

### IEEE 802.11g CF Embedded WLAN Module

Zcomax Technologies, Inc. has released its new line of Air Runner™ wireless LAN embedded adapters. The XG-880MU is an IEEE 802.11g 54Mbps module that has been designed with the integration market in mind. With a low profile, and efficient, external antenna connector, the XG-880MU will fit into any design that has a compact flash host interface. The XG-880MU is a high performance module that exceeds both IEEE 802.11g and FCC regulatory requirements.



The XG-880MU's design was selected to help reduce the overall costs associated with wireless embedded modules by allowing a single unit to interface with multiple hardware platforms, thus eliminating the need for custom designs to fit existing product lines. The XG-880MU module is a robust plug and play ready device that supports windows CE, PPC2003 and Linux.

With an excellent price / performance ratio and the field-proven reliability associated with the Marvell chipset, the XG-880MU is a superb choice for any wireless application requiring both quality and reliability.

### *XG-880MU at a glance*

- IEEE 802.11g compliant
- 17 dBm Tx output Power
- -82 dBm @ 6Mbps Rx Sensitivity
- Hirose U.FL Antenna Connector jack
- CF host interface via 50 pin Nais AXK850145Y connector
- FCC and ROHS compliant
- MAC / Baseband – Marvell 88W8385
- Radio - Marvell 88W8010
- Driver support – Linux, CE and customized drivers are available.



**Table of Contents**

	<b>Page</b>
<i>Physical Specification</i> .....	3
<i>RF Specification</i> .....	3
<i>Electrical Specification</i> .....	4
<i>Antenna Connector Specification</i> .....	4
<i>Environmental</i> .....	4
<i>Absolute Maximum Rating</i> .....	4
<i>Security</i> .....	5
<i>Reliability</i> .....	5
<i>Interoperability</i> .....	5
<i>International Frequencies</i> .....	5
<i>Mechanical Drawing</i> .....	6
<i>Pin Configuration</i> .....	7,8

**Physical Specification:**

Host Interface	50-Pin Nais AXK850145Y Connector
Dimensions (L x W x H)	20mm(L) * 23mm(W) * 3.2mm (H)
Weight	≤ than 10 g

**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	
IEEE 802.11b	17 dBm (40mW)
IEEE 802.11g	14 dBm (32mW)
Antenna Impedance	50 ohms
Media Access Protocol	CSMA/CA w/ACK
802.11b Data rates	11, 5.5, 2, 1 Mbps
802.11g Data rates	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 / -74dBm
@ PER < 10% for 802.11g	18 / 12 Mbps: -77dBm / -79dBm
	9 / 6 Mbps: -81dBm / -82dBm
@ PER < 8% for 802.11b	11 / -80dBm / -80dBm

**Electrical Specification:**

Supply Voltage	3.3 Vdc, +/- 5%
Supply Voltage Ripple	120mV (pp) max.
Power-on startup time	<600 ms
Sleep-to-receive startup time	<75 ms
Power consumption	TX: <450mA/802.11b, RX: <250mA,
802.11b	
802.11g	TX: <450mA/802.11g, RX: <250mA,
Power Save mode current	<10 mA
Sleep mode current	<1 mA

**Antenna Connector Specification (supports Diversity)**

Connector Type	Two Hirose U.FL 50Ω
Manufacturer	Hirose Electronic Co. Ltd.
Part Number	U.FL-R-SMT (on board)
Part Number Mating Connector	U.FL-LP-XXX

**Environmental**

Working Temperature	0 ~ 65°C, 95% relative humidity (non-condensing)
Storage Temperature	-20 ~ 80°C, 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	3.7V
I/O Voltage	-0.5V ~ VCC+0.3V
Storage Temperature	-20 ~ +80°C, 95% relative humidity (non-condensing)
Barometric Pressure	740 hPa ~ 1050 hPa

**Flash**

The XG-880MU has an 8Kbit Flash EEPROM

**Security**

The XG-880MU supports the latest security features according to the most recent Marvell driver. Please request specific details or see the latest available driver.

**Reliability(MTBF)**

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

**Interoperability**

The XG-880MU interoperates with any IEEE 802.11g or 802.11b compliant devices.

**International Frequencies**

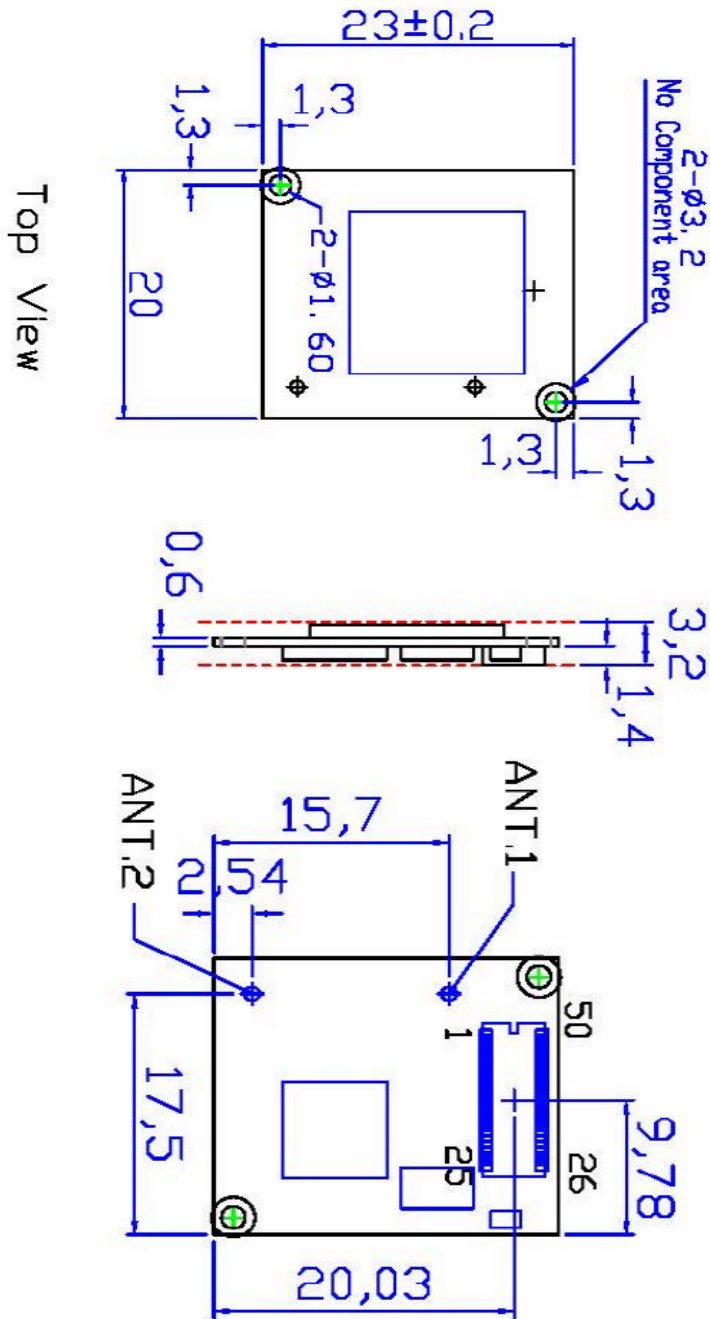
Regulatory requirements at different countries mandate different operating frequencies (channels). The XG-880MU may be factory configured to support different frequency requirements. Allowable channels for each typical Domains are listed below.

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-880MU is warranted to up to 12 months against manufacturing defects.

**Mechanical Drawing**



### Host interface pin identification

#### Pin Assignment 1 ~ 25

Pin #	Name	I/O	CF Assignment
1	GND	GND	Ground
2	D03	I/O	Data
3	D04	I/O	Data
4	D05	I/O	Data
5	D06	I/O	Data
6	D07	I/O	Data
7	/CE1	I/O	Chip Select
8	A10	I/O	Address bus
9	/OE,SD_CMD	I/O	OE#
10	A09	I/O	Address bus
11	A08	I/O	Address bus
12	A07	I/O	Address bus
13	VCC	Power	Power 3.3v
14	A06	I/O	Address bus
15	A05	I/O	Address bus
16	A04	I/O	Address bus
17	A03	I/O	Address bus
18	A02	I/O	Address bus
19	A01	I/O	Address bus
20	A0	I/O	Address bus
21	D0	I/O	Data bus
22	D1	I/O	Data bus
23	D2	I/O	Data bus
24	/IOIS16	I/O	IOIS 16 set to 16 bit
25	/CD2	I/O	NC

### ***Host interface pin identification***

#### **Pin Assignment 26 ~ 50**

Pin #	Name	I/O	CF Assignment
26	GND	GND	Ground
27	D11	I/O	Data bus
28	D12	I/O	Data bus
29	D13	I/O	Data bus
30	D14	I/O	Data bus
31	D15	I/O	Data bus
32	/CE2,SD_CLK	I/O	NC
33	GND	VCC	Ground
34	/IORD, SD_D1	I/O	I/O Read
35	/IOWD, SD_D3	I/O	I/O Write
36	/WE	/WE	WE#
37	/IREQ	/WE	Interrupt request or ready
38	VCC	power	Power
39	NC	NC	GPIO 0
40	SD_D2	I	NC
41	Reset	O	Reset
42	/Wait	I	Wait Signal
43	INPACK#	I/O	INPACK#
44	/REG	I/O	REG#
45	Link_LED	GPIO	GPI01, Link LED, Active Low
46	/STSCH	I/O	STSCH#
47	D08	VCC	Data bus
48	D09	O	Data bus
49	D10	I	Data bus
50	GND	I	Ground

**XG-880MU Available Test Adapter**

### Compact Flash

With XG-880MU Module



without XG-880MU Module

