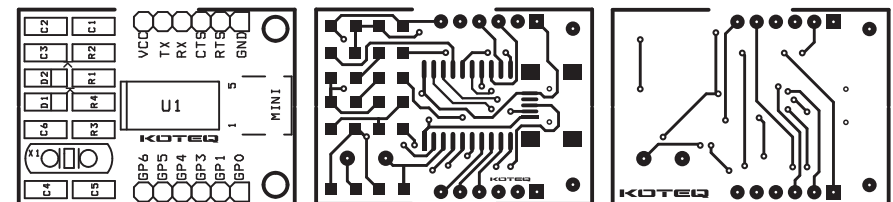# USB to UART Converter with GPIO (Based on MCP220)

The Module is based on The MCP2200, which is a USB-to-UART serial converter which enables USB connectivity in application that have a UART interface. The device reduces external components by integrating the USB termination resistors. The MCP2200 also has 256-bytes of integrated user EEPROM. The MCP2200 has eight general purpose input / output pins. Four of the pins have alternate functions to indicate USB and communication status.
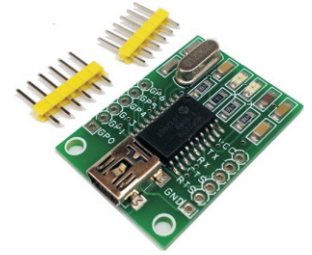
Features
Supply 3- 5V DC
On Board TX & RX LED
USB activity LED outputs (TxLED and RxLED)
Mini USB Interface
6 + 6 PIN Header Connector for I/O and RX-TX Signals
UART signal polarity option General Purpose Input/output (GPIO) Pins
Eight (8) general purpose I/O pins
Supports Full-Speed USB (12 Mb/s)
Implements USB Protocol Composite Device CDC Device (communications and control)
Class 02h - CDC: USB-to-UART communications and I/O control
Class 03h - HID: I/O control, EEPROM access, and initial configuration
128 byte buffer to handle data throughput at any UART baud rate
64 byte transmit
64 byte receive
Fully configurable VID and PID assignments and string descriptors
Bus Powered or self-powered USB Driver and Software Support
Royalty-free drivers for Virtual Com Port (VCP)
Windows XP (SP2 and later)/Vista/7
Configuration utility for initial configuration
Universal Asynchronous Receiver/Transmitter (UART)
Support baud rates: 300 - 1000k (baud)
Hardware flow control
256 bytes of user EEPROM
SSPND output pin
ULOAD output pin (indicates if requested current was allowed).
Oscillator input: 12 MHZ

BOM			
SR	QNTY.	REF	DESCRIPTIONS
1	2	CN1,CN2	6 PIN HEADER CONNECTOR
2	1	CN3	MINI USB CONNECOR
3	3	C1,C2,C6	100N (0.1uF) SMD1205
4	1	C3	470nF SMD 1206
5	2	C4,C5	15pF SMD 1206
6	1	D1	LED-RX SMD 1206
7	1	D2	LED-TX SMD1206
8	3	R1,R2,R3	470E SMD 1206
9	1	R4	10K SMD1206
10	1	U1	MCP2200
11	1	X1	12MHZ CRYSTAL

USB to UART Converter with GPIO

twovolt

CN1

VCC

CN2

GP0	1
GP1	2
GP2	3
GP3	4
GP4	5
GP5	6

VCC — D1 — LED-RX — R1 470E — R2 470E — D2 — LED-TX — VCC

VCC

C1 100N

GP0 GP1 GP2 GP3 GP4 GP5

16 15 14 9 8 7

C2 100N VCC

U1

TX	10	Tx
RX	12	Rx
CTS	13	CTS
RTS	11	RTS

VCC — 1

GP0 GP1 GP2 GP3 GP4 GP5

Rx ILED — 6
Tx LED — 5

D+ — 19 — D+
D- — 18 — D-
Vusb — 17

C3 470nF

MCP2200

GND OSC1 OSC2 RST

200 2 3 4

X1 12M

C4 15pF   C5 15pF

R3 470E   R4 10K — VCC

C6 100N

VCC — 1
D- — 2
D+ — 3
— 4
GND — 5

USB MINI

CN3