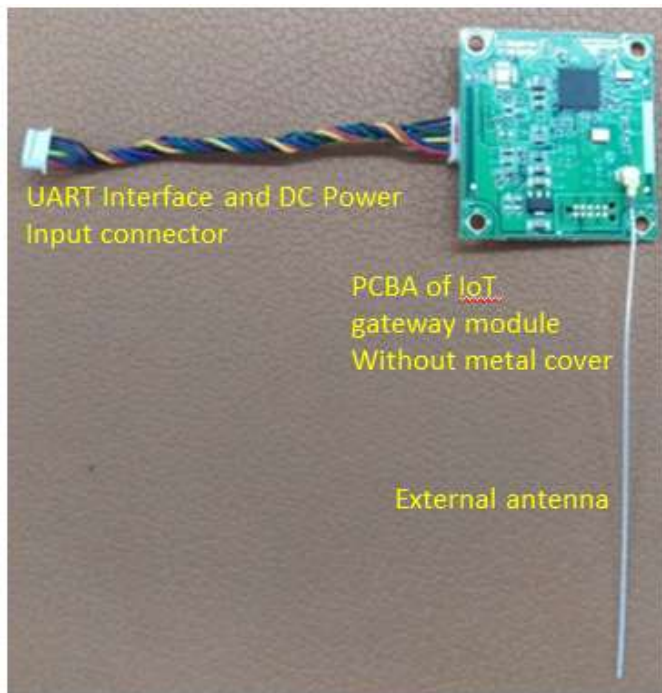


# The user manual of Zone 24 x 7 ZN1310 IoT Gateway module

## 1. Appearance of the module



## 2. Operating interface

The control interface of ZN1310 IoT Gateway module through UART is an integrated circuit used for RS-232C serial communications. A UART contains a transmitter (parallel-to-serial converter) and a receiver (serial-to-parallel converter); each is clocked separately. The CC1310 microcontroller includes one fully programmable UART.

The UART can generate individually masked interrupts from the receive (RX), transmit (TX), modem flow control, and error conditions. The module generates one combined interrupt when any of the interrupts are asserted and are unmasked.

The UART has the following features:

- Programmable baud-rate generator allows speeds up to 3 Mbps
- Separate  $32 \times 8$  TX FIFOs and  $32 \times 16$  RX FIFOs reduce CPU interrupt service loading
- Programmable FIFO length, including 1-byte deep operation that provides conventional double buffered interface
- FIFO trigger levels of  $1/8$ ,  $1/4$ ,  $1/2$ ,  $3/4$ , and  $7/8$
- Standard asynchronous communication bits for start, stop, and parity
- Line-break generation and detection
- Fully programmable serial interface characteristics:
  - 5, 6, 7, or 8 data bits
  - Even, odd, stick, or no-parity bit generation and detection
  - One or two stop-bit generation
- Full modem-handshake support
- Programmable hardware flow control

- Standard FIFO-level interrupts
- Efficient transfers using the  $\mu$ DMA controller:
  - Separate channels for TX and RX
  - Receive single request asserted when data is in the FIFO; burst request asserted at programmed FIFO level
  - Transmit single request asserted when there is space in the FIFO; burst request asserted at programmed FIFO level

### **3. Operating procedure of the module**

- a. Connecting with the KUBE3 Daughter board UART Port
- b. Run the system function test utility and check the IoT Gateway function by RF connection with TI CC1310 LaunchPad

### 4. Product information:

Developer : Zone 24 x 7 Inc.

Address: Zone24x7 Incorporated, 3150 Almaden Expressway, Suite 234, San Jose, California 95118 USA.

Made by Zone 24 x 7  
R & D Department  
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