

58G Series

5GHz 1Watt Bi-Directional Amplifier

Features

- TX Power Output 1W Avg, 4W Peak
- 5GHz 802.11a,n,ac compatible
- Low Receive Noise Figure
- TX/RX LED indicator
- Rugged aluminium housing
- Internal Lightning Protection
- SMA / RPSMA Connectors

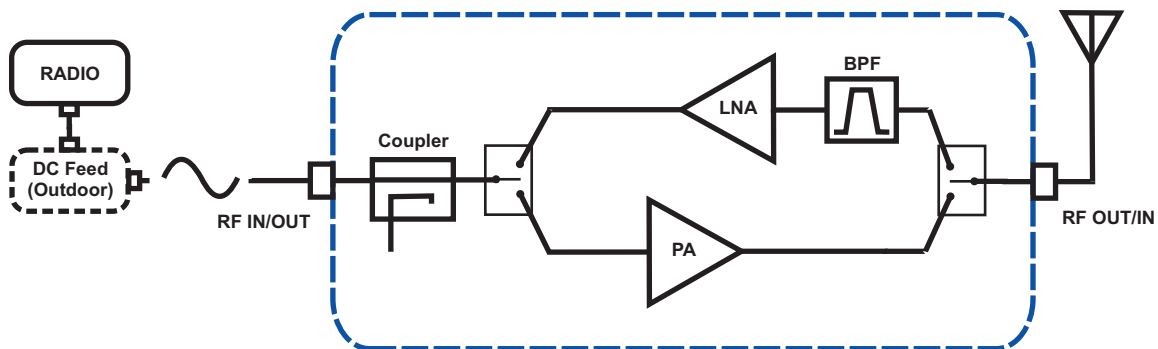
Picture



Description

The 58G 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 in the 5GHz band, 802.11a,ac,n or video products where higher power is required. The saturated output power is 4 Watts. 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.

58G SERIES BLOCK DIAGRAM





58G1W

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Electrical Specifications

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	5.15		5.85
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 (Note 2)	dB	13		17
Transmit Gain @ 3.8GHz	dB			-10
Average Transmit RF Power (Note 3)	mW		1000 (+30dBm)	
Peak Transmit RF Power	mW		4000 (+36dBm)	
Transmit Harmonic 2f, 3f (Note 4)	dBm/MHz			-60
RX to TX switching time	μs			0.2
DC Power Supply	V	8		12
Receive supply current	mA		50	
Transmit supply current	mA	1000	1200	1600
Average supply current (Note 5)	mA		400	500
Lightning Supression		1/4 wavelength short		
DC supply overvoltage-protection		TVS diode		
Operating Temperature	°C	-40		+50

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: Within each UNII Band.

Note 3: @ 3% EVM, using 802.11a Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps.

Note 4: Power Output=30dBm.

Note 5: Bi-directional operation, using 802.11a Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps, Power Output=30dBm.



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Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+20dBm (100mW)
Supply Voltage	+14V
Operating Temperature	-40 °C to +60 °C
Storage Temperature	-55 °C to +100 °C

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.