IEEE 802.11g (54Mbps) USB Stick Module

Zcomax Technologies, Inc. has released its new line of Air Runner™ wireless USB Adapters. The XG-762N is an 802.11b/g 54Mbps USB stick module that has been designed with the integration market in mind. With an integrated antenna design and standard USB 2.0 form, the XG-762N will fit into any design that has a USB host interface. The XG-762N is a superior USB module that exceeds both IEEE 802.11b/g and FCC regulatory requirements.

The XG-762N's integrated antenna design helps to reduce overall costs associated with wireless by eliminating the need for additional jumper cables and antennas, while maintaining its overall quality. The XG-762N USB device is a robust plug and play ready module with support for Windows 2K/XP/Vista. Linux and Mac reference drivers are also available.

The XG-762N is a superb choice for any wireless application requiring enhanced connectivity and performance in the USB form.

XG-762N at a glance

- **IEEE 802.11g Compliant**
- **16dBm Tx Output Power**
- **-65 dBm @54Mbps Rx Sensitivity**
- **Integrated Antenna**
- **USB 2.0 Interface**
- **FCC and ROHS Compliant**
- **MAC / Baseband – Atheros AR2524**
- **Radio - Airoha AL2230**
- **Driver support – Windows/Linux/Mac**
- **WPS Security Support**

ATHEROS® COMMUNICATIONS

RoHS Compliant

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Physical Specification:

Form Factor	USB 2.0
Dimensions (L x W x H)	82.33mm(L) * 13.21mm(W) * 26.34mm(H)

RF Specification:

Frequency Range (GHz)	North America: 2.412 ~ 2.462
	Japan TELEC: 2.412 ~ 2.484 802.11b
	Japan TELEC: 2.412 ~ 2.472 802.11g
	Europe ETSI: 2.412 ~ 2.472
	Spain: 2.457 ~ 2.462
Frequency Drift	<25KHz
Transmitter Output Power 802.11b 802.11g 54/48 Mbps 36/24 Mbps 18/12 Mbps 9/6 Mbps	 16.5 dBm (45mw) @1,2,5.5 and 11Mbps 14 dBm (25 mw) 16.5 dBm (45 mw) 16.5 dBm (45 mw) 16.5 dBm (45 mw)
Media Access Protocol	CSMA/CA w/ACK
802.11b Data rates 802.11g Data rates	11, 5.5, 2, 1 Mbps 54, 48, 36, 24,12,9,6 Mbps
Modulation	48/54 Mbps (QAM-64) 24/36 Mbps (QAM-16) 12/18 Mbps (QPSK) 6/9 Mbps (BPSK)
Receiver Sensitivity	54 / 48 Mbps: -65dBm / -66dBm
	36 / 24 Mbps: -70dBm / -72dBm
@ PER < 10% for 802.11g	18 / 12 Mbps: -77dBm / -79dBm
	9 / 6 Mbps: -81dBm / -82dBm
@ PER < 8% for 802.11b	11 / 5.5Mbps: -80dBm / -83dBm
	2 / 1 Mbps: -84dBm / -87dBm

Electrical Specification:

Supply Voltage	5 Vdc, +/- 5%
Supply Voltage Ripple	120mV (pp) max.
Power consumption	TX: <380mA

Antenna Specification

Antenna Type	PCB Print
Gain	1.0 dBi

Environmental

Working Temperature	0 ~ 55ºC, 90% relative humidity (non-condensing)
Storage Temperature	-20 ~ 80ºC, 95% relative humidity (non-condensing)

Absolute Maximum Rating

Stress above those listed in Absolute Maximum Rating may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in standard specifications is not implied.

Supply Voltage	5.25V
Storage Temperature	-20 ~ +80ºC, 95% relative humidity (non-condensing)

Security

The XG-762N supports 64-bit and 128-bit WEP encryption. 64-bit WEP requires a 40-bit key plus a 24-bit initialization vector. 128-bit WEP utilizes a 104-bit key plus a 24-bit initialization vector. WPA /WPA2 security features are identical to the latest conexant version as determined by the driver.

Performance

The range of a RF subsystem is determined by many different factors, including antenna design and cable loss, as well as connector selection. Typical ranges are given for PER < 10% (802.11g, < 8% for 802.11b) and assume an adequate antenna design.

Open Space – 802.11g	80 meters @ 54 Mbps
Open Space – 802.11g	200 meters @ 24/18 Mbps
Open Space – 802.11g	240 meters @ 12/9/6 Mbps
Open Space – 802.11b	150 meters @ 11 Mbps
Open Space – 802.11b	400 meters @ 1Mbps

Reliability

Mean Time To Failure is rated at 150,000 hours.

Interoperability

The XG-762N interoperates with any IEEE 802.11g or 802.11b compliant devices.

International Frequencies

Regulatory requirements at different countries mandate different operating frequencies (channels). The XG-762N may be factory configured to support different frequency requirements. Allowable channels for each typical domain is listed below.

Domain	**Allowable channels**
FCC	Channels 1 ~ 11
ETSI	Channels 1 ~ 13
Telec 802.11b	Channels 1 ~ 14
Telec 802.11g	Channels 1 ~ 13

Warranty

The XG-762N is supplied with a 12 month warranty against manufacturing defects.