

## 24G Series

## 2Watt Bi-Directional Amplifier

### Features

- TX Power Output 2W Avg, 4W Peak
- 802.11b,g,n compatible
- Low Receive Noise Figure
- TX/RX LED indicator
- Rugged aluminium housing
- Internal Lightning Protection
- SMA / RPSMA Connectors

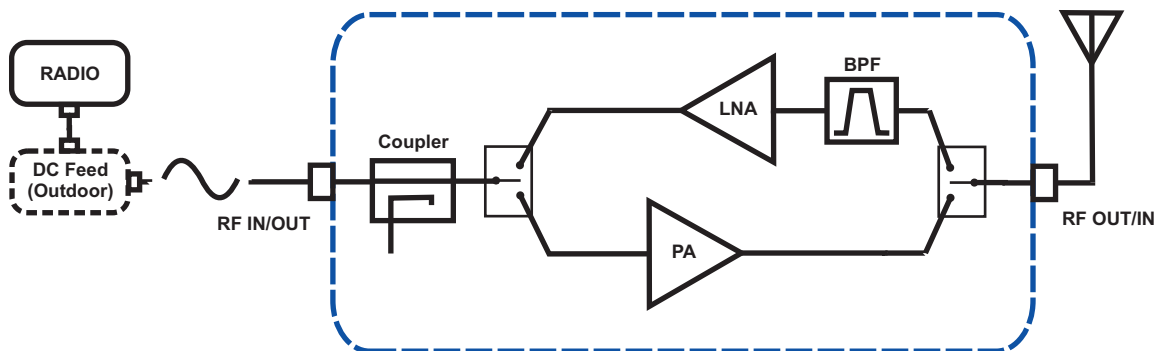
### Picture



### Description

The 24G series Bi-Directional Amplifiers will significantly improve link reliability and operating range by providing Low Noise Amplification during Receive, and Spectrally Clean Power Amplification during Transmit. These amplifiers feature a rugged, cast aluminum construction to ensure years of reliable operation and are available in either indoor or outdoor models. Designed for use with existing wireless radio equipment, 802.11b,g,n AM/FM or video products where higher power is required. The saturated output power is 4Watts. GEM Microwave's proprietary copper heat sinking technology allows maximum heat transfer between RF power device and the aluminium case which doubles as a large heat sink. This exclusive GEM Microwave feature allows the amplifier to be used in high duty cycle applications like Hotspots or IP cameras.

### 24G SERIES BLOCK DIAGRAM



## 24G Series

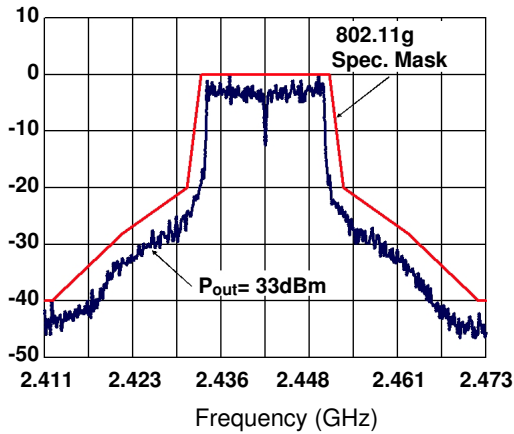
## 2Watt Bi-Directional Amplifier

### Electrical Specifications

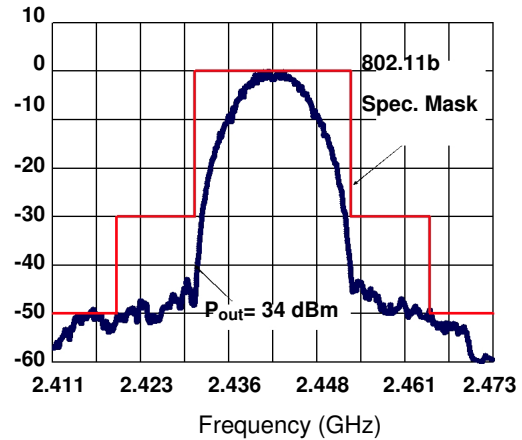
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2.4		2.5
Operating Mode (Note1)		TDD, Time Division duplex		
Receive Gain	dB		12	
Receive Noise figure	dB			2
Transmit Input RF Power	mW	1		50
Transmit Gain	dB		20	
Gain flatness over band	dB		±0.3	
Average Transmit RF Power	mW		2000 (+33dBm)	
Peak Transmit RF Power	mW		4000 (+36dBm)	
RX to TX switching time	µs			0.2
DC Power Supply	V	8		12
Receive supply current	mA		120	
Transmit supply current	mA	1000	2000	2500
Average supply current (Note 2)	mA	360	440	660
Lightning Supression		1/4 wavelength short		
DC supply overvoltage-protection and line filtering		TVS diode and L-C filter		
Operating Temperature	°C	-40		+40

**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.



Output Spectrum Response for 802.11g,  
Power Out = 33 dBm



Output Spectrum Response for 802.11b  
CCK-Coded, Power Out = 34 dBm

### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+20dBm (100mW)
Supply Voltage	+14V
Operating Temperature	-40 °C to +50 °C
Storage Temperature	-55 °C to +100 °C



# 24G2W

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## Mechanical Specifications

Parameter	Unit	
LED Indicators		Green for Power On, Red for Transmit
RF Connectors		SMA female for Radio port and RP-SMA female for antenna port
DC Power Connector		DC Via 2.1mm I.D. (+), 5.5mm O.D. (-)
Chassis		Diecast Aluminium with rugged white coat finish
Dimensions	mm	130 x 65 x 30
Weight	kg	0.28

## Guaranteed Quality

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