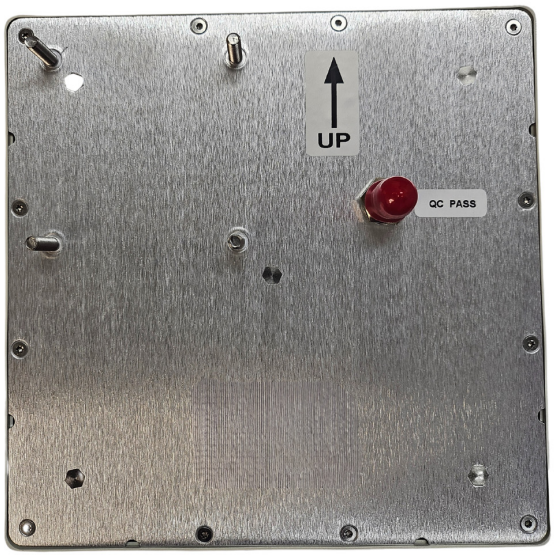
R9027-WHP-RTF

Circularly Polarized RFID Antenna



The R9027-WHP-RTF CircularlyPolarized outdoor RFID Antenna is designed for robust performance in demanding outdoor environments. With dimensions of 7.5 x 7.5 inches, this compact unit operates at 7.5 dBic gain, offering a 72-degree vertical beamwidth and a 77-degree horizontal beamwidth. It is an ideal choice for passive UHF RFID applications in the FCC band of 902-928 MHz.

- UHF RFID: 902-928 MHz
- 72° Vertical Beamwidth x 77° Horizontal Beamwidth
- 7.5 dBic Gain
- Compact Radome; 7.5 x 7.5”
- Fixed RP TNC Female Connector
- Rugged IP67 Housing

Rated IP67 for full protection against dust and water ingress, the R9027-WHP-RTF is perfect for installations such as livestock tracking, tolling systems, parking gates, overhead race timing trusses, and distribution dock doors. The antenna features a fixed RPTNC-Female Connector on the back plate and includes four threaded mounting studs in the 66mm VESA pattern for easy installation.

ELECTRICAL DATA

Regulatory Compliance	RoHS, CE 0682
Frequency Range	902 - 928 MHz
Gain	7.5 dBic
VSWR	1.3:1 (typ), 1.5:1 (max)
POLARIZATION	RHCP
3dB ELEVATION BEAMWIDTH	72° (typ)
3dB AZIMUTH BEAMWIDTH	77° (typ)
F/B Ratio	-14 dB (typ)
POWER	6W (max)
INPUT IMPEDANCE	50 (ohm)
AXIAL RATIO @ ± 20°	3.5 dB (max)
AXIAL RATIO AT BORESIGHT	DC Grounded
LIGHTNING PROTECTION	3.5 dB (typ), 4 dB (max)

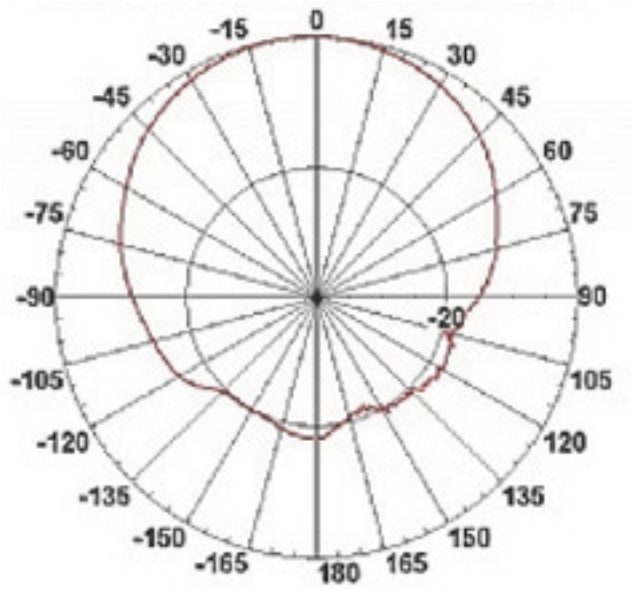
MECHANICAL DATA

DIMENSIONS (LxWxD)	190 x 190 x 30mm (max)
CONNECTOR	Reverse Polarity TNC Female
WEIGHT	0.8 kg (max)
MOUNTING KIT	SEE HDMNT-100MM
RADOME MATERIAL	Plastic
BASE PLATE MATERIAL	Aluminum with chemical conversion coating

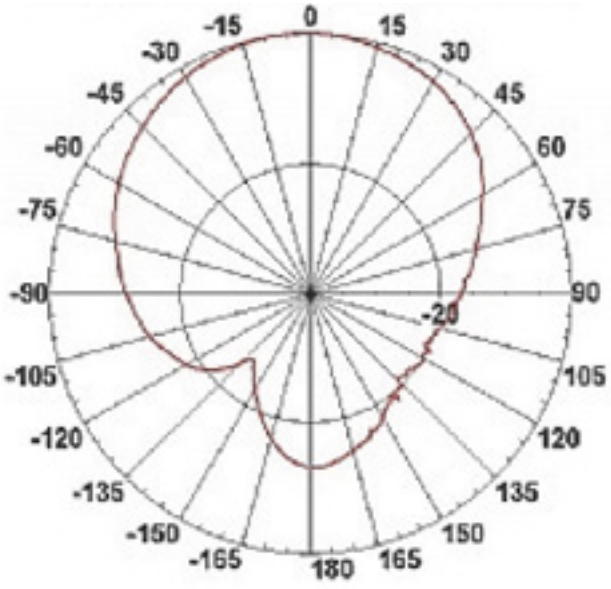
ENVIRONMENTAL DATA

TEST	STANDARD	DURATION	TEMP.	NOTES
LOW TEMPERATURE	IEC 68-2-1	72 h	-55°C	
HIGH TEMPERATURE	IEC 68-2-2	72 h	+71°C	
TEMP. CYCLING	IEC 68-2-14	1 h	-45°C +70°C	3 Cycles
THERMAL SHOCK NONO-OPERATING			-30°C to+70°C	Ramp 30°C/min
HUMIDITY	ETSI EN300-2-4 T4.1E	144 h		95%
WATER TIGHTNESS	IEC 529			IP67
DUST RESISTANCE	ETSI 300			IP67
SOLAR RADIATION	ASTM G53	1000h		
OZONE RESISTANCE	ETSI 300			
FLAMMABILITY	UL 94			Class HB
SALT SPRAY	IEC 68-2-1 Ka	500 h		
QUASI RANDOM VIBRATION				20g rms for 4 Hours
VEHICLE VIBRATION OPERATING	1 grms, 10-500 Hz, in 3 axis			6 hours total, 2 hr in each axis. Accelerated wear –an additional 50hrs inworst case axis.
MECHANICAL SHOCK OPERATING	10g,11msec, half sine pulse			

AZIMUTH RADIATION PATTERN MIDBAND.
FREQ. 0.915 GHZ



ELEVATION RADIATION PATTERN MIDBAND
FREQ. 0.915 GHZ



MECHANICAL DRAWING