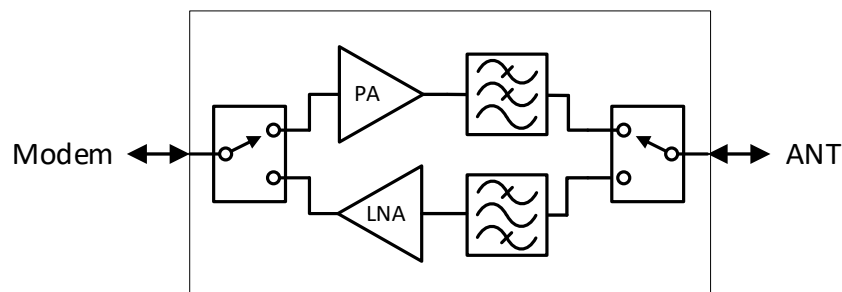


BDAC

Bi-Directional Power Amplifier, C-Band



Rev B



Product Overview

The BDAC is a highly efficient bidirectional amplifier ideal for boosting the range of MANET, mesh networks, and other TDMA systems. The BDAC features automatic TX detection to switch between TX and RX modes, making it modem agnostic and compatible with all modulation schemes including OFDM. The BDAC switches between TX and RX in less than 5 μ s and boosts TX signals as high as 35W.

The BDAC is designed for operation in harsh environments and has been ruggedized to withstand high vibration and shock profiles associated with military air and ground applications. The transmitter will withstand operation into an infinite VSWR condition with no degradation to the unit. The transmitter can be disabled via the inhibit pin; the receiver remains active when the transmitter is inhibited. An NVG LED indicates when the amplifier is in transmit mode.

Technical Specifications

General

Operating Frequency	5100-5850 MHz
ANT Input Level (J1)	+20 dBm (no damage)
RF Input Level (J2)	+20 dBm (no damage)
TX Enable	-10 dBm min
RX Enable	-16 dBm max
TX to RX Switching Time	2.5 μ s typ, 5 μ s max
RX to TX Switching Time	2.5 μ s typ, 5 μ s max
TX to RX Isolation	60 dB min
DC Power	+19 V-36 V, 28 V nom
Power Draw	185 W max

Power supply is reverse polarity protected.

Transmit Characteristics

TX P_{SAT}	35 W typ, 31.5 W min
Power Draw at P_{SAT}	155 W typ
TX P_{1dB}	14 W min
Power Draw at P_{1dB}	130 W max
TX Gain	43 dB \pm .75 dB
Power Draw at 10 W Output	75.6 W max
Harmonics, 2nd	-50 dBc max at 10 W
Harmonics, 3rd	-55 dBc max at 10 W

Receive Characteristics

RX Gain	30 dB min
RX Gain Flatness	\pm 1.5 dB max
RX OP_{1dB}	+0 dBm typ
RX Noise Figure	4.0 dB typ, 5.5 dB max
RX Mode Power Draw	7.6 W max

Physical

Dimensions	4.6" x 6.25" x 1.0"
Weight	2.0 lbs.

Connectors

ANT	SMA Female
RF Input	SMA Female
DC Power	Solder Terminals
TTL Pin	Solder Terminal
TTL Logic	Open/High: PA enabled Low: PA disabled

Environmental

Operational Alt	30 kft
Operating Temp	-40°C to +65°C

Amplifier is over-temperature protected.

Amplifier is ruggedized for vibration and shock associated with both airborne and ground installs.

Install Instructions

The amplifier must be mounted to a heatsink capable of dissipating 150 W of heat. Contact the factory for available cooling options.

Additional Configurations

Other frequency ranges and power levels are available. Visit our website or contact our sales team for additional options: sales@ramonaresearch.com