

The diagram shows the connection between an STM32 microcontroller and an FTDI Breakout board. The FTDI Breakout board (U2) is a yellow rectangle with pins labeled: VCC (4), GND (6), RX (2), TX (3), DTR (1), and CTS (5). The STM32 is represented by green lines and labels: STM\_TX, STM\_RX, and STM\_TX. A 1N4148 diode (D2) is connected between the STM\_RX line and the TX pin (3) of the FTDI Breakout board. A 10k resistor (R1) is connected between the TX pin (3) and the +3V3 supply. The VCC pin (4) of the FTDI Breakout board is connected to the +3V3 supply. The GND pin (6) of the FTDI Breakout board is connected to a common ground symbol. The label 'FTDI\_Breakout' is placed below the FTDI Breakout board.

Diagram illustrating the pin connections for the **RadioEnge\_LoRaWAN** module (U3).

The module is represented by a yellow box with pins numbered 1 through 16. The connections are as follows:

- Pin 1:** GND (connected to a ground symbol)
- Pin 2:** AT\_RX (connected to STM\_TX)
- Pin 3:** AT\_TX (connected to STM\_RX)
- Pin 4:** VCC (connected to +3V3)
- Pin 5:** VCC
- Pin 6:** GPIO0\_ADC3
- Pin 7:** GPIO1\_ADC2
- Pin 8:** GND
- Pin 9:** GPIO2
- Pin 10:** GPIO3
- Pin 11:** GPIO4
- Pin 12:** GPIO5
- Pin 13:** GPIO6
- Pin 14:** GPIO7\_ADC0
- Pin 15:** GPIO8\_ADC1
- Pin 16:** GPIO9

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