



GPS-ITS

GPS Indoor Testing Solution Technical Product Data



Features

- **Amplified Roof Antenna**
Gain \geq 35dB
- **Mounting Kit Hardware**
Roof Antenna Mount & Adjustable Re-Radiating Mount
- **Variable Gain Amplifier with LCD Display**
Push Button Control in 1dB Increments 0-30dB gain
- **LMR 400 Ultra Flex Cable 50 ft**
(Custom Lengths available at additional cost)

Description

The GPS ITS (GPS Indoor Testing Solution) is a complete re-radiating system that allows re-radiation of the GPS L1 signal indoors. The GPS-ITS 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.

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

Parameter	Conditions	Min	Typ	Max	Units
Frequency	L1		1.575		GHz
Bandwidth			20		MHz
Out Imped. ⁽¹⁾			50		Ω
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

RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N-female	NC

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		Ω
Gain ⁽¹⁾		0		30	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
Current				20	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

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		
Variable Gain with LCD Display	0-30dB gain range with push button control in 1dB increments	

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		-

Performance:

ITS (Re-Radiating Kit Max Gain)

Input SWR (Ant. Port) and Frequency Response: Ant. To J1) (Typical, type N connectors):



