



# ***HNRRKIT***

## Technical Product Data

### Features

- **Amplified Roof Antenna**  
Gain  $\geq 35$ dB
- **Re-Radiating Amplifier with Power Supply**  
Gain  $\geq 20$ dB
- **Optional Mounting Kit Hardware**  
Roof Antenna Mount & Re-Radiating Amp Mount
- **Variable Gain Option**  
Re-Radiating Amp Gain Varies from  $-3$  to  $+23$  dB

### Description

The GPS Hanger Re-Radiating Kit (HNRRKIT) is a complete re-radiating system that allows re-radiation of the GPS L1 signal indoors. The HNRRKIT consists of an active roof antenna, a re-radiating amplifier with a wall mount plug-in transformer that powers the entire system, and a passive re-radiating antenna. The GPS L1 signal from the roof antenna is amplified and radiated indoors. Thus, if a receiver has line of sight with the re-radiating antenna, it can receive the GPS signal indoors up to 100 feet away.

### Roof Antenna

Electrical Specifications,  $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Frequency	L1		1.575		GHz
Bandwidth			20		MHz
Out Imped. <sup>(1)</sup>			50		$\Omega$
Pre-Amp Gain			35	38	dB
Noise Figure			2.75		dB
Output SWR				2.0:1	-
Filtering	1626 MHz	-20			dB
	1500 MHz	-10			dB
Req. DC Input V.		4.5		5.5	Vdc
Current			22		mA

## Re-Radiating Amplifier

Electrical Specifications,  $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – J1	1.1		1.7	GHz
In/Out Imped.	Ant, J1		50		$\Omega$
Gain <sup>(1)</sup>					dB
		20	22	24	dB
Input SWR <sup>(2)</sup>	J1 - 50 $\Omega$			1.8:1	-
Output SWR	Ant - 50 $\Omega$			1.8:1	-
Noise Figure	Ant – J1		3.3	3.5	dB
Current				15	mA
Gain Flatness	L1 – L2   ; Ant – J1		0.5	1	dB
Reverse Isolation	J1 – Ant	35			dB
Group delay Flatness	$\tau_{d,max} - \tau_{d,min}$ : Ant – J1			1	ns

(1). See LA20RPDC Data Sheet for performance plots

## Re-Radiating Antenna

Electrical Specifications,  $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Frequency	L1		1.575		GHz
Bandwidth				20	MHz
Impedance			50		$\Omega$
Peak Gain			3		dBic
Output SWR				1.5:1	-
Polarization			RHCP		-

## Available Options

Re-Radiating Amp System Power Supply Options		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
	Customer Supplied DC 9-32 VDC	Military Style Connector
Re-Radiating Amp Gain Control Options		
Normal Gain	Gain $\geq$ 20 dB	
Variable Gain	-3 $\leq$ Gain $\leq$ 23dB	
Re-Radiating Amp RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC
	Type SMA	NC
	Type TNC	NC
	Type BNC	NC

Part Number

**- HNRRKIT - S / 110**

Gain Option:

**VG** = Variable; **Blank** = Normal

Connector Options:

**N** = N type; **S** = SMA; **T** = TNC; **B** = BNC

Source Voltage:

**110** -Transformer, **220** – Transformer, **240** – U.K. Transformer **MC** – Military Conn. (User supplies DC Voltage)