

WiSnap GSX Super Module

Features

- UART interface with RS232 and TTL signaling
- Through hole board simplifies system integration
- Accepts 3-12VDC
- Status LEDs to show network status and data transfer
- Ultra-low power - 4uA sleep, 50mA Rx, 210mA Tx (max)
- High throughput, 1Mbps sustained data rate with TCP/IP and WPA2
- Through hole design with mounting posts
- Jumpers for setting adhoc mode
- On board ceramic chip antenna and U.FL connector for external antenna
- 10 general purpose digital I/O
- 8 analog sensor interfaces
- Real-time clock for wakeup and time stamping
- On board ECOS -OS, TCP/IP stacks
- Wi-Fi Alliance certified for WPA2-PSK
- FCC / CE/ ICS certified and RoHS compliant.

Applications

- Wireless serial connections
- Remote sensors
- Telemetry
- Security
- Industrial sensors and controls
- Home Automation



Description

The WiSnap GSX Super Module is field ready, WiFi certified 802.11 b/g solution. This module has the flexibility to connect directly to a standard RS232 interface or through the TTL UART interface to embedded systems. The status LEDs and jumpers enable rapid prototyping and integrating into existing systems.

This Super Module is built upon the WiSnap-GSX module. The WiSnap GSX module incorporates a 2.4GHz radio, processor, Full TCP/IP stack, real-time clock, FTP, DHCP, DNS and web server. It is the smallest, lowest power 802.11 b/g module available. The module supports adhoc and enterprise networking.

In the simplest configuration the hardware only requires four connections (PWR, TX, RX, GND). In cases where power is available on the RS232 DB9 connector of your application, it can be directly wired to create an instant serial to Wifi network link.

Additionally, the analog sensor interface provides direct connections to send temperature, acceleration and other analog data without requiring additional hardware. The WiSnap GSX module is programmed and controlled with a simple ASCII command language. Once the WiSnap GSX is setup it can scan to find an access point, associate, authenticate and connect over any Wifi network.

Overview

- Host Data Rate up to 1 Mbps for UART interface, 230400 for RS232 interface.
- Intelligent, built-in power management with programmable wakeup
- Powered from regulated 3.3-3.7V source or 2.0-3.0V batteries
- Real time clock for time stamping, auto-sleep and auto-wakeup modes
- Configuration over WiFi or UART using simple ASCII commands
- Over the air firmware upgrade via FTP
- Secure WiFi authentication WEP-128, WPA-PSK (TKIP), WPA2-PSK, EAP-TLS for mixed mode Enterprise
- Built in networking applications DHCP, DNS, ARP, ICMP UDP, Telnet, FTP
- 802.11 power save and roaming functions

Environmental Conditions

Parameter	Value
Temperature Range (Operating)	-30 °C ~ 85 °C
Temperature Range (Storage)	-30 °C ~ 85 °C
Relative Humidity (Operating)	≤90%
Relative Humidity (Storage)	≤90%

Electrical Characteristics

Supply Voltage	Min	Typ.	Max.	Unit
Supply Voltage VDD	3.0	3.3	12	V
UART interface	3.0	3.3	3.3	V
Power consumption				
Sleep		4		uA
Standby (doze)	-	15	-	mA
Connected (idle, RX)		40		mA
Connected (TX)		140	212	mA

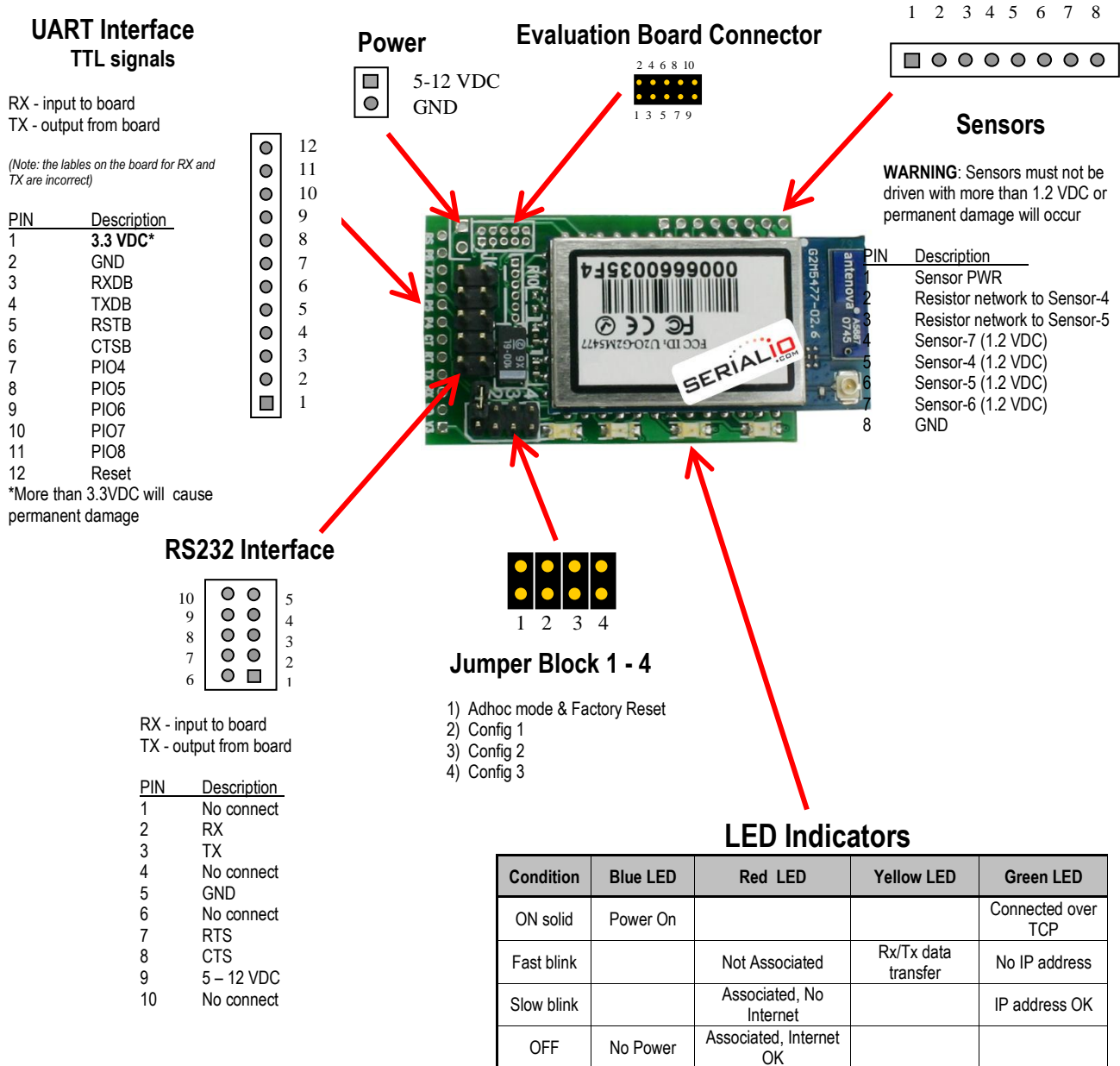
Analog Sensor Inputs

Parameter	Value
Sense 0,1,2,3 wakeup detect threshold	500mV
AD sense 0-7 measurement range	0-400mV
Precision	14 bits = 12uV
Accuracy	5% un-calibrated, .01% calibrated
Minimum conversion time	35uS (5kHz over wifi)
Sensor Power (pin 33) output resistance 3.3V	10 ohms, max current = 50mA

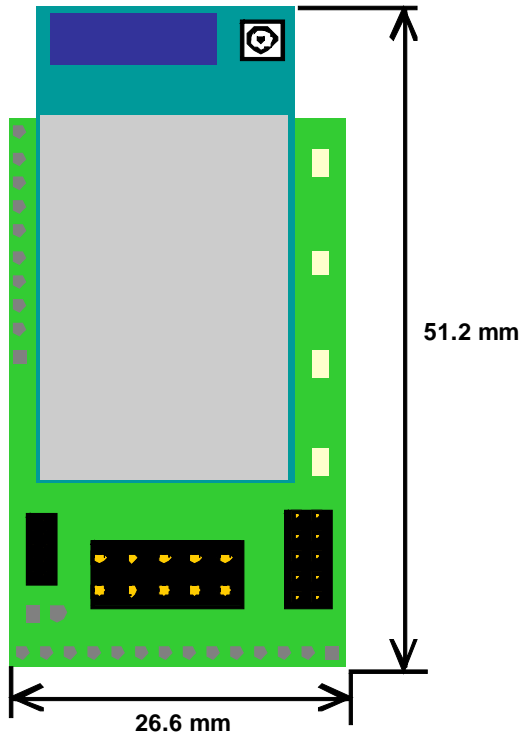
Radio Characteristics

Parameter	Specifications
Frequency	2402 ~ 2480MHz
Modulation	802.11b compatibility : DSSS(CCK-11, CCK-5.5, DQPSK-2, DBPSK-1) 802.11g : OFDM (default)
Channel intervals	5MHz
Channels	1 - 14
Transmission rate (over the air)	1 – 11Mbps for 802.11b / 6 – 54Mbps for 802.11g
Receive sensitivity	-85dBm typ.
Output level (Class1)	+18dBm
Maximum RF input to U.FL connector	10 dBm

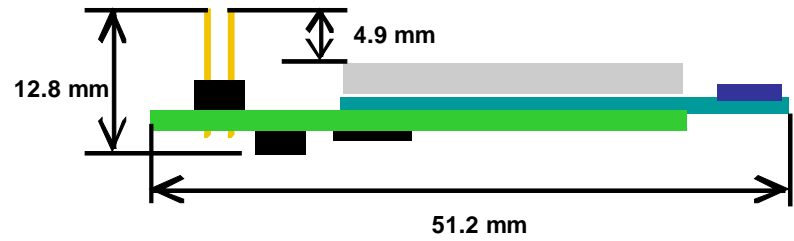
Board Description



Physical Dimensions



Top view



Having this jumper on at power up also arms the restore factory reset function. After power up, if jumper 1 is toggled on and off five times while the module the configuration will be RESTORED to the initial settings. This is very useful in cases where the module is mis-configured and no is long responding to commands.

Compliance Information

FCC	ID U3O-G2M5477 Part 15.247
IC	(canada) RSS-210
CE	EU ID # 0681
REG	U9M20901-1000-C
RADIO	EN 300328 V1.7.1 (10/2006)
EMC	EN 301489-1 V1.8.1 (04/2008), EN 301489-17 V1.3.2 (04/2008)
SAFETY	EN 60950-1:2001+A11:2004
RoHs	Compliant

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