



# Inventek Systems

Embedding Connectivity Everywhere

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**ISM43362**

**UART REFERENCE SCHEMATIC  
APPLICATION NOTE**

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PRELIMINARY

## 1 GENERAL DESCRIPTION

The Inventek ISM43362-M3G-L44 is an embedded (eS-WiFi™) wireless Internet Connectivity device. The Wi-Fi module hardware consists of an STM M3 Cortex host processor, integrated antenna (or optional external antenna) and Broadcom Wi-Fi device. The Wi-Fi module requires no operating system and has a completely integrated TCP/IP Stack that only requires AT commands to establish connectivity for your wireless product. The small foot print (14.5 mm x 30 mm) and ease of design-in make it ideal for a range of embedded applications.

This reference design application note outlines the minimum connections recommend for an application using a UART connection.

## 2 UART Reference Schematic

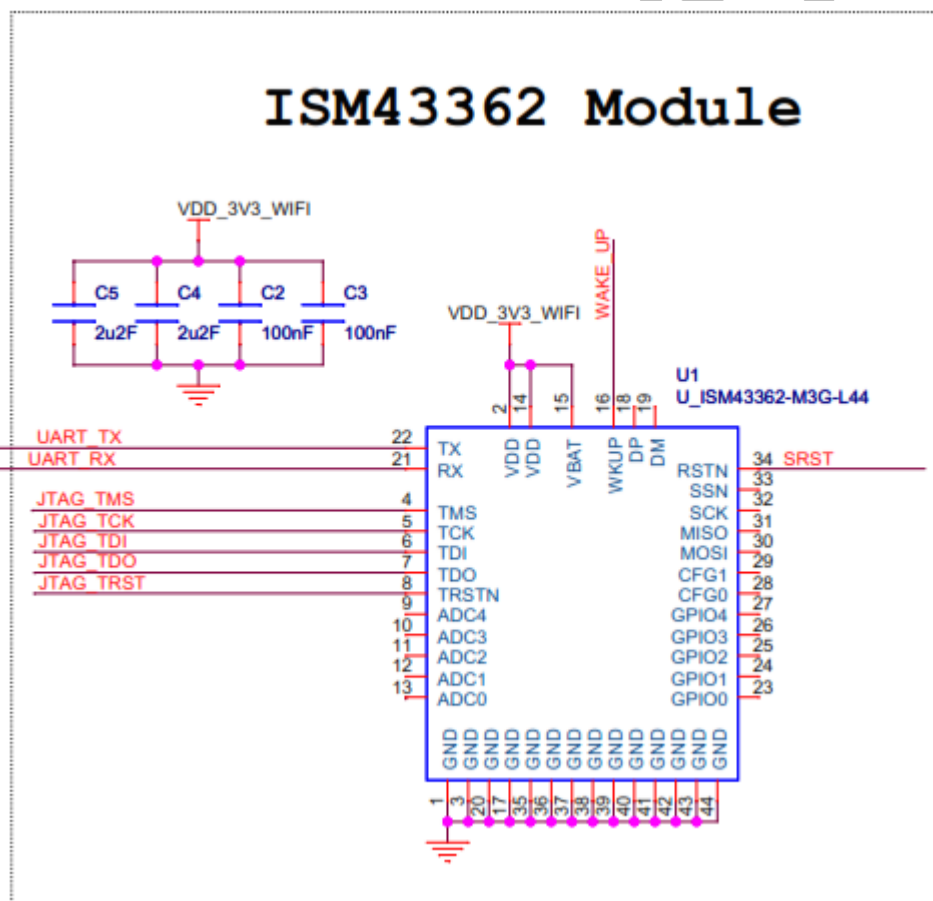


Figure 1 - ISM43362 UART Ref.

1. Connect TX on the Module (pin 22) to RX on your Microcontroller
2. Connect RX on the Module (pin 21) to TX on your Microcontroller
3. Connect grounds (pins 1, 3, 17, 20, 35-44).
4. Connect 3.3V supply (pins 2, 14, 15).

5. Connect Reset (pin 34). This pin is internally connected to the STM205 NRST reset pin. (Refer to ST Microelectronics data sheet. <http://www.st.com/st-web-ui/static/active/en/resource/technical/document/datasheet/CD00237391.pdf> ) The Reset pin is used for a hard reset. We also have an AT Command that will perform a soft reset (ZR Command) but it is recommended that the hard reset pin is connected.
6. Connect Wake-up pin (pin 16). If your design uses one of the low power options that puts the STM microcontroller into STOP MODE then the Wake-Up pin is required to take the microcontroller out of STOP MODE . Refer to Section 7.1.2 of Inventek data sheet and the STM data sheet for further details. This pin is internally connected to the STM205 WKUP pin.
7. For firmware updates on modules that are already assembled on a PC main board or carrier board, it is also recommended that you bring out the JTAG pins to a header for reprogramming. (pins 4-8).  
Use a JTAG 10 pin header or directly connect to the JTAG pins on the board. Use the ST-LINK/V2 Debugger/Programmer to flash the STMicroelectronics microcontroller. Below are links to the ST-Link and JTAG header at Digikey:  
<http://www.digikey.com/product-detail/en/ST-LINK%2FV2/497-10484-ND/2214535>  
The 10-to-20 pin JTAG adapter module is Digi-Key PN 726-1193-ND.  
<http://www.digikey.com/product-detail/en/MDL-ADA2/726-1193-ND/1986451>

### 3. REVISION CONTROL

Document : DOC-AN-20073	
External Release	

Date	Author	Revision	Comment
8/9/2013	RLB	1.0	Preliminary

### 4. CONTACT INFORMATION

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