

MITEQ INC. introduces a new addition to its family of waveguide LNAs. AMF-7F-17702120-120-20P is a very low noise high dynamic range Ka-Band waveguide front end assembly. WR-42 waveguide input unit is 35 mm high, 100 mm long and 50 mm wide. It is intended for bolting to a flat cooling surface or fins.

Housing is environmentally sealed, EMI shielded and hermetic sealing option is also available. Waveguide assembly can be pressurized as required.

LNA assembly includes reverse voltage, over current and over temperature protection in addition to full internal regulation.

Amplifier is capable of minimum 20 dBm of P1dB across the full band, 17.7 GHz to 21.2 GHz.

Both input and output are isolator protected and thus provide excellent port VSWR, less than 1.5:1, and load independent operation. Critical for maintaining gain flatness even when connected to filter elements. Output is K(F).

Nominal small-signal gain is min 60 dB while effective input noise temperature can be as low as 100 Kelvins for most of the band. Gain flatness is very tight, around 1.5 dB peak-to-peak maximum. Gain is temperature compensated and will stay within a 5 dB window through the full specified temperature range of -40C^0 to 60C^0 .

Current draw is nominally 450 mA from a single positive 15V supply. Output IP3 is a typical of 30 dBm across the full band. LNA has an operational temperature range of -40C^0 to 65C^0 .

Various models cover gain ranges of 40-60 dB and noise temperature of 100-120K.



Ka-Band High Dynamic Range Waveguide LNA



- 17.7 to 21.3 GHz
- 60 dB Min
- 20 dBm P1dB Min
- 30 dBm IP3 Min
- 100 K Typ. Noise Temp.
- 15V DC / 450 mA
- +/- 1.5 dB Flat Max
- Input/Output Isolators
- -40C⁰ to +65C⁰

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