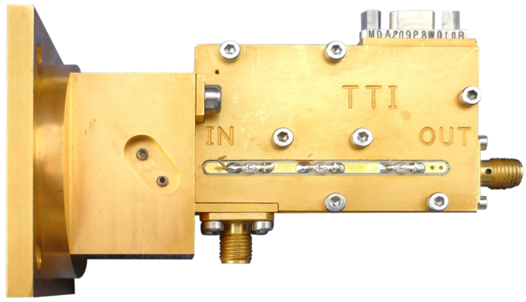
X band Cryo-LNA range for radioastronomy & quantum computing



USING **CUTTING-EDGE TECHNOLOGY**, THE NEW CRYO-LNA FAMILY OFFERS OUTSTANDING PERFORMANCE IN CRYOGENIC OPERATIONS

Key Features

* InP/GaAs technology
* Extremely low temperatures operation (4 to 15 K)
* Superior performance
* High reliability & efficiency
* Ultra-low noise figure
* High gain & low ripple
* Compact size & lightweight
* Coupled port

Innovative technology

A combination of Indium Phosphide (InP) and Gallium Arsenide (GaAs) technologies to deliver outstanding low Noise Temperature (NT).

Each unit is fully tested in cryogenic operating temperatures and delivered with a complete factory acceptance test report at 295 K and 12 K.

RF performance

Operating frequency range	8.4-8.5 GHz
Noise temperature	<3 K at 12 K
Input/output return loss (50 Ω)	<-15 dB
Coupled port	30 dB (typ)
Gain	40 to 41 dB
Gain flatness	0.3 dB pp max
Output P1dB	>5 dBm
Output IP3	>15 dBm
Reverse isolation	<-45 dB

Power Supply

Drain voltage range	0 V to 3.5 V
Drain current range	≤30 mA
Gate voltage range	-3 to +3 V
Power consumption	≤65 mW @P1dB 5 dBm (lower for less P1dB)
Power biasing	6 wires

Interfaces & Physical

Dimensions (L x W x H)	48 x 48 x 77 mm
Weight	108 gr
Interfaces	RF input: WR112 (UBR84)
	RF sample: SMA (f) / SMA (m)
	RF output: SMA (f) / SMA (m)
	DC: Micro D 9-P

Environmental

Operating temperature	2 K to 15 K

OPTIONS

* Servo-controlled power supply unit

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Information contained in this document is subject to change without notice.

Unless otherwise specifications, tests have been done at 23 ºC.

Rev. 2 11/24

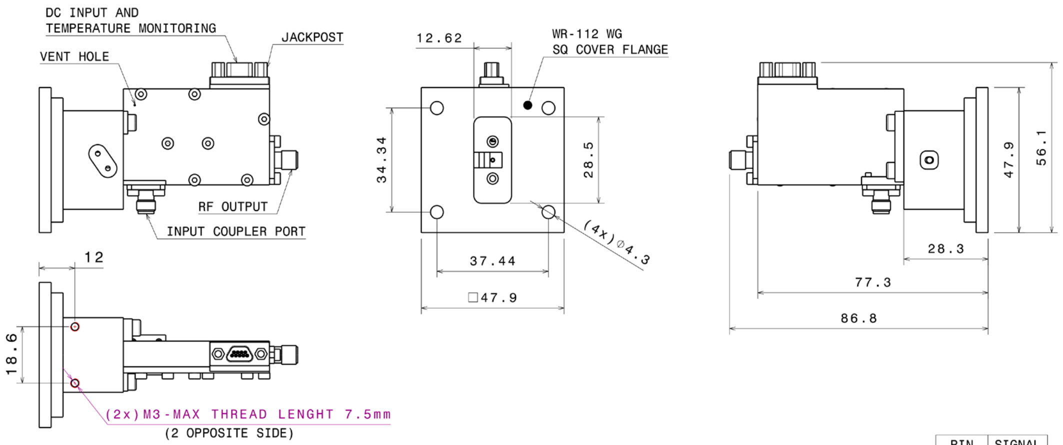
Technical specifications

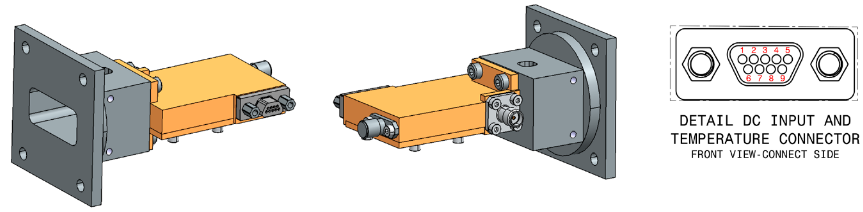
X band Cryo LNA

8.4-8.5 GHz

3 K

Outline drawing

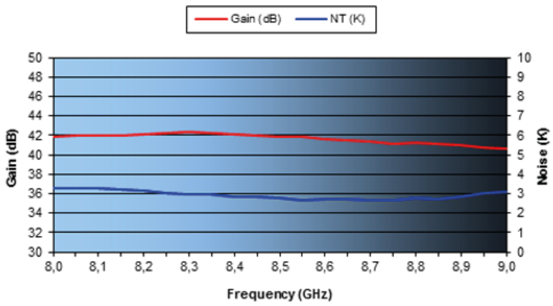




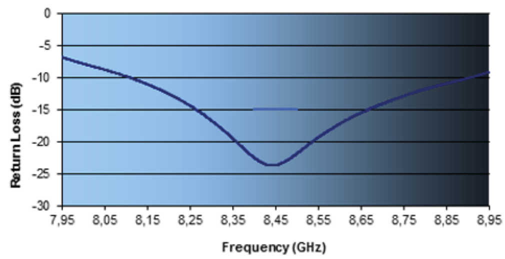
PIN	SIGNAL
1	GND
2	VD1
3	VG1
4	VD2
5	VG2
6	VD3
7	VG3
8	N/C
9	N/C

Typical measured data

Gain & Noise variation at 12 K



Input return losses at 12 K



Output return losses at 12 K