

Telecom: Ka-band Low Noise Amplifier (LNA)

Beyond Gravity Space Ka-band Low Noise Amplifiers meet the highest performance and reliability requirements. Application of latest technologies such as mHEMT MMICs offers excellent noise performance, small size, low mass and efficient manufacturing.

Heritage

Beyond Gravity Space has been supplying high performance and highly reliable microwave communication equipment for telecom satellites for more than 35 years.

Delivery record for telecom payloads:

- > 1300 FSS/BSS Units delivered
- > 700 Ka-band Channels delivered
- > 10 000 years accumulated operational time in orbit

Key features

Ka-Band LNA for telecom payloads

Ka-band Low Noise Amplifier for full band 27.5-31 GHz. The equipment is built using the latest MMIC technologies (e.g. mHEMT LNA) for excellent electrical performance and reliability while exhibiting low DC power consumption and small dimension.

Interfaces

Flexible input and output RF interfaces

- RF Input: Waveguide (WR 28 or WR34)
(or coaxial SMA-K)
- RF Output: Waveguide (WR 28 or WR34)
(or coaxial SMA-K)
- DC & TM/TC: MDM-25/MDM-9

Modularity

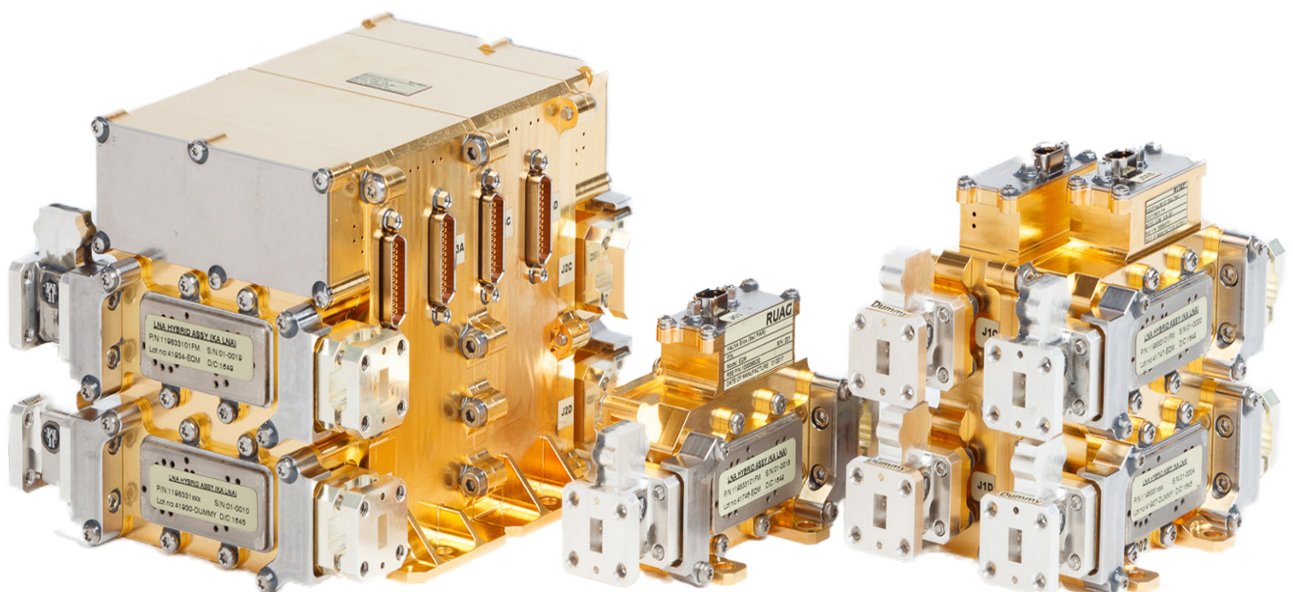
The modular design allows the equipment to be configured as single LNAs (Slice) with secondary DC power (to be supplied from an external EPC or CPSU) or as Multipacks (up to Quad-packs) with either secondary DC or with internal DC/DC supply. The equipment can be configured for a variety of DC-power and TM/TC interfaces.

Compact design

Extensive use of MMIC and miniaturization technologies are employed to give small size and low mass. The high level of integration result in improved producibility and short lead times.

Production

- Well-known technologies and established processes
- Extensive clean-room facilities
- Highly automated testing and data collection
- Inhouse facilities for environmental testing



Technical data

Parameter	Typical Performance	
Frequency range	27.5 to 31.0 GHz	
Gain	40 - 60 dB	
OIP3	>20 dBm	
Noise figure	<2.3 dB	
Temperature range	-20°C to + 70°C	
DC power (secondary DC)	<270 mA (@ +5 V), <-10 mA (@ -5V)	
DC power (internal DC/DC)	<2.4 W	
Mass	Single Slice: 0,17 kg	Quad-pack stand-alone: 1,1 kg
Size	Single Slice: 103 x 36 x 52 mm	Quad-pack stand-alone: 103 x 131 x 90 mm