

**ABOUT TIMES - 7**

Times-7 is a high-tech company specialising in the design and manufacture of RAIN (UHF) RFID antennas, based in Lower Hutt, New Zealand. We export all over the world either direct or through our distributor, authorized reseller and integrated solutions provider network. Our brand is well-established in the global RFID market, and we are known for high quality and reliability, as well as our significant RF expertise.

Founded in 2006, Times-7 has developed the largest portfolio of fixed RAIN RFID reader antennas. As well as standard antennas for all applications, Times-7 also offers a custom antenna development service, when the requirements are not fully satisfied by our catalogue antennas.

Times-7 Research Ltd  
29 Railway Avenue  
Lower Hutt 5010  
New Zealand



The SlimLine™ A5020

- 150 mm / 5.9 in. square footprint
- IP68 rating for permanent outdoor use and industrial applications
- Aesthetically appealing design

Equipped with the familiar and industry leading Times-7 ultra-low profile, the A5020 offers a compact footprint of only 150 mm / 5.9 inch square in a very smart-looking design.

With an improved radiation than most other antennas of similar size in the market, the circularly polarized A5020 antenna creates a new benchmark for multi-purpose UHF RFID antennas.

IP68 rated and built to Times-7's high standard for quality and robustness, the A5020 can be used for permanent outdoor applications.

Its pleasing aesthetics and timeless design blends beautifully with most interiors, and makes the A5020 very suitable for customer facing environments.



## Specifications

### Physical / Environmental Specifications

Dimensions: Length (x) x Width (y) x Depth (z)	150.7 mm x 149.4 mm x 14.5 mm 5.93" x 5.88" x 0.57"
Boxed unit dimensions: (L x W x D)	185 mm x 155 mm x 25 mm 7.2" x 6.1" x 0.98"
Weight:	Net: 0.25 kg / 0.55 lbs.; Gross: 0.27 kg / 0.6 lbs.
Radome Material:	UV-Resistant ABS
Environmental Rating:	IP68
Operating / Storage Temperature:	-40° to +65°C -40° to +149°F
Mounting:	Flush or VESA mount (mounting info on page 3)
Connector type / position:	SMA female side connector
A5020 Flush Screws	30mm 8g Phillips

### Electrical Specifications

Frequency Range:	865-868 MHz / 902-928 MHz
Polarization:	RHCP (Right Hand Circular Polarized)
Far-field Gain:	5.5 dBiC typical
Far-field 3dB beamwidth: *	115° in both planes
VSWR:	1.4 typical
Front to back:	-10 dB
Axial Ratio:	2 dB typical
Nominal Impedance:	50 Ω
Anti-static protection:	Yes, DC Grounded
Antenna Detection	10K Ω resistance
Maximum Input Power:	3 W

\*View the Antenna Planes for the A5020 [here](#)

## Order Information

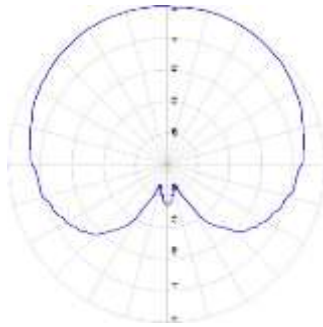
### Ordering Information (please quote product code, band / cable type & part no.)

*Antenna Product Code	Band	Part No.
A5020	FCC 902-928 MHz	60010
A5020	ETSI 865-868 MHz	60011
Cable Accessories Product Code	Cable Type	Part No.
Cable 2 m, SMA to RPTNC	T7 195 / 240 / 400	71436 / 71782 / 72042
Cable 4 m, SMA to RPTNC	T7 240 / 400	71784 / 72043
Cable 6 m, SMA to RPTNC	T7 240 / 400	71904 / 72044
Cable 8 m, SMA to RPTNC	T7 240 / 400	71788 / 72045

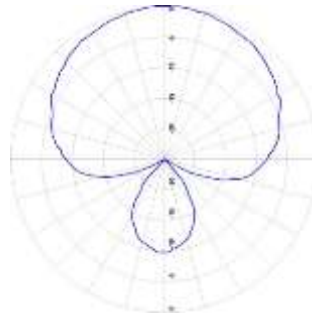
\* ROHS & CE compliant.

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

### E-field Radiation Pattern



XZ-plane



YZ-plane

### Mounting Information

The A5020 is designed to support either flush or VESA mount in one SKU. The flush mounting holes are VESA spaced and can accommodate M6 and 1/4" type bolts and M4 screws.



The mounting holes of the A5020 support VESA spaced mounting brackets as shown in the picture. For exact dimensions please refer to the antenna drawings (page 5).

### Installation Instructions

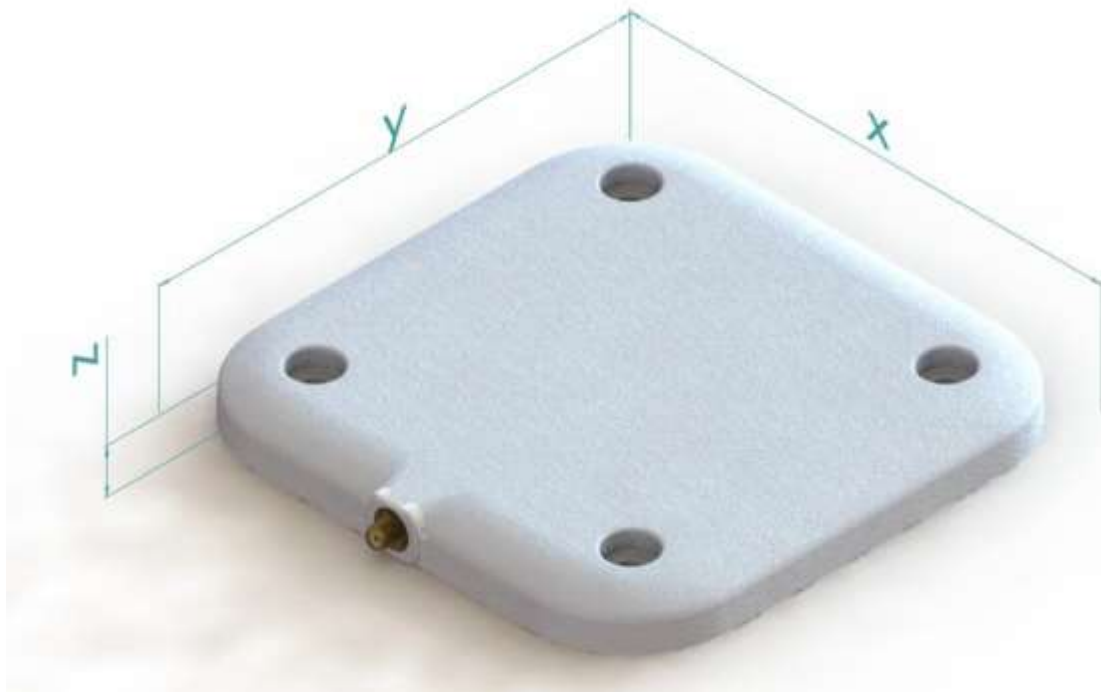
- Ensure that only finger tightness is used for the SMA connector. Use of tools to tighten the connector will apply excessive force and will damage the connector
- Avoid any load or bending force from the cable on the connector.

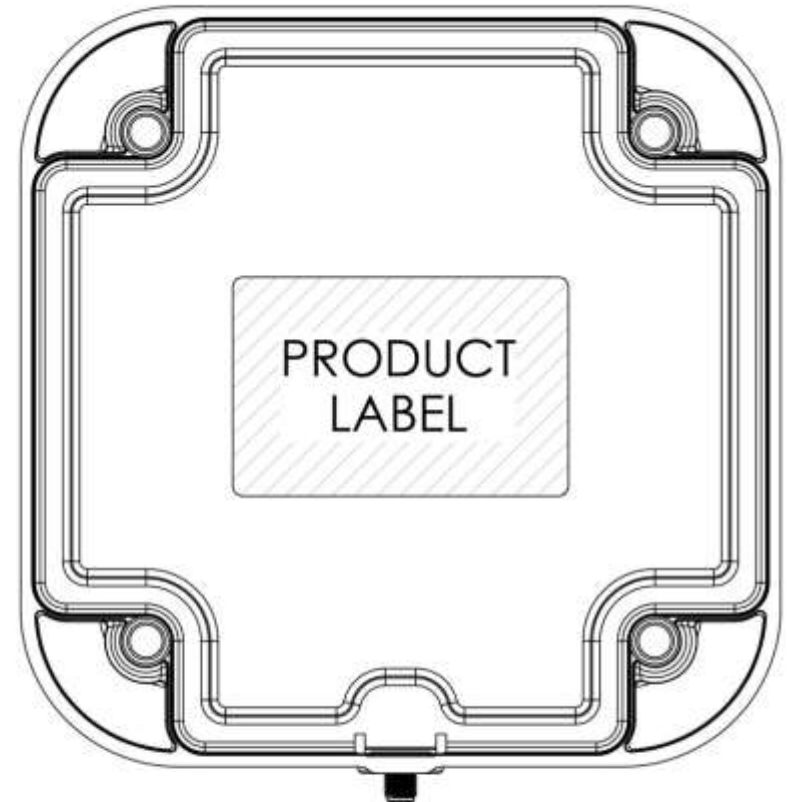
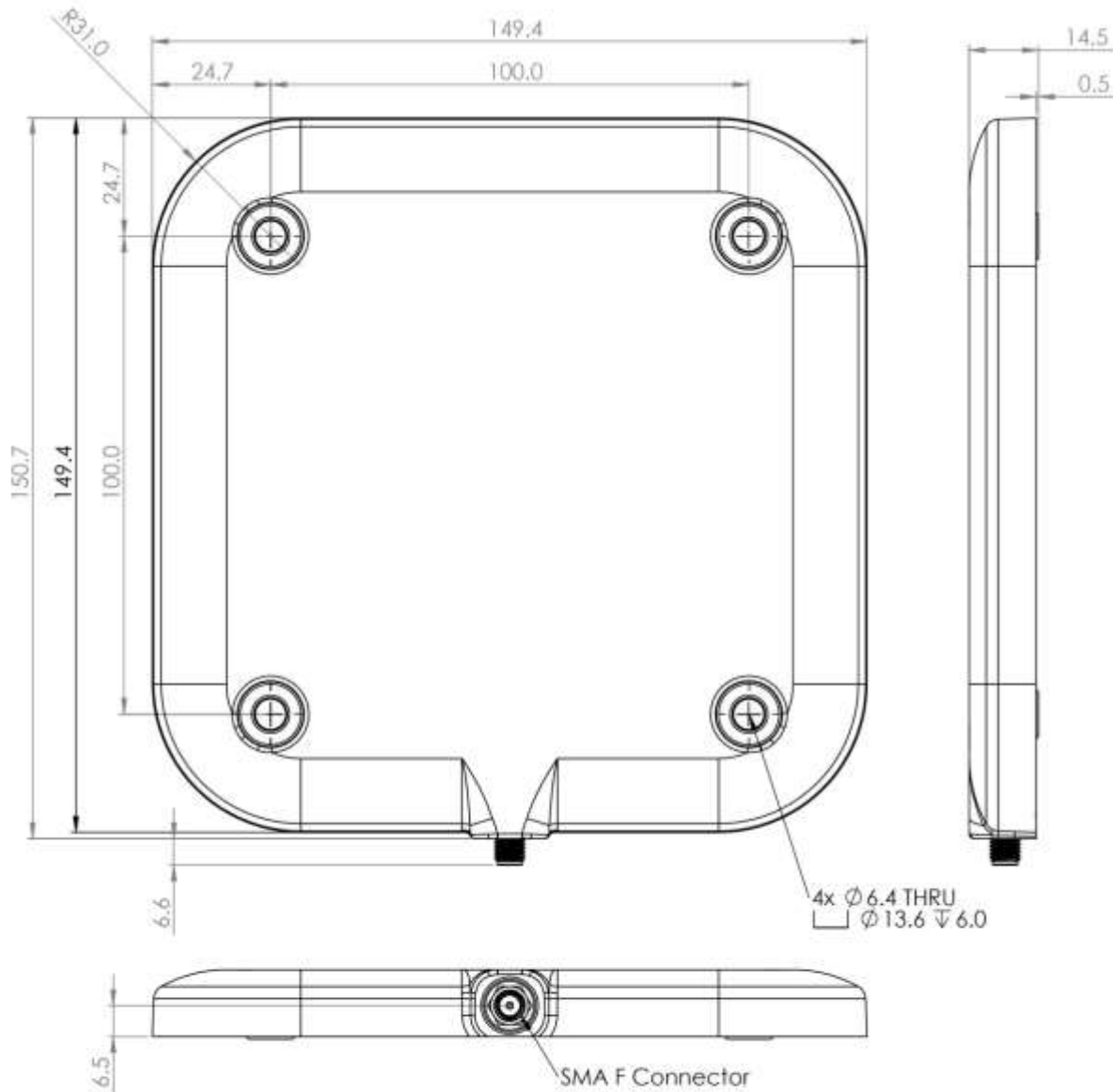
## Environmental Test

Test	Standard	Duration	Temp. C°	Notes
IPX Dust	AS60529 - 2004	8Hrs		Severity: Vacuum, up to -2KPa
IPX8 Immersion	AS60529 - 2004	30 min		Severity: 1.5 Depth
Basic vibration	IEC60068 - 2 - 64	1 Hrs per axis - 3 axis		Severity: Vehicle vibration 10-500 MHz 1.04g rms
Shock Test	MIL-STD-810G	5 pulses/direction - 6 direction		Severity: Half sine 10g, 11ms
Thermal Shock	IEC60068 - 2 - 14	5 Cycles - 2 Hrs precondition	-65° to +65°	
Salt Fog	ASTMB117	24 Hrs	+35°	

All reliability and performance measurement have been performed by certified, independent laboratories. Full reports are available on request.

## Antenna Planes





Part No.	Description
60010	A5020 Far Field Antenna - FCC
60011	A5020 Far Field Antenna - ETSI
72057	A5020 Near Field Antenna - Wideband

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TIMES-7 LTD. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TIMES-7 IS PROHIBITED.		DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED TOLERANCES: NO DECIMAL PLACES $\pm 1$ ONE PLACE DECIMAL $\pm 0.5$				DESCRIPTION A5020 Far Field and A5020 Near Field Antenna	
DRAWN C Wilson		SIGNATURE <i>[Signature]</i>		DATE 31/07/19		SIZE PART NO. REV <b>A3</b> See part number table <b>C</b>	
APPROVED R Lopez		SIGNATURE <i>[Signature]</i>		DATE 31/07/19		DO NOT SCALE DRAWING SHEET 1 OF 1	



## Applications

### Kiosks and Point of Sale

The A5020 antenna's RF radiation can be confined in a zone while operating at low power. This is practically achievable due to its low gain nature. The antenna is best suited for kiosks and POS applications where a confined read zone is a key requirement. The antenna is aesthetically appealing and fits into every POS environment.



### Waste Management

The A5020 is IP68 rated, meaning it is suitable for permanent outdoor installations. The 'all-plastic'-housing prevents the antenna from corroding. The antenna can be water blasted. The ~100° beam-width of the A5020 antenna makes wheelie bin detection easy and straight-forward. The antenna can be cleaned with cleaning agents. The physical size of the antenna is small and thus installation in waste management trucks is hassle free.



### Retail

The A5020 can easily be deployed in space constrained environments such as retail. With its superb aesthetics and compact design, the A5020 antenna blends well into the retail back drop.



### Medical & Pharmaceutical

The A5020 can operate at low-temperature extremes. High-value pharmaceutical assets can be tracked in fridges and freezers using the A5020 antenna. The slim design maximizes the usable space inside of a refrigerator. The antenna can handle general purpose cleaning agents and is water resistant. The white colored A5020 antenna is suitable for hospitals, medical laboratories, research industries and pharma labs.



### GLOBAL SUPPORT

In addition to our world-class products and in-depth expertise, Times-7 is known for their quality of customer service and technical support. We place emphasis on our responsiveness in supporting a large global customer base and ensuring the success of our customer's implementations.



For more information,  
visit: [www.rfidcanada.com](http://www.rfidcanada.com)  
Email: [info@rfidcanada.com](mailto:info@rfidcanada.com)  
+1 905-513-8919

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Datasheet v2.0