

24G Series

1Watt Bi-Directional Amplifier PoE

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
- Thermal and RF input power protection
- N Connectors
- Two parallel PoE ports

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 2.4GHz wireless equipment where 1 Watt RF power is desired and the existing radio runs on power over Ethernet. Two parallel PoE ports allow multiple devices on PoE. The output power 1dB compression point is 3.5 Watts. For high duty cycle applications like Hotspots or IP cameras the amplifier can be fitted with heatsink. The 24G1W-Poe features extended thermal and RF input power protection. PoE ports are 10/100/1000Base-T (Mode A, B) compatible. The amplifier also features an additional DC port that enables usage without PoE.



24G1W-PoE

www.GemMicrowave.com

24G Series

1Watt Bi-Directional Amplifier PoE

Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Mechanical Specifications						
Chassis	Material		Aluminium			
	Size	mm	138 x 78.5 x 21.5			
	Weight	kg		0.4		
	Mounting holes		4 x Ø3.5			
Connectors	DC power		DC jack (5.5mm OD. 2.1mm ID.) and 2 x RJ45(PoE)			
	Radio port		N_female			
	Antenna port		N_female			
Power Supply	V_{CC}	V	+48V (PoE)			
PoE Operation			10/100/1000Base-T Mode A, Mode B			
Indicators	Power		Green			
	Transmit		Red			
	Protection		None			
Absolute maximum ratings						
Supply Voltage	V_{CC}	V		36	48	57
Operating Temperature	T	°C		-40		70
RF Input Power	P_{IN}	dBm	“Radio” port		23	
Demage RF Input Power		dBm	“Radio” port	30		



24G1W-PoE

www.GemMicrowave.com

24G Series

1Watt Bi-Directional Amplifier PoE

Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Electrical Specifications						
Frequency Range	f	MHz		2400		2500
Receive Gain	A_{RX}	dB			12	
Receive Noise figure	NF	dB				2
Out of the band suppression		dB		30		
Receive amplifier 1dB compression point	P_{1dB}	dBm			0	
Transmit Input RF Power	P_{IN}	dBm		6		23
Transmit Gain	A_{TX}	dB		3	Auto.	18
Peak Transmit RF Output Power		dBm			35.5	
Supply current	I_{CC}	A	Bi-directional operation, using 802.11g Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps, master mode, $V_{CC} = +48V$	0.07		0.12
			Bi-directional operation, using 802.11b CCK Input Signal, Data Rate = 11 Mbps, master mode, $V_{CC} = +48V$	0.1		0.15
			Receive mode, $V_{CC} = +48V$		0.015	
Average Transmit RF Power	P_{OUT}	dBm	$EVM = 4\%$, 54 Mbps OFDM		30	
ACPR		dBc	$P_{OUT} = 31\text{dBm}$, 802.11b, CH1			-35
			$P_{OUT} = 31\text{dBm}$, 802.11b, CH2			-57
Harmonics	$2f$	dBm/MHz	$P_{OUT} = 32\text{ dBm}$		-50	
	$3f$				-50	



24G1W-PoE

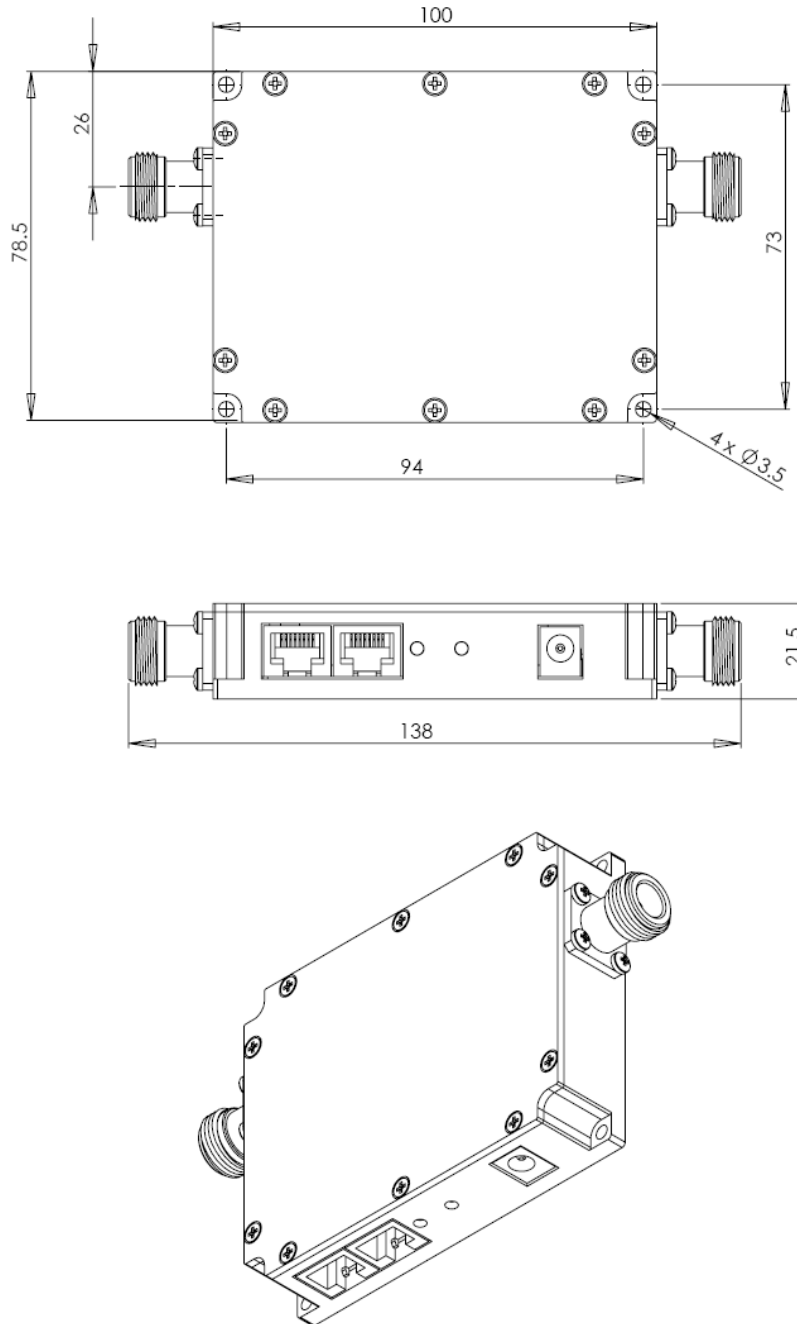
www.GemMicrowave.com

24G Series

1Watt Bi-Directional Amplifier PoE

Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Electrical Specifications (contd.)						
Transient voltage protection			Antenna	$\lambda/4$		
			Radio	$\lambda/4$		
			PoE	TVS		
			DC power	TVS		
Input power protection		dBm		26		
Thermal protection		°C				75

Drawing





24G1W-PoE

www.GemMicrowave.com

24G Series

1Watt Bi-Directional Amplifier PoE

Guaranteed Quality

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