unit Dimensions:</b> (L x W x D)	180 x 155 x 25mm 7.09 x 6.10" x 0.98"
<b>Weight:</b>	Net: 0.20kg / 0.44lbs. Gross: 0.25kg / 0.55lbs
<b>Radome Material:</b>	Flame retardant and UV resistant white ABS
<b>Environmental Rating:</b>	IP68
<b>Operating / Storage Temperature:</b>	-30° to +65°C / -22° to +149°F
<b>Mounting:</b>	Flush or 100 x 100mm VESA mount using the four mounting holes
<b>Connector Type:</b>	SMA female (jack) side connector
<b>A5020 Flush Screws:</b>	30mm 8g Phillips, white wood screws

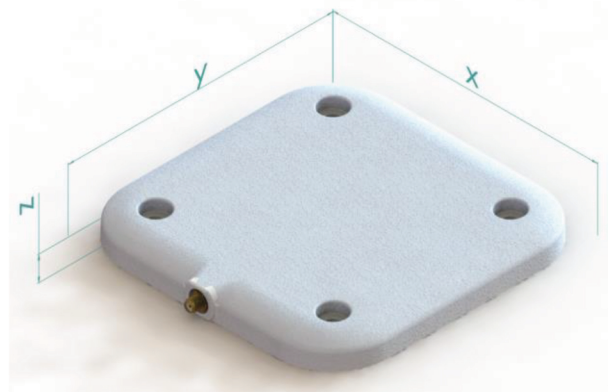
## Electrical Specifications

<b>Frequency Range:</b>	865-868 MHz (ETSI) / 902-928 MHz (FCC)
<b>Polarization:</b>	RHCP (Right hand circular polarized)
<b>Far-Field Gain:</b>	-3dBiC typical
<b>*Far-Field 3dB Beamwidth:</b>	115° in XZ and 105° in YZ plane
<b>VSWR:</b>	1.8 typical
<b>Front-To-Back Ratio:</b>	-8dB
<b>Axial Ratio:</b>	2.5dB typical
<b>Nominal Impedance:</b>	50Ω
<b>Anti-Static Protection:</b>	Yes, DC Grounded
<b>Antenna Detection:</b>	10KΩ resistance
<b>Maximum Input Power:</b>	3W

## Radiating Pattern



## \*Azimuth Planes



## Applications

### Kiosk / Self Check Out / POS

The A5020MR antenna offers reduced gain, allowing precise control over RF radiation, even when operating at higher power levels. It excels in applications like kiosks and point-of-sale (POS) setups where a confined read zone is essential. With its appealing aesthetics, it seamlessly blends into any environment.



### Sorting and Packaging Conveyor

The A5020MR antenna offers a versatile medium-range capability of up to 1.5 meters, making it the perfect choice for scanning items in motion on a conveyor belt. Its rugged design ensures durability and the ability to withstand knocks, ensuring consistent performance.



### Cabinetry and Shelves

While the A5020MR boasts a lower gain compared to the A5020CP, it possesses the remarkable ability to accurately read across a cabinet shelf without spilling its reads beyond the designated zone.



## Mounting Information

The A5020MR features recessed corner mounting holes compatible with 100 x 100mm VESA spaced mounting brackets, as illustrated in the accompanying image.

The A5020MR's innovative slim design, in conjunction with its SMA connector, provides a distinctive advantage by allowing for flush mounting, which can be easily achieved through the utilization of the corner holes.



In situations where stress may impact the antenna's connector or cable, we recommend using our Connector Protection Backplate. This backplate safeguards the connector, especially when the antenna is mounted on a bracket in free space. It is compatible with both right-angled and straight cables.

Please note the following precautions:

- Ensure that only finger tightness is used for the SMA connector.
- Use of tools to tighten the connector will apply excessive force and will damage the connector.
- Avoid any load or bending force from the cable on the connector.

For further information, please refer to the drawings below.

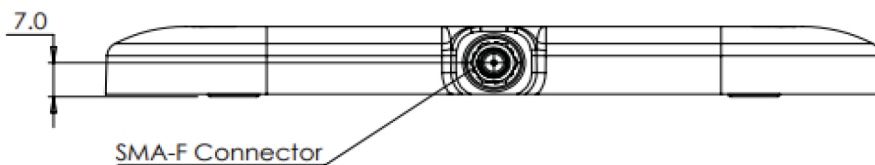
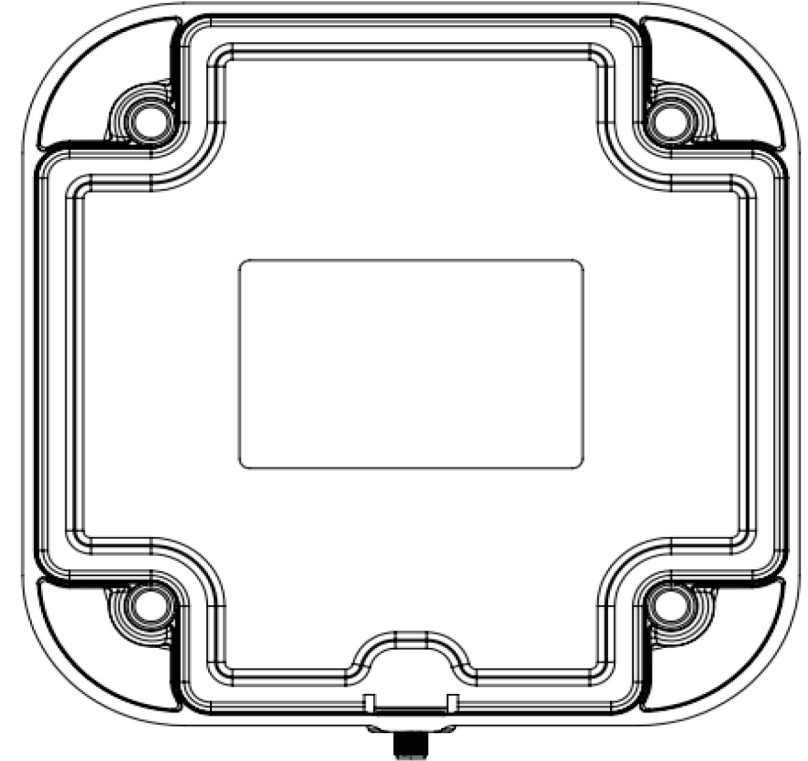
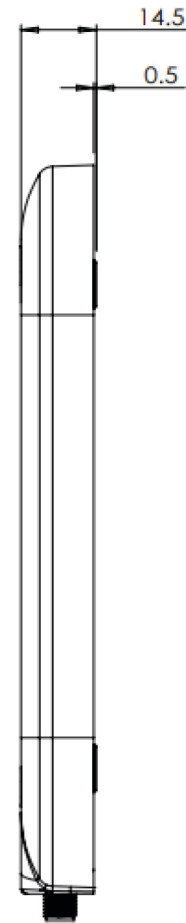
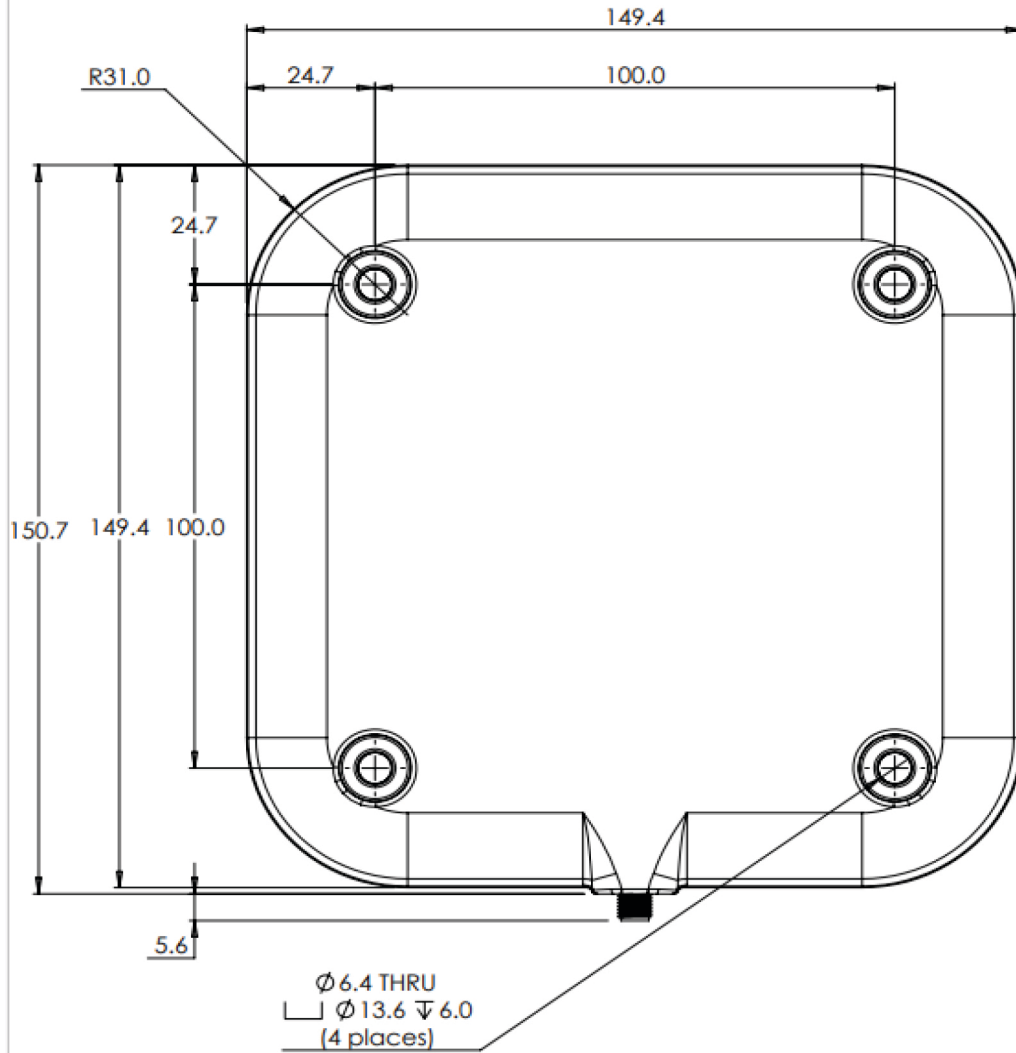



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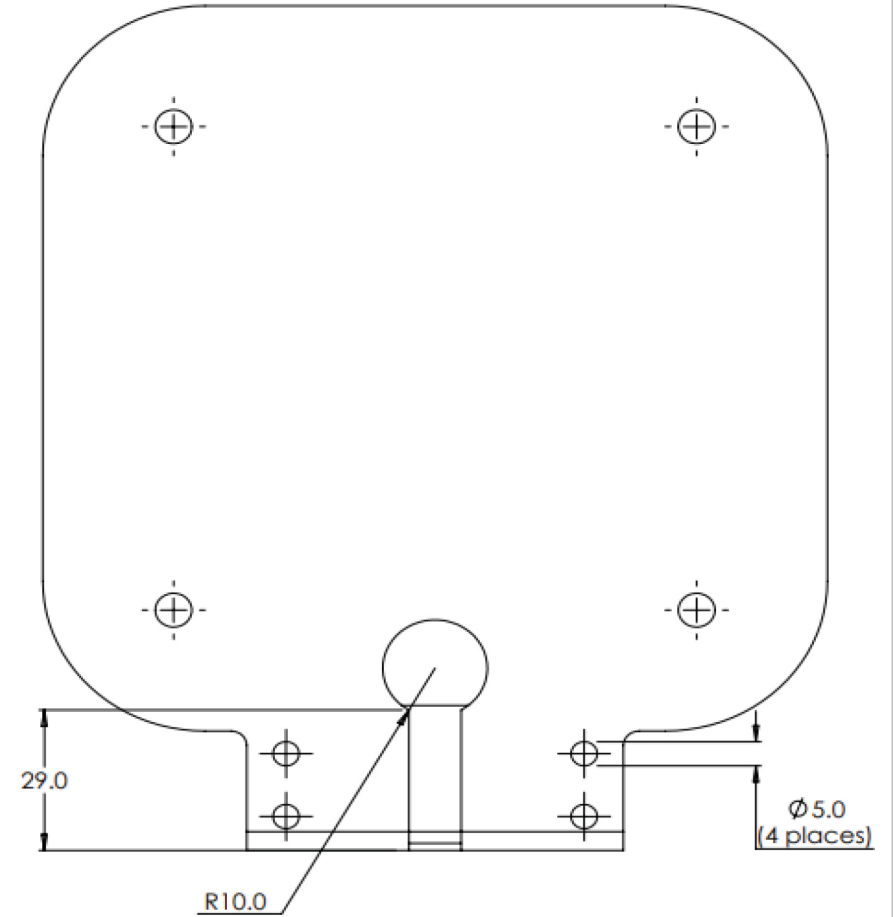
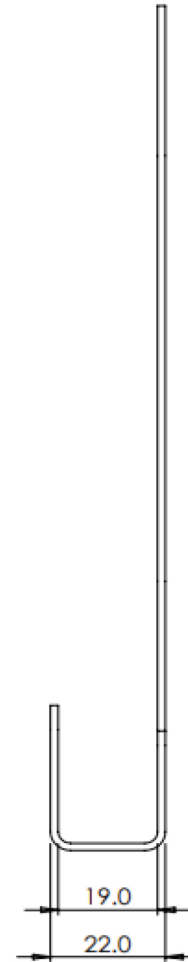
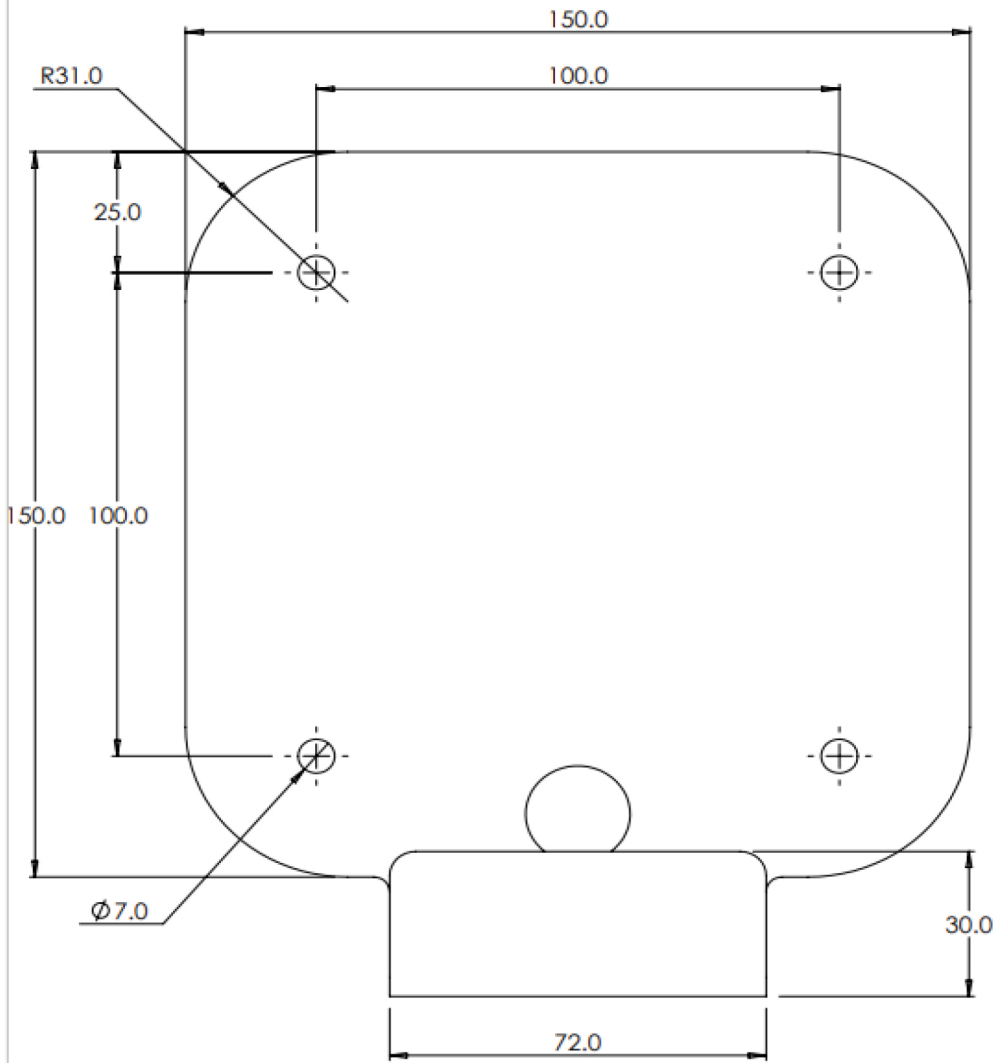
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# Mechanical Drawing for the A5020MR Mid-Range Antenna



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DRAWN BY: Maria Price		DATE: 26-10-23		SIZE A3		PART NO. 72389 (ETSI), 72388 (FCC)	
APPROVED BY: Peter Wilcock		DATE: 26-10-23		REV B		DO NOT SCALE DRAWING	
						SHEET 1 OF 1	

# Mechanical Drawing for the Connector Protection Backplate



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			A5020 Connector Protection Backplate	
DRAWN BY: Maria Price	DATE: 26-10-23	SIZE <b>A3</b>	PART NO. 72308	REV <b>B</b>
APPROVED BY: Peter Wilcock	DATE: 26-10-23	DO NOT SCALE DRAWING		SHEET 1 OF 1