C- and Ku-Band Low Noise Amplifiers

C-Band Low Noise Amplifier

APPLICATION

The Comtech EF Data (CEFD) C-Band Low Noise Amplifier (CLNA) meets or exceeds system requirements for commercial geosynchronous satellites worldwide. Its compact design and rugged construction make it ideal for transportable applications and severe environments. The CLNA has a comprehensive set of options to accommodate systems ranging from Very Small Amplifier Terminal (VSATs) to major earth stations.

TECHNOLOGY

The amplifier incorporates both HEMT devices for low noise temperature performance and GaAs FET devices for low intermodulation. The unit uses surface mounted components for robotic manufacturing techniques, thereby insuring maximum product consistency and enhanced reliability.

RELIABILITY

The CLNA utilizes proprietary circuitry and high quality components to achieve an MTBF in excess of 160,000 hours. Each unit is subjected to a 72-hour burn-in and temperature cycled from -40 to +60°C (-40 to 140°F).

CONSTRUCTION

Each CLNA is housed in a waterproof enclosure with a small profile to better accommodate redundancy configurations. The enclosure also provides a pressurizable, integral waveguide flange.

SUBSYSTEMS

Comtech EF Data provides 1+1 and 1+2 redundant LNA subsystems complete with mounting plate, brackets and Redundancy Controller/Power Supply. Comtech EF Data also supplies transmit reject filters, cables and other integration materials as required.

SPECIFICATIONS

Frequency	3.4 to 4.2 GHz
	3.625 to 4.2 GHz
	4.5 to 4.8 GHz
Noise Temperature	30, 35, 40, 45° K
Gain:	
Overall	50, 60 dB
Flatness (Constant Temp)	± 0.75 dB/ over Full Band
	± 0.15 dB/ over 40 MHz
Stability (Over Temp)	± 1 dB over Full Band
	0.40 dB p/p over 40 MHz
Max Input Power	Survivable: –15 dBm
Level at 1 dB Comp.	+10 dBm
Third Order Intercept	+20 dBm
AM-PM Conversion	0.5°/dB at -5 dBm
Linear Group Delay	0.01 ns/MHz
Parabolic Group Delay	0.001 ns/MHz^2
Ripple	0.1 ns p/p
Input/Output VSWR	1.25:1 Max.
Input Waveguide	CPR229
Output Connector	Type N, Optional SMA
Operating Temp.	-40 to +60°C (-40 to 140°F)
Input Power	+12 to +24 VDC at 120 mA
Power Connector	Coaxial or PTA02A-9-4P

COMTECH EF DATA

LNA

C- and Ku-Band Low Noise Amplifiers

Ku-Band Low Noise Amplifier

APPLICATION

The Comtech EF Data (CEFD) Ku-Band Low Noise Amplifier (KLNA) meets or exceeds system requirements for commercial geosynchronous satellites worldwide. Its compact design and rugged construction make it ideal for transportable applications and severe environments. The KLNA has a comprehensive set of options to accommodate systems ranging from Very Small Amplifier Terminal (VSATs) to major earth stations.

TECHNOLOGY

The amplifier incorporates both HEMT devices for low noise temperature performance and GaAs FET devices for low intermodulation. The unit uses surface mounted components for robotic manufacturing techniques, thereby insuring maximum product consistency and enhanced reliability.

RELIABILITY

The LNA uses proprietary circuitry and high quality components to achieve an MTBF in excess of 160,000 hours. Each unit is subjected to a 72-hour burn-in and temperature cycled from -40 to +60°C (-40 to +140°F).

CONSTRUCTION

Each KLNA is housed in a waterproof enclosure with a small profile to better accommodate redundancy configurations. The enclosure also provides a pressurizable, integral waveguide flange.

SUBSYSTEMS

Comtech EF Data provides 1+1 and 1+2 redundant LNA subsystems complete with mounting plate, brackets and Redundancy Controller/Power Supply. Comtech EF Data also supplies transmit reject filters, cables and other integration materials as required.

SPECIFICATIONS

Frequency	10.95 to 12.75 GHz
Noise Temperature	65, 75, 80, or 85° K
Gain	50 or 60 dB
Gain vs Temp	± 1.5 dB, Wideband
Stability	± 2 dB, Wideband 0.75 dB p/p over 40 MHz
Level at 1 dB Comp.	+10 dBm, Wideband
Third Order Intercept	+20 dBm, Wideband
AM-PM Conversion	0.5°/dB at -5 dBm
Linear Group Delay	0.01 ns/MHz
Parabolic Group Delay	0.001 ns/MHz^2
Ripple	0.1 ns p/p
Input/Output VSWR	1.25:1 Max.
Input Waveguide	WR75
Output Connector	Type N standard, SMA optional
Operating Temp.	-40 to +60°C (-40 to +140°F).
Input Power	+12 to +24 VDC at 200 mA
Power Connector	Coaxial and 4-Pin