

NWHPRA021N

Broadband L-Band High-Power Receiver

v 1.6



GENERAL DESCRIPTION

The NWHPRA021N is a high-power receiver assembly (HPRA) offering 32dB gain and 2.5dB noise figure over the 20 MHz to 1000 MHz band. The HPRA includes SPDT switch, Limiter, LNA and output power detector. A digital 20dB gain control feature is included.

FEATURES

- 200 W Input power handling capability
- Output power limiting protection for user's receiver

APPLICATIONS

- Communication
- Defense
- Industrial

ELECTRICAL PARAMETERS

Parameter	Unit	Min	Typ.	Max	Remarks
Operating Frequency Range (BW)	MHz	20		1000	
Gain	dB	32.8	-	-	
Gain flatness	dB	-	-	±1.8	
Gain setting (Gmin to Gmax)	dB	12	-	32	
Gain setting step size	dB	-	1	-	Digital attenuator controlled externally through discrete lines.
Number of Gain setting control lines	-		5		5 discrete bits ¹⁾
Noise figure at Gmax (32dB)	dB	-	2.5	-	
Peak input power handling	W	-	70	-	Includes Limiter
Output power	dBm			-10	Output power limiting function included
Input power	dBm		-52		
Limiter recovery time	µs	-	-	0.5	
Control line interface			TTL		Low" (0-0.8V) "High" (2.0-5.0V) TTL current ± 1.3mA max.
Number of RF Switch control lines			1		1 discrete bit
RF Switch isolation	dB	40	-	-	
RF Switch speed	µs	40	-	-	
Input return loss	dB	-	-	-15	
Output return loss	dB	-	-	-16	
DC Supply Voltage	V	-	12	-	
DC Supply Current	A	-	0.8	-	

Notes:

- 1) Optional serial communication (RS232/RS422/CAN-bus)

NANOWAVE Technologies Inc.

425 Horner Avenue
Etobicoke, ON M8W 4W3
Canada

Phone: +1 416 252-5602
Fax: +1 416 252-7077

Copyright © 2024 NANOWAVE Technologies Inc. All rights reserved.
The information in this document is subject to change without notice. NANOWAVE and the NANOWAVE logo are trademarks of NANOWAVE Technologies Inc. Other trademarks, product and company names are the property of their respective owners and do not imply specific product and/or vendor endorsement or association.

MECHANICAL AND ENVIRONMENTAL PARAMETERS

Parameter	Unit	Min	Typ.	Max	Remarks
Operating Temperature Range	°C	-20		+70	
Storage Temperature Range	°C	-55		+100	
Dimension W x H x D	Inch/mm	5.00 x 1.16 x 4.00 / 127.0 x 29.5 x 101.6			Including mounting feet
Weight	Grams		530		
MTBF	Hours		400,000		@30°C operation
Transmitter Input	-		N-Female		
Antenna Port	-		N-Female		
Receiver Output	-		SMA		
DC Power and Control Connector	-		1924169		1. From Phoenix Contact 2. 10-position 3. Changes are optional

Notes:
 Specifications subject to change without notice

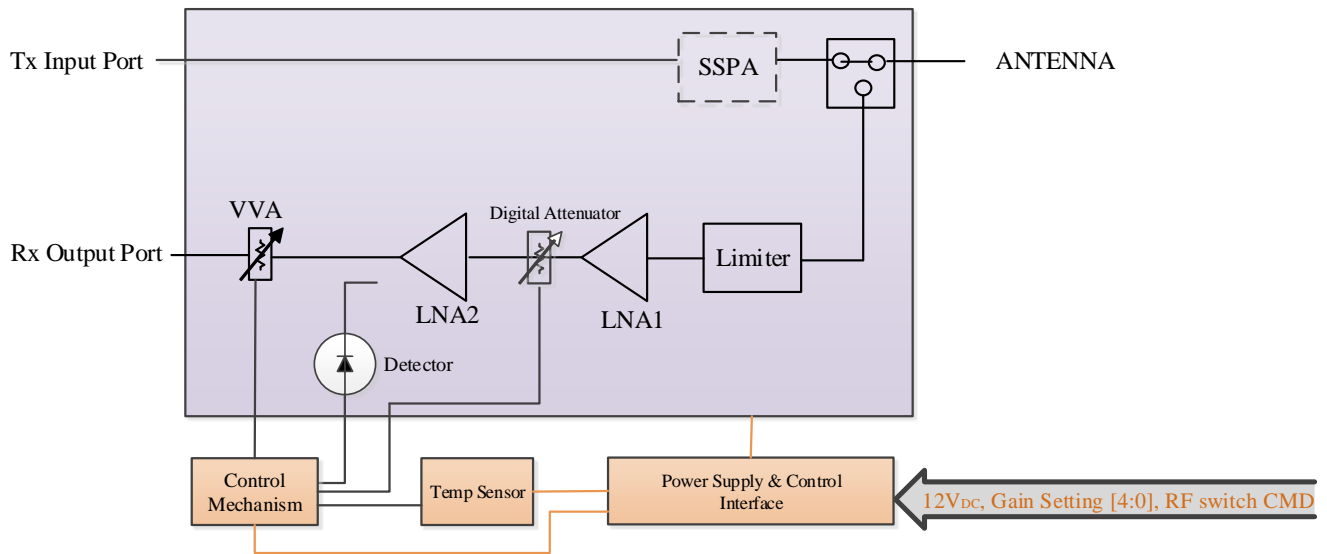


Figure 1: HPR block diagram

Table 1: Power and Control Connector

PIN ID	Signal	Comment
1	INPUT_+12V	Input Voltage +12V
2	GND	Ground
3	GAIN_SET_[0]	Gain Setting Control Pin 0
4	GAIN_SET_[1]	Gain Setting Control Pin 1
5	GAIN_SET_[2]	Gain Setting Control Pin 2
6	GAIN_SET_[3]	Gain Setting Control Pin 3
7	GAIN_SET_[4]	Gain Setting Control Pin 4
8	GND	Ground
9	RF_SW_CMD	Control for RF switch
10	GND	Ground

OUTLINE DRAWING

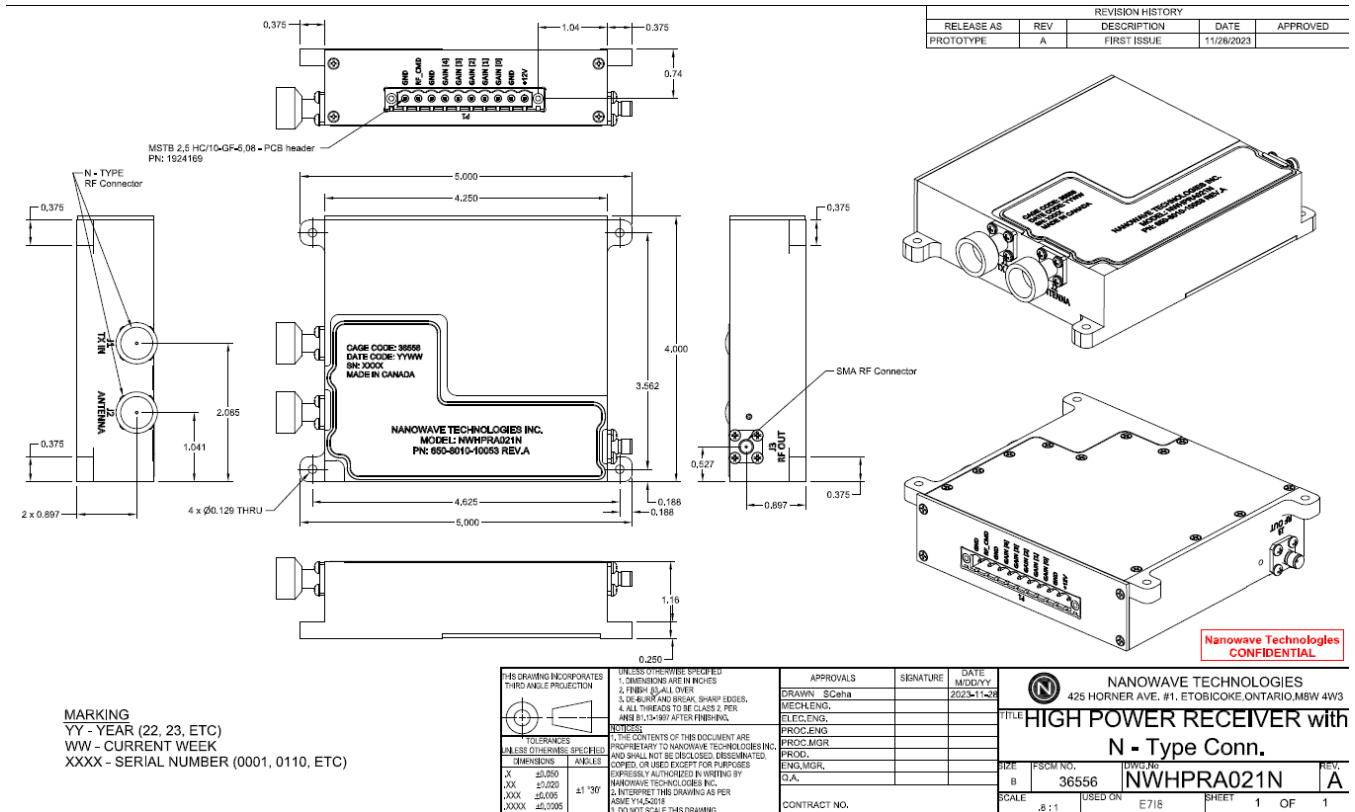


Figure 2: NWHPRA021N Outline Drawing

ADDITIONAL FEATURES

- Marking: The unit is marked with manufacturer part no., date code, and Serial Number.
- All plating and painting is RoHS compliant

For further information please contact NANOWAVE Technologies Inc. at sales@nanowavetech.com, or call at (+1) 416-252-5602.