



HNRR KIT

Technical Product Data

Features

- **Roof Amplified Antenna**
Gain ≥ 35 dB
- **Re-Radiating Amplifier with Power Supply**
Gain ≥ 20 dB
- **Optional Mounting Kit Hardware**
Roof Antenna Mount & Re-Radiating Amp Mount
- **Variable Gain Option Available**
Re-Radiating Amp Gain Varies from -7 to $+20$ dB

Description

The GPS Hanger Re-Radiating Kit (HNRR KIT) is a complete re-radiating system that allows re-radiation of the GPS L1 signal indoors. The HNRR KIT 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			50		MHz
Out Imped. ⁽¹⁾			50		Ω
Pre-Amp Gain			35		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
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(1). 50Ω output with supplied coaxial adapter for some roof antenna.

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. ⁽¹⁾	Ant, J1		50		Ω
Gain ⁽²⁾	Ant – J1, Normal Configuration	20	24.5	26	dB
	Variable Gain Option	-6		20	dB
Input SWR ⁽²⁾	J1 - 50 Ω			1.8:1	-
Output SWR	Ant - 50 Ω			1.8:1	-
Noise Figure	Ant – J1		3.3	3.5	dB
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). Input/Output Impedance = 75 Ω for 75 Ω connector option.

(2). For performance plots, see LA20RPDC Data Sheet

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		Ω
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 8-28 VDC	Military Style Connector
Re-Radiating Amp Gain Control Options		
Normal Gain	Gain $\geq$ 20 dB	
Variable Gain	-6 $\leq$ Gain $\leq$ 20dB	
Re-Radiating Amp RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC

	Type SMA	NC
	Type TNC	NC
	Type N - 75Ω	Contact Sales Agent

Part Number

VG HNRRKIT - S / 110

Gain Option:

VG =Variable ; **Blank**: Normal

Connector Options:

N: N type; **S**: SMA; **T**: TNC; **N75**: N type -75Ω

Source Voltage:

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