24G1W-AGC

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24G Series 1Watt Bi-Directional Amplifier

Features

- TX Power Output 1W Avg, 3.5W Peak
- 802.11b,g,n compatible
- Low Receive Noise Figure
- TX/RX LED indicator
- Automatic gain control
- Internal Lightning Protection
- 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 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 output power 1dB compression point is 3.5Watts. For high duty cycle applications like Hotspots or IP cameras we have similar models fitted with heatsink. Standard connectors: RPSMA plug/ RPSMA socket. Available connectors upon request: N male, N female, SMA, RPSMA. Standard housing: steel. Available housing upon request: IP65 aluminium.

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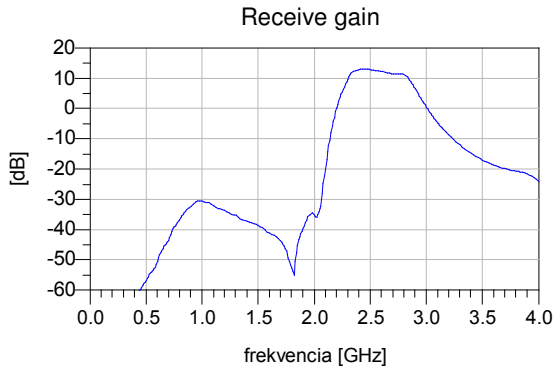
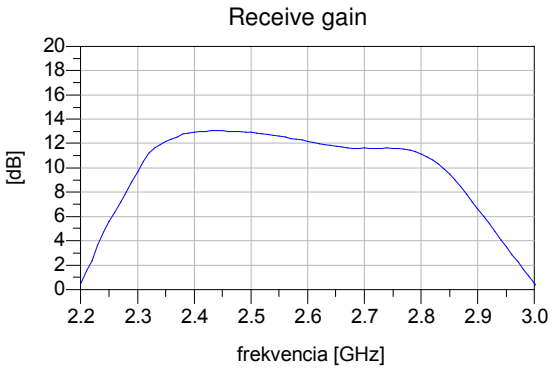
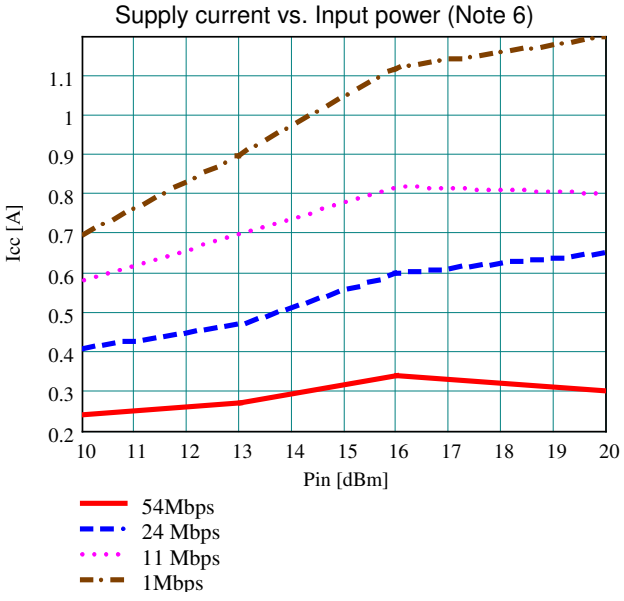
Electrical Specifications

Parameter		Unit	Minimum	Typical	Maximum
Frequency Range		GHz	2.4		2.5
Operating Mode			TDD, CW (heatsink model, Note1)		
Receive Gain		dB		12.9	
Receive Noise figure		dB			2
Transmit Input RF Power		dBm	4		20
Transmit Gain		dB		Automatic	20
Gain flatness over band		dB		±0.3	
Average Transmit RF Power (Note 3)		dBm		30.5dBm	
Peak Transmit RF Power		dBm		+35.5dBm	
RX to TX switching time		µs			0.2
Out of the band supression		dB	30		
Receive amplifier 1dB compression point		dBm		0	
ACPR (Note 4)		dBc		-35 -57	
Harmonics	2f 3f	dBc		-50 -50	
DC Power Supply		V	8		12
Receive supply current		mA		120	
Transmit supply current (Note 3)		mA	740		1400
Average supply current (Note 2)		mA	270		340
Average supply current (Note 5)		mA	150		180
Lightning Supression			1/4 wavelength short		
DC supply overvoltage-protection			TVS diode		
Operating Temperature		°C	-40		+40

Note 1: $T_{HEATSINK} = 50$ °C, $I_{CC} = 1400$ mA, $P_{OUT} = 30.5$ dBm. Operation of the amplifier beyond these limits 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, AP mode.
Note 3: CW mode.
Note 4: P_{OUT} =31dBm, 802.11b, CH1, P_{OUT} =31dBm, 802.11b, CH2
Note 5: Bi-directional operation, using 802.11b/g/n, client mode.

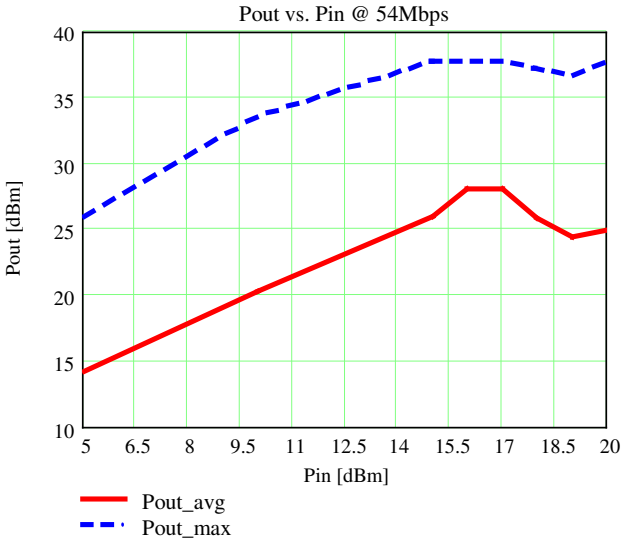


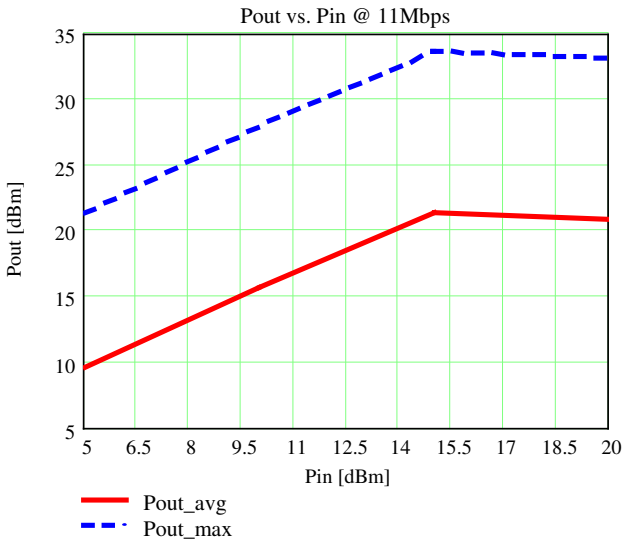


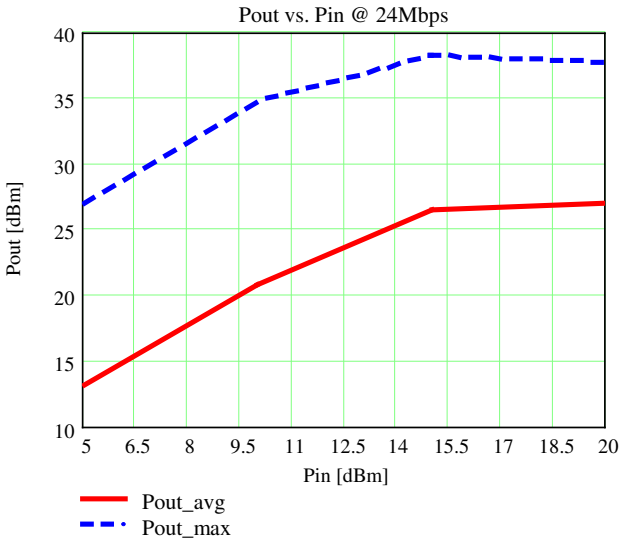


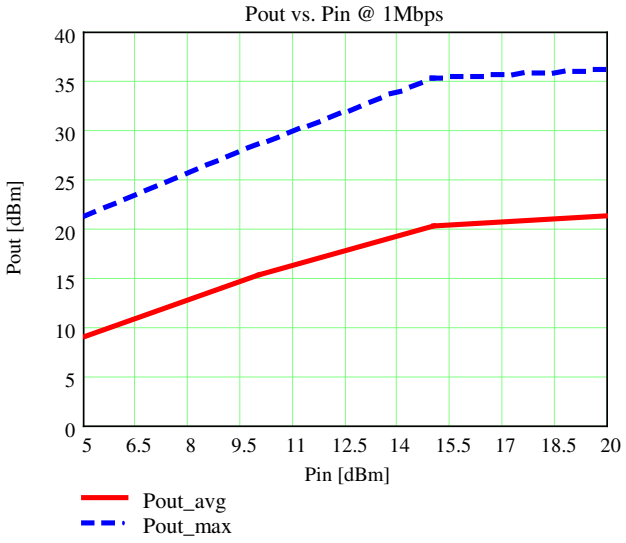
Note 6: Continuous upload at full speed, AP mode.

802.11 b/g RF burst measurements









Note : Pin - input power as peak power.

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+23dBm (200mW)
Demage level	+27dBm (500mW)
Supply Voltage	+14V
Operating Temperature	-40 °C to +50 °C
Storage Temperature	-55 °C to +100 °C

Mechanical Specifications

Parameter	Unit	
LED Indicators		Green for Power On, Red for Transmit
RF Connectors		RPSMA plug for Radio port, RPSMA socket for antenna port
DC Power Connector		DC Via 2.1mm I.D. (+), 5.5mm O.D. (-)
Chassis		Steel, white coat finish
Dimensions	mm	100 x 40 x 40
Weight	kg	0.11

Guaranteed Quality

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