

AO-1209 WiFi to ZigBee Bridge



Features

- Integrated 2.4GHz, AO-1501 ZigBee module and IEEE 802.11b/g compatible WiFi connectivity
- Supports WiFi operation in Simple AP(SAP) or Station (In Infrastructure or Ad-Hoc) mode.
- Supports Web browser to set WiFi parameters.
- ZigBee parameters are set by using AT commands via the WiFi connected interface.
- Defaults as ZigBee coordinator.
- Adjustable ZigBee signal transmission strength within 4.5dBm to -22dBm.
- Integrated PCB antenna. Max outdoor range up to 300m (984 ft.), line of sight(LOS).
- Supports DC 5V from external power supply.

Description

AO-1209 ZigBee/WiFi gateway integrates the communication capabilities of ZigBee and WiFi, enables the users to access and manage the ZigBee wireless sensor networks (WSN) from portable devices, such as mobile phones or laptop computers, significantly enhancing the scalability of the system and enabling real openness and compatibility.

Ordering Information

PART NUMBER	INPUT/OUTPUT	SIGNAL DETECT	VOLTAGE	TEMPERATURE
AO-1209	DC/DC	TTL	3.3V	0°C to 60°C

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Storage temperature	T_S	-10	80	°C	
Supply voltage	V_{CC}	0	5	V	
Input voltage	V_{IN}	2	3.6	V	
Operating current	I_{OP}	0.91	360	mA	Max peak current



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Recommended Operating Conditions

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Operating ambient temperature range	T_A	0	70	°C	
Supply voltage	V_{CC}	0	5	V	
Operating input voltage	V_{IN}	2	3.6	V	
Operating current	$I_{TX} + I_{RX}$	---	250	mA	

RF Electrical Characteristics

$V_{IN} = 3.0\text{ V to }3.6\text{ V}$, $T_C = 0\text{ }^{\circ}\text{C to }70\text{ }^{\circ}\text{C}$, $f_c = 2.4\text{ GHz}$

PARAMETER	ZigBee	WiFi
Working frequency	2.4Ghz	2.4Ghz
Receiving sensitivity(1% PER)	-97dBm	802.11b: -92dBm @ 1 Mbps; -90dBm @ 2 Mbps; -89dBm @ 5.5 Mbps; -85dBm @ 11 Mbps 802.11g: -82dBm @ 6 Mbps; -82dBm @ 9 Mbps; -82dBm @ 12 Mbps; -82dBm @ 18 Mbps; -79dBm @ 24 Mbps; -76dBm @ 36 Mbps; -71dBm @ 48 Mbps; -70dBm @ 54 Mbps
TX output power	-22 to +4.5dBm adjustable	802.11b: 19±1dBm 802.11g: Peak 17 ± 1dBm @ 54 Mbps 18 ± 1dBm @ 48 Mbps 18.5 ± 1dBm @ 6 ~ 36 Mbps



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		802.11b: 16.5±1dBm
		802.11g:
	Average	14 ± 1dBm @ 54 Mbps
		15 ± 1dBm @ 48 Mbps
		16.5 ± 1dBm @ 6 ~ 36 Mbps
Communication distance (LOS)	150m	300m
RF data rate	250kbps	802.11b: 1, 2, 5.5 and 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps Supports TX rate auto fall-back mechanism
Network topology	Point-to-point, Star, Mesh	Point-to-point, Star, Mesh
Security	AES 128-bit	1. WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK) in Station mode 2. WEP-64/128 in SAP mode
Antenna type	PCB	PCB

General Characteristics

PARAMETER	ZigBee	WiFi
Input power		DC 12V
Single power supply	3.3V	3.3V
Operating temperature	-40 ~ 85°C	0 ~ 70°C
Operating temperature (Avg.)		0 ~ 70°C
Working relative humidity (Avg.)		≤ 80%
Static power consumption	0.99mW ~ 131mW	3mW ~ 811.8mW
Peak power consumption	< 0.25W	< 1.2W

Dimensions

