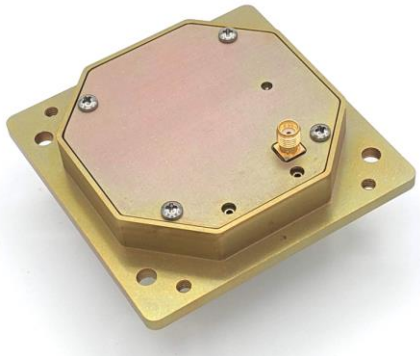
PW2020-200

S-Band LNA

Features

- ✓ Same active circuitry as PW2020-000
- ✓ Radiation tolerant
- ✓ Wide operating temperature range



Benefits

- ✓ Commercial off-the-shelf (COTS)
- ✓ Facilitates Hardware-In-The-Loop (HITL) tests
- ✓ Facilitates irradiation tests
- ✓ Consultation services available (link budget, architecture and system design)

Product Overview

PW2020-200 is the LNA-only version of the PW2020-000 antenna. It shares identical features and design with PW2020-000 in every aspect, except for the absence of the radiating element. Instead, the input of the LNA section is connectorized.

This configuration facilitates connectorized tests, including Hardware-In-The-Loop test (HITL), irradiation test, noise figure and active gain test and verification, and more.

Related Products

Part Number	Description
PW2020-000	Active S-Band RHCP RX Omni Antenna
PW2020-300	S-Band RHCP RX Omni Test Hat
PW2020-110	S-Band Dual-CP RX Omni Antenna
PW2222-110	S-Band Dual-CP TX Omni Antenna
PW1515-001	Active GPS L1 Antenna

Electrical Specifications

Parameter / Condition	Min	Typ	Max	Unit
Operating Frequency	2025		2110	MHz
VSWR			2:1	
Gain (Notes 1 and 2)	26	28	32	dB
Noise Figure (Note 2)		2.2	3.5	dB
Rejection @ 2200 MHz	60			dBc
Voltage	4.5	5	12	V
Current		50	60	mA

Note 1: LNA gain is customizable upon request
Note 2: Measured over the full operating temperature range

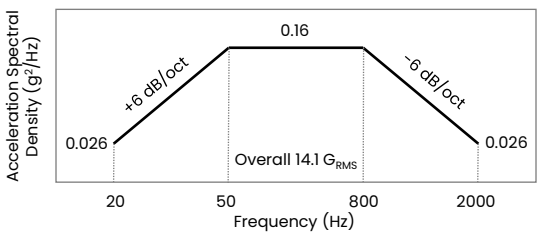
Mechanical Specifications

Parameter / Condition	Value	Unit	Limits
Connector	SMA Female		
Mass	110	g	Max
Compatible Antenna	PW2020-000		

Environmental Specifications

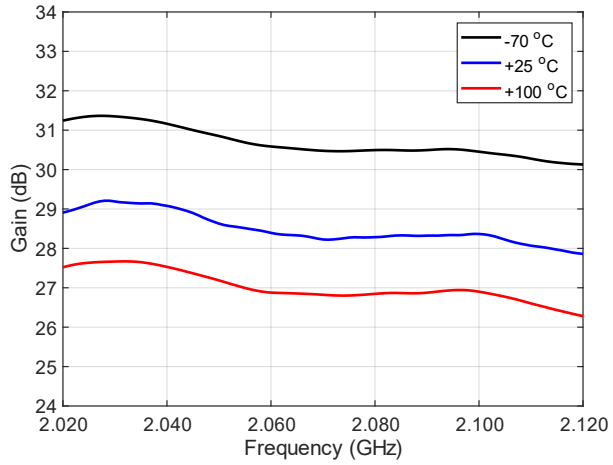
Parameter / Condition	Min	Typ	Max	Unit
Operating Temperature	-70		100	°C
Storage Temperature	-70		100	°C
Radiation Hardness (TID)	500			krad
Destructive Single Event Effects (Note 1)	37			MeV-cm²/mg
Vibration	14.1			G_{RMS}

Random Vibration Test Levels
(GSFC-STD-7000)

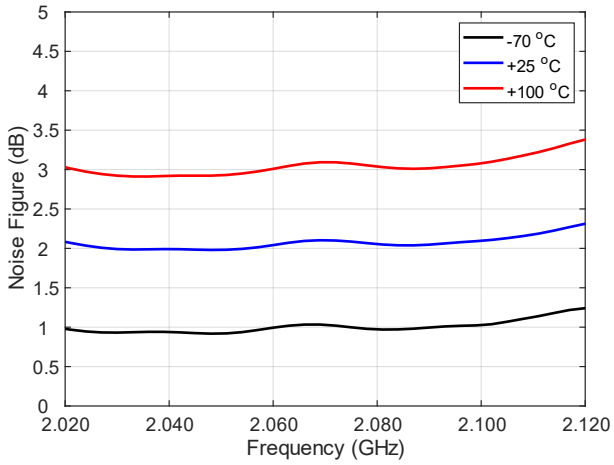


Note 1: No destructive SEE was observed when tested with heavy ions up to the above LET

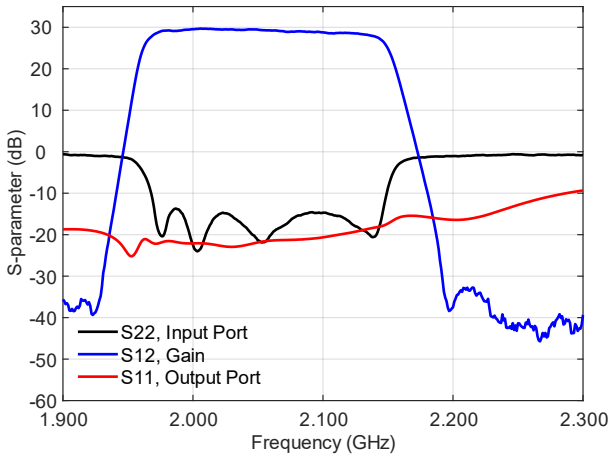
LNA Gain



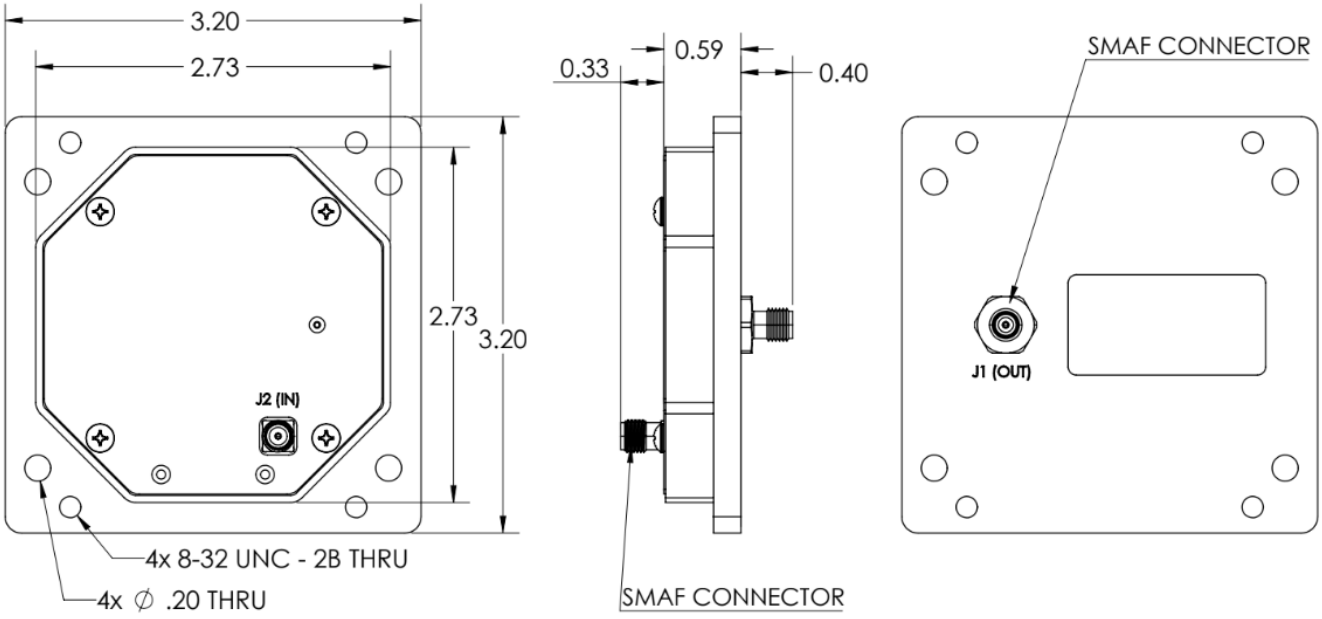
Noise Figure



S-parameters



Mechanical Outline



Dimensions shown in inches.
Tolerances - Two Place Decimal: ±0.010, Three Place Decimal: ±0.005

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