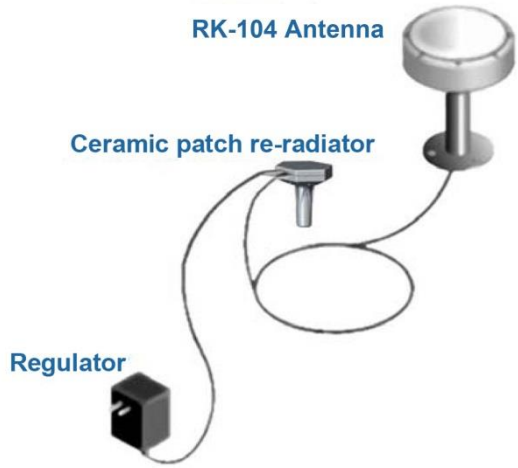
Unictron Technologies Corp.



RoHS Compliant

Product Name: GPS Signal Re-radiating for Indoor Satellites Signal Reception

Part Number: RK-104

Feature:

- Compact size/low cost/high performance
- Permanently screw mount
- One external re-radiator for multiple, different GPS receivers
- Real-time GPS satellites outdoor reception to an indoor environment
- Cable length as long as 40m RF cable
- Idea for GPS lab, GPS retail store, GPS production line & GPS repair service
- Re-radiating range as long as 10m

Application:

- GPS Labs
- GPS Retail Stores
- GPS Production Line
- GPS Repair Service
- GPS Signal Reception in Underground Garage

GPS Signal Re-radiating for Indoor Satellites Signal Reception

MODEL: RK-104

Rev.A

I. Specifications:

Category	Specifications	
General Description	Professional GPS re-radiating system	
Physical Construction	Construction: Polycarbonate radome enclosure, cast die at the bottom, sealed with weatherproof rubber.	
	Dimensions: Antenna: 80mm in diameter & 71.24mm in height Ceramic patch re-radiator: 79mm (W) x 85mm (L) x 113mm (H) Regulator: 65mm (L) x 32mm (W) x 43mm (H)	
	Cable Length: 40m RG-58 A/U	
	Standard Connector: Antenna: TNC Jack, re-radiator: SMA Jack	
	Weight: Antenna: 245g Ceramic patch re-radiator:215g Regulator: 85g	
	Standard Mounting: Stainless bracket mount	
	Professional GPS re-radiating system	
Performance Specification	External Antenna	Polarization: R.H.C.P.
		Absolute Gain @ Zenith: +5 dBic typically
		Gain @ 10° Elevation: -5 dBic typically
		General: L1 frequency, 1575.42 MHz +/-1.023 MHz
		Gain: 27 dB typically
		Bandwidth: 40 MHz @Return Loss ≦ -10 dB
		Noise Figure: 1.5 max.
		Axial Ratio: 3 dB max.
		VSWR: 2.0 max.
		Output Impedance: 50 ohm
	Ceramic patch Re-radiator	Re-radiating Range: 10m

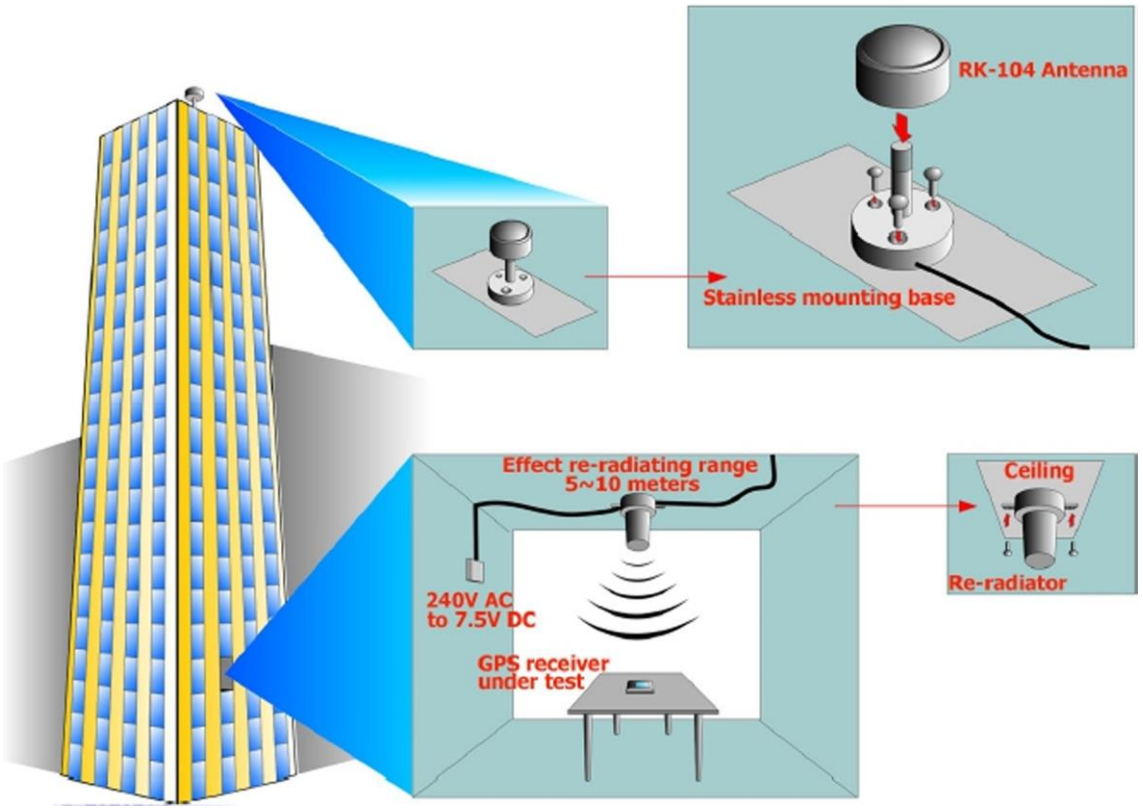
Electrical Specification	Supply Voltage: 100~240V AC to 7.5V~12V DC Regulator
	Power Consumption: 48mA (+/- 5%) @ 7.5V DC
Environmental Specification	Operating Temperature: –30°C to +80°C
	Storage Temperature: –40°C to +85°C
	Operating Humidity: 95% RH, non-condensing

(*PS: The specification is subject to change without prior notice)

RK-104 is a complete GPS L1 band signal re-radiating system with dual antennas to re-transmit real-time GPS satellite outdoor reception to an indoor environment. The system kits include a high gain external GPS antenna, a precisely calibrated amplifier circuit with Helix type re-radiator, and a built-in power supply regulator. The Helix type re-radiator allows multiple GPS receivers perform on-the-fly receiver performance within a closed environment, while the main GPS antenna is located on an unmanned outdoor location. GPS L1 signal is a 1575.42 MHz frequency along with a 1.023Mbps Bi-Phase Shift Keying (BPSK) modulated spreading code. The input signal power at the receiving antenna is approximately 130dBm (spreading over 2 MHz), so the desire signal is below the thermal noise floor. The whole system is designed as PNP (Plug-and-Play) hardware and it can be installed either temporarily or permanently to a secured location by using whether dashboard suction cup or screws.

Wherever in lab/building/underground garage, RK-104 guarantees to bring and re-radiate GPS signal that meets your requirement.

RK-104 Interconnection Diagram



Installation

1. Locate and mount the external antenna on the center roof of building horizontally with the best visibility of the sky.
2. Locate and mount the RK-104 Ceramic type re-radiator to the ceiling with its cylinder facing and against the center of the testing bench.
3. Connect the external antenna with 40m RG58 A/U RF cable to RK-104 re-radiator.
4. Power up the system by plugging the AC 115V (240V) to DC 7.5V~12V adapter.