WIZ610wi/DOBLE401-0404 is the gate way module which provides a bridge for RS-232 or Ethernet to IEEE802.11 b/g wireless communications. Devices with the interface of RS-232 serial or Ethernet can established a wireless network which can enable remote monitoring, management and controlling.

Main Features

- Embedded 802.11b/g Wireless Networking
- Access Point, Client, Gateway, Serial to WLAN mode Supported
- Ethernet to Wireless Bridging
- Security with 64/128 bit WEP, WPA, WPA2(AES)
- MII, UART, U.FL(WLAN) Interface
- Ready to use serial to wireless application
- Max 25Mbps Data Streaming
- Compact Size : 39mm X 32mm X 4.7mm
- RoHS Compliant

WIZNET WIFI MODULE WIZ610wi and DOBLE 401-0404

	WIZ610wi	8C6@9($%l$($(
Mode	AP, Gateway, Station(Client)	AP, Gateway, Station(Client)
802.11	b/g (1T1R)	b/g (1T1R)
WiFi Max Rate	54M	5(M
Dimension	39 X 32 X 4.7 (mm)	3- x ' & X ("+ (mm)
Interface	MII(1), Serial	A =f%dżGYf]U˙
Package	Pin Header	D]b˙<YUXYf
Power Consumption	Under 480mA(3.3V)	I bXYf˙(, $a 5f1 " JŁ
Serial-to-WiFi	~ 921600bps	~ 921600bps
Configuration	Serial(<...>) ,Web, PC Utility	Serial(<...>) Web, PC Utility
Antenna	u.FL	u.FL
Output Power	802.11b: 16dBm 802.11g: 14dBm	802.11b: 1*dBm 802.11g: 14dBm˙
Low Power	-	-
Booting Time	around 20s	around &$s
Temperature	- 30 ~ 70 (℃)	- 30 ~ +0 (℃)
Certifications	KCC (CE, FCC – WIZ6000)	KCC, CE, FCCż7

WIZ610wi Block Diagram

![WIZnet logo]
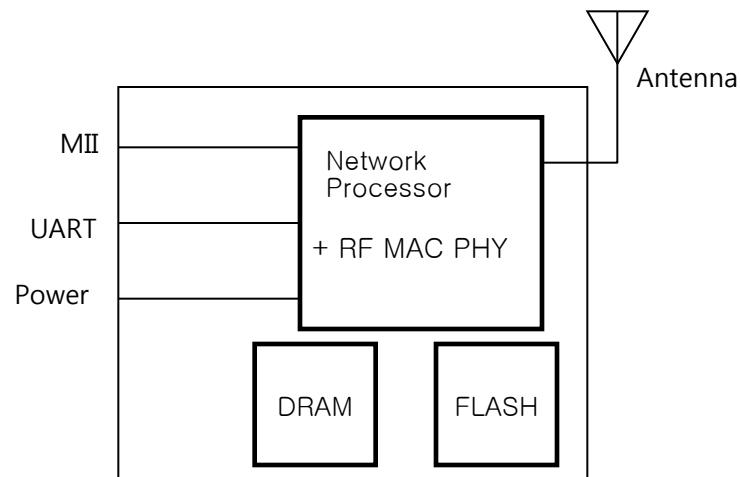
Pin Assignment and Module Size
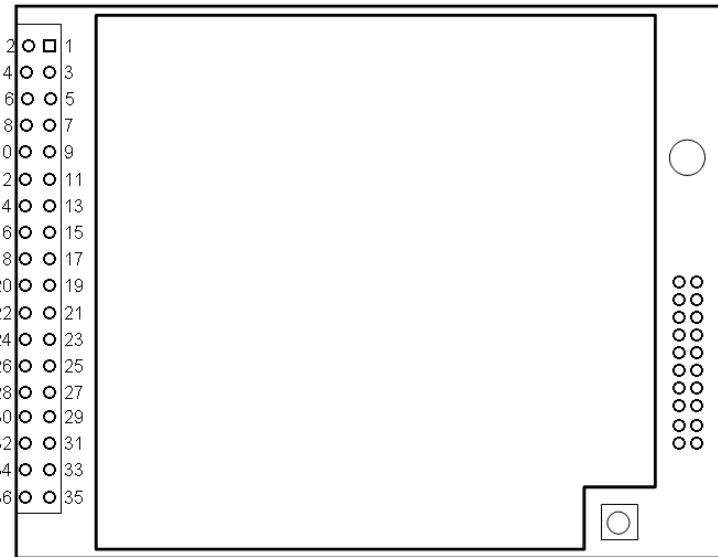
Figure 35. WIZ610WI PIN Map

No	Name	In/Out	Description
1	CTS	I	UART : CTS
2	RTS	O	UART : RTS
3	-	-	-
4	HW_Trigger	I	Low : Entering serial command mode
			High : Exit serial command mode
5	nRS232_LED	O	Serial RX/TX LED (Active Low)
6			Reserved
7	SOUT	O	UART : TXD
8	SIN	I	UART : RXD
9	DC_IN		3.3V Power
10	DC_IN		3.3V Power
11	GND		GND
12	GND		GND
13	RXERR	I	MII Receive Data Error
14	COL	I	MII collision
15	W_LED	O	Wireless LED (Active Low)
16	MDC	I	SMI Clock

17	RESET	I	Active High If this signal asserted more than 3 sec, factory reset performed.
18	MDIO	I/O	SMI In/Out Data
19	GND		GND
20	GND		GND
21	RXC	I	MII receive clock
22	RXDV	I	MII receive data valid
23	RXD2	I	MII receive data
24	RXD0	I	MII receive data
25	RXD1	I	MII receive data
26	RXD3	I	MII receive data
27	GND		GND
28	GND		GND
29	TXC	I	MII transmit clock
30	TXEN	O	MII transmit enable
31	TXD3	O	MII transmit data
32	TXD2	O	MII transmit data
33	TXD0	O	MII transmit data
34	TXD1	O	MII transmit data
35	GND		GND
36	CRS	I	Carrier sense

Table 10. WIZ610wi Pin Function
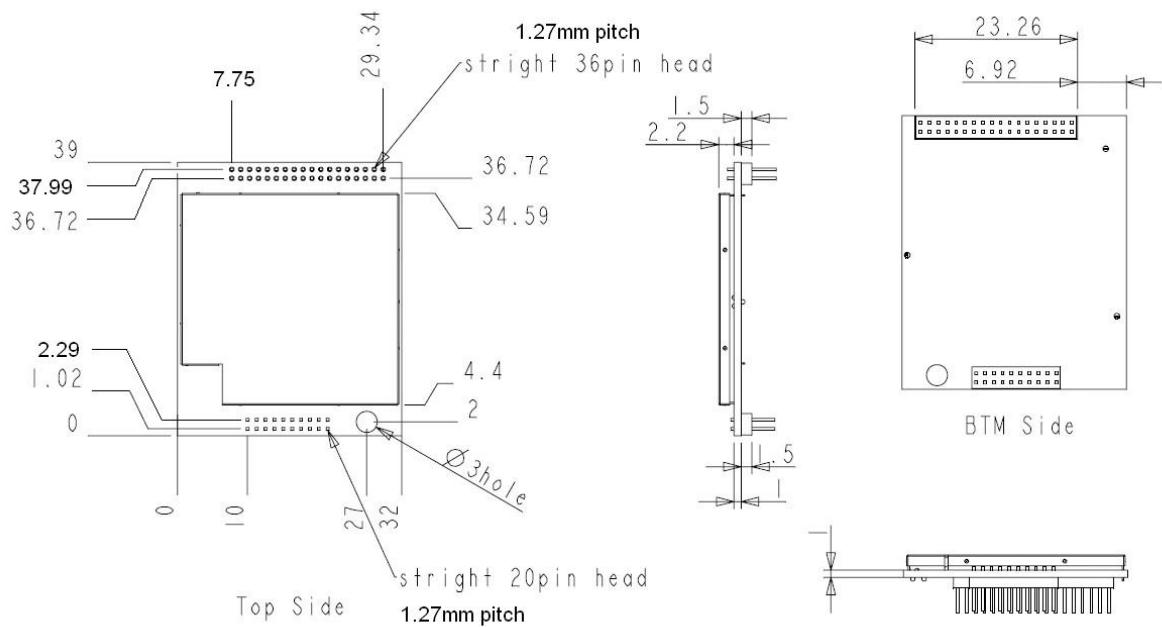
Figure 36. WIZ610WI Board Dimensions (unit : mm)

Wireless Module integration information for the Doble 04x-1007-01 Communication card

The Wiznet model Wiz610wi/Doble 401-0404 wireless module device is attached to the F1650SV-WIFI Communication card during the final assembly stage. Socket pins on the 04x-1007-01 PCB allow for easy plug-in of the Wireless module to the communication board.

This device complies with Part 15 of the FCC`s Rules. Operation is subject to the following two Conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operation.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). L'opération est soumise aux deux conditions suivantes:

(1) cet appareil ne peut causer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Warning: *Any changed or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate this equipment.*

Attention: *Toute changé ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'utilisateur `autorité de faire fonctionner cet équipement.*

IMPORTANT NOTE
This device complies with FCC & IC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and
operated with minimum distance 20cm between the radiating element of this device and the user. This device must not be co-located or operating in conjunction with any other antenna or transmitter.
This device is intended only for Doble integrators and following statements shall be included to host user manual
1) The antenna must be installed such that 20cm is maintained between the antenna and users.
2) This module may not be co-located with any other transmitters or antennas.

NOTE IMPORTANTE
Cet appareil est conforme aux limites de la FCC et IC exposition aux radiations dans un environnement non contrôlé. Cet appareil doit être installé et utilisé avec distance minimum de 20cm entre l'élément

rayonnant de cet appareil et l'utilisateur. Cet appareil ne doit pas être co- localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur. Cet appareil est conçu uniquement pour les intégrateurs Doble et les déclarations suivantes doivent être incluses à accueillir manuel de l'utilisateur
1) L'antenne doit êtreinstalléede telle sorte que20cmest maintenueentre l'antenneet les utilisateurs
2) Ce module ne peut pas être co-localisés avec les autres émetteurs ou les antennes.

Assembly Detail
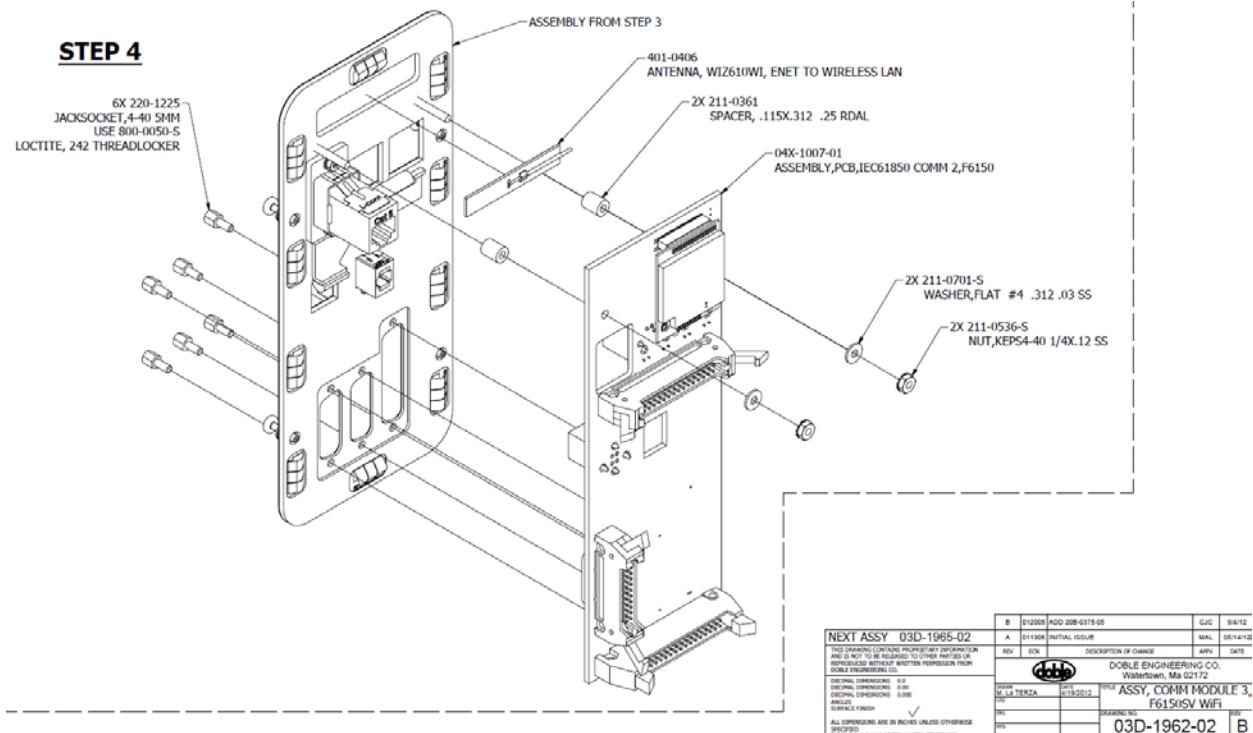
Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that
  to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

INDUSTRY CANADA STATEMENTS

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

If detachable antennas are used:

This radio transmitter Doble PN.401-0404 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Wiznet antenna Model W5I-BO-07 Doble PN.401-0406

Maximum Gain 2.0+/-1(dBi), Impedance 50 Ohms, Antenna Element size 48x8x1mm

<u>OEM Responsibilities to comply with FCC and Industry Canada Regulations</u>

The *Doble PN.401-0404* Module has been certified for integration into products only by OEM integrators under the following conditions:

1. The antenna(s) must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and all persons at all times.
2. The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.

As long as the two conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for certain configurations or co-location with another transmitter), then the FCC and Industry Canada authorizations are no longer considered valid and the FCC ID and IC Certification Number can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC and Industry Canada authorization.

End Product Labeling

The *Doble PN.401-0404* Module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

"**Contains Transmitter Module FCC ID: QQO4010404**
"**Contains Transmitter Module IC: 3158A-4010404**

The OEM integrator must only use the approved antenna(s) listed above, which have been certified with this module.

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product.

<u>The user manual for the end product must include the following information in a prominent location</u>:

"To comply with FCC and Industry Canada RF radiation exposure limits for general population, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and all persons at all times and must not be co-located or operating in conjunction with any other antenna or transmitter."

Photos of final assembly and antenna mounting.

WIZnet