GEM-24G1ODA

GEM24G Series   1Watt Outdoor Bi-Directional Amplifier

Features

- TX Power Output 1W Avg, 2W Peak
- 802.11b,g compatible
- Low Receive Noise Figure
- Includes DC Injector
- Durable UV-Stable finish
- Internal Lightning Protection
- N-Female Connectors

Picture

Description

GEM-24G1ODA Bi-Directional Amplifier will significantly improve link reliability and operating range by providing Low Noise Amplification during Receive, and Spectrally Clean Power Amplification during Transmit. Designed for use with existing wireless radio equipment, 802.11b,g AM/FM or video products where higher power is required. The saturated output power is 2Watts. The GEM-24G1ODA features weather-proof construction to ensure years of reliable operation in the harshest environments. Included with the outdoor models, the DC Power Injector provides power to the amplifier through the antenna cable, simplifying installation. Current-sensing circuit provide remote amplifier diagnostic LEDs. In addition, this unit provides effective lightning protection with multi-strike capability.

GEM-24G1ODA BLOCK DIAGRAM
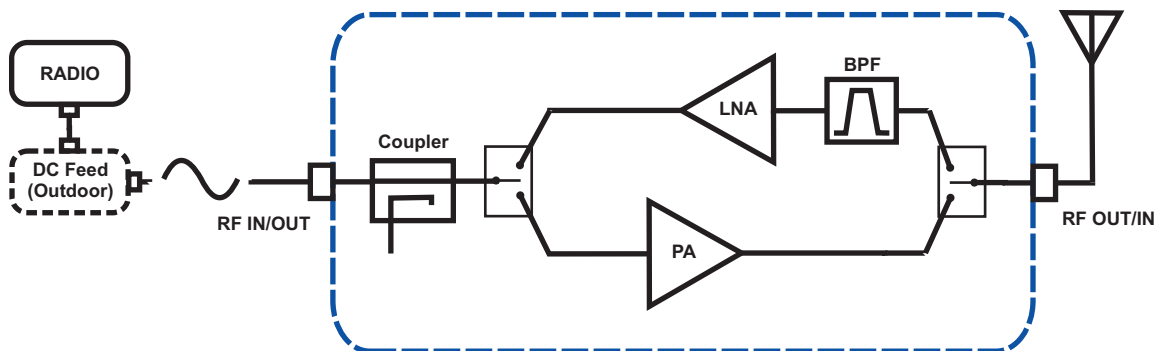
Electrical Specifications

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2.4		2.5
Operating Mode (Note1)		TDD, Time Division duplex		
Receive Gain	dB		12	
Receive Noise figure	dB			2
Transmit Input RF Power	mW	2		50
Transmit Gain	dB		14	
Gain flatness over band	dB		±0.3	
Average Transmit RF Power	mW		1000 (+30dBm)	
Peak Transmit RF Power	mW		2000 (+33dBm)	
RX to TX switching time	µs			0.2
DC Power Supply	V	8		12
Receive supply current	mA		120	
Transmit supply current	mA	550	1000	1200
Average supply current (Note 2)	mA	180	220	330
Lightning Supression		1/4 wavelength short		
DC supply overvoltage-protection		TVS diode		
Operating Temperature	°C	-40		+45

Note 1: This GEM Microwave bi-directional amplifier is designed for burst half-duplex operation. It is not intended for constant transmit or CW operation. Operation of the amplifier in CW mode will damage the amplifier and void the warranty.

Note 2: Bi-directional operation, using 802.11g Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps.
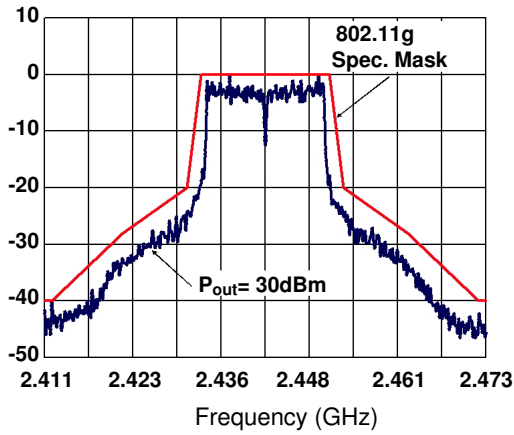
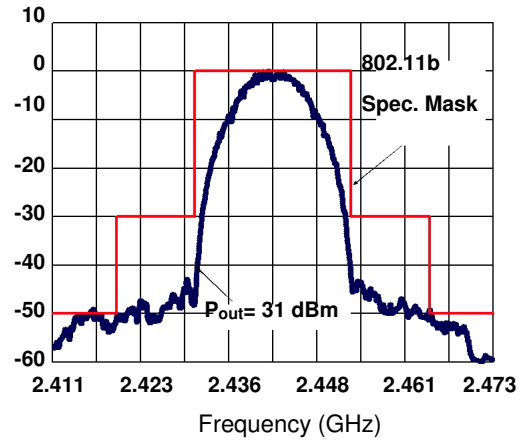GEM Microwave • sales@gemmicrowave.com • www.gemmicrowave.com • © GEM Microwave, All Rights Reserved.

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GEM24G Series   1Watt Outdoor Bi-Directional Amplifier

Output Spectrum Response for 802.11g, Power Out = 30 dBm

Output Spectrum Response for 802.11b CCK-Coded, Power Out = 31 dBm

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+20dBm (100mW)
Supply Voltage	+14V
Operating Temperature	-40 °C to +55 °C
Storage Temperature	-55 °C to +100 °C

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The set includes:

- The Outdoor Amplifier
- DC Power Injector (*24INJ-1)*

Mechanical Specifications

Parameter	Unit	
RF Connectors		N-female
Chassis		Steel with hot tin-plating, rugged white coat finish
Dimensions	mm	110 x 40 x 40
Weight	kg	0.15

Mechanical Specifications (DC Injector)

Parameter	Unit	
LED Indicators		Green for Power On, Red for Transmit
RF Connectors		N female
DC Power Connector		DC Via 2.1mm I.D. (+), 5.5mm O.D. (-)
Chassis		Steel with hot tin-plating, rugged white coat finish
Dimensions	mm	85 x 45 x 25
Weight	kg	0.06

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Installation

Step 1. Turn off the PC, router, radio and unplug the power cords from the wall outlets.
Step 2. Connect the amplifier to the antenna, and the DC Injector via RF cable.
Step 3. Connect the DC Injector to the radio, PC, router via RF cable.
Step 4. Connect the DC Power adaptor to the DC Injector.
Step 5. Plug PC, router, radio, DC Power adaptor's power cord into the wall outlet.
Step 6. Turn on the PC, router, radio.

Guaranteed Quality

24G Series is designed and manufactured by GEM Microwave and is backed by GEM Microwave's Limited Warranty.

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