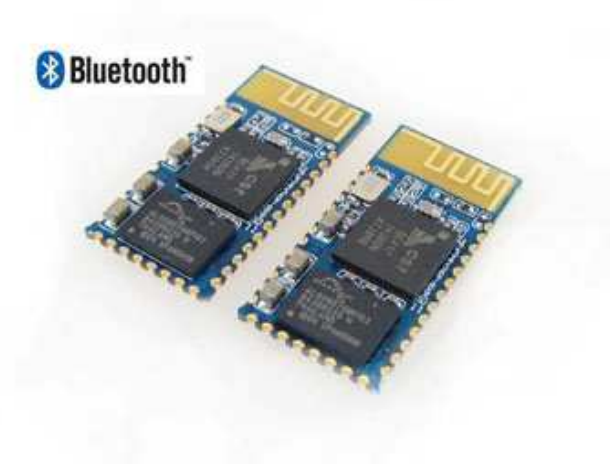


Bluetooth

Wireless TTL Transceiver Modules



Model: RF-BTMX417

www.MDFLY.com

Key Features

- * Bluetooth Spec v2.0+EDR Compliant
- * Enhanced Data Rate (EDR) compliant with V2.0.E.2 of specification for both 2Mbps and 3Mbps modulation modes
- * Class 2 type Output Power
- * Full Speed Bluetooth Operation with Full Piconet Support
- * Scatternet Support
- * 3.3V operation
- * Minimum External Components
- * USB,UART,SPI,PCM interface
- * Support for 8Mbit External Flash Onboard
- * Support for 802.11Co-Existence
- * RoHS Compliant

Specifications

| | |
|--------------------------|-------------------------------------|
| Operating Frequency Band | 2.4GHz -2.48GHz unlicensed ISM band |
| Bluetooth Specification | V2.0+EDR |
| Output Power Class | Class 2 |
| Operating Voltage | 3.3V |
| Host Interface | USB 1.1/2.0 or UART |
| Audio Interface | PCM and Analog interface |
| Flash Memory Size | 8Mbit |
| Dimension | 26.9mm (L) x 13 (W) mm x 2.2mm (H) |

* Specifications are subject to change without prior notice

Electrical Characteristics

| Absolute Maximum Ratings | | |
|--------------------------|----------|----------|
| Rating | Min | Max |
| Storage temperature | -40°C | +150°C |
| Supply voltage: VBAT | -0.4V | 5.6V |
| Other terminal voltages | VSS-0.4V | VDD+0.4V |

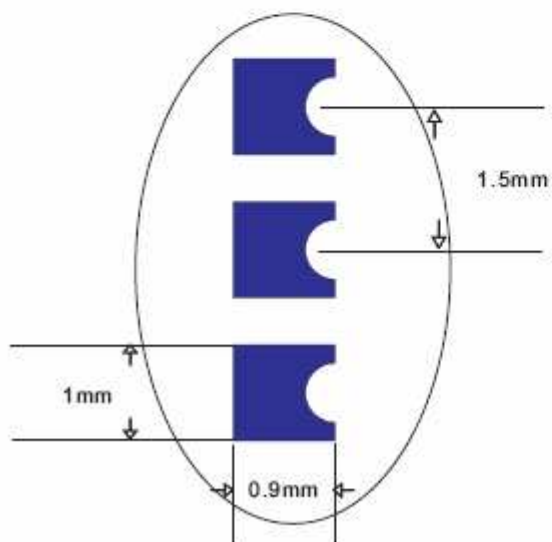
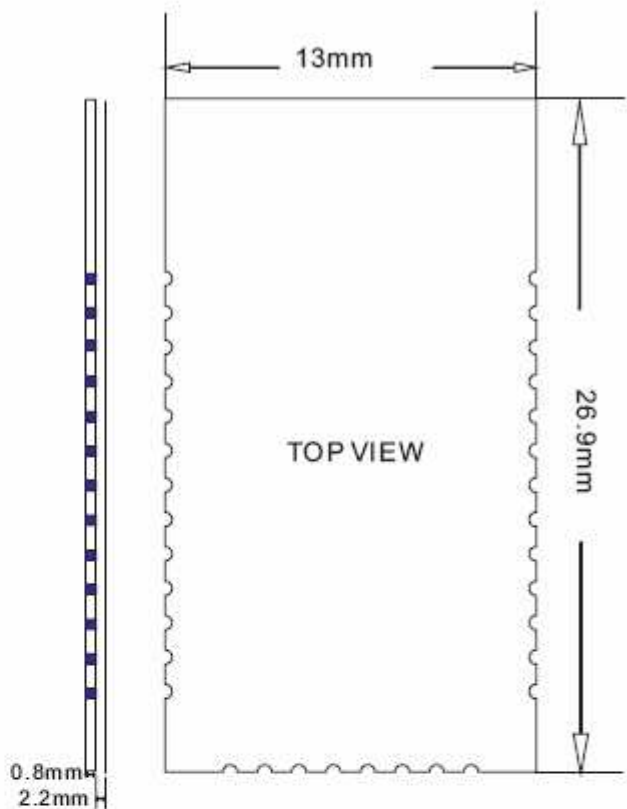
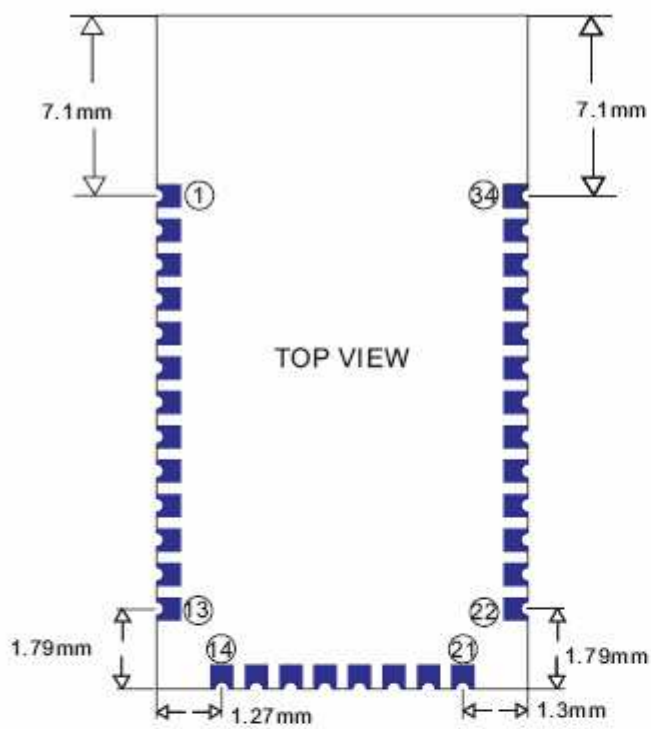
| Recommended Operating Conditions | | |
|--|-------|---------------------|
| Operating Condition | Min | Max |
| Operating temperature range | -40°C | +150°C |
| Guaranteed RF performance range ^(a) | -40°C | +150°C |
| Supply voltage: VBAT | 2.2V | 4.2V ^(b) |

* Typical figures are given for RF performance between -40°C and +105°C.

Power Consumption

| Operation Mode | Connection Type | UART Rate (kbps) | Average | Unit |
|--|-----------------|------------------|---------|------|
| Page scan | - | 115.2 | 0.42 | mA |
| ACL No traffic | Master | 115.2 | 4.60 | mA |
| ACL With file transfer | Master | 115.2 | 10.3 | mA |
| ACL 1.28s sniff | Master | 38.4 | 0.37 | mA |
| ACL 1.28s sniff | Slave | 38.4 | 0.42 | mA |
| SCO HV3 30ms sniff | Master | 38.4 | 19.8 | mA |
| SCO HV3 30ms sniff | Slave | 38.4 | 19.0 | mA |
| Standby Host connection ^(a) | - | 38.4 | 40 | μA |

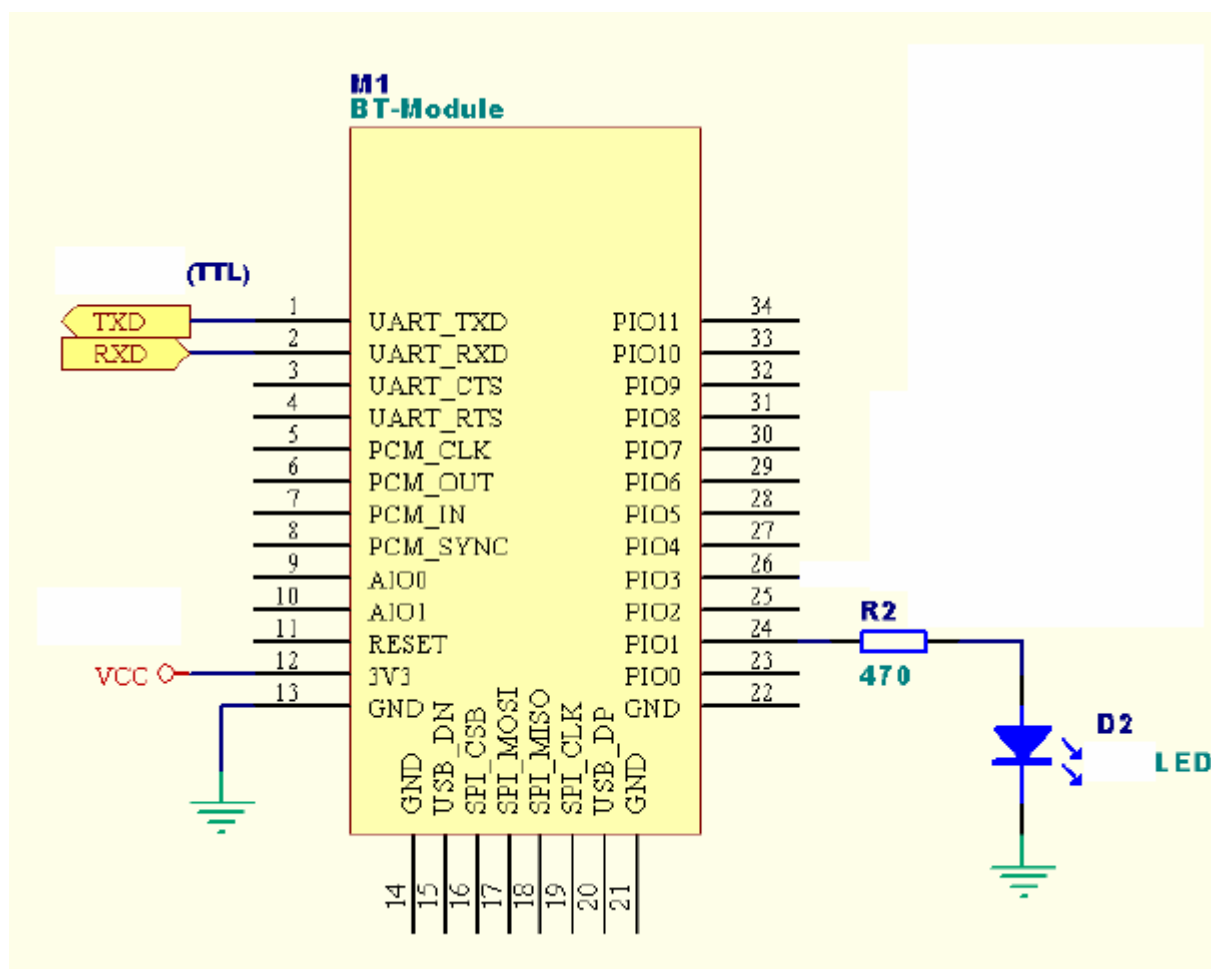
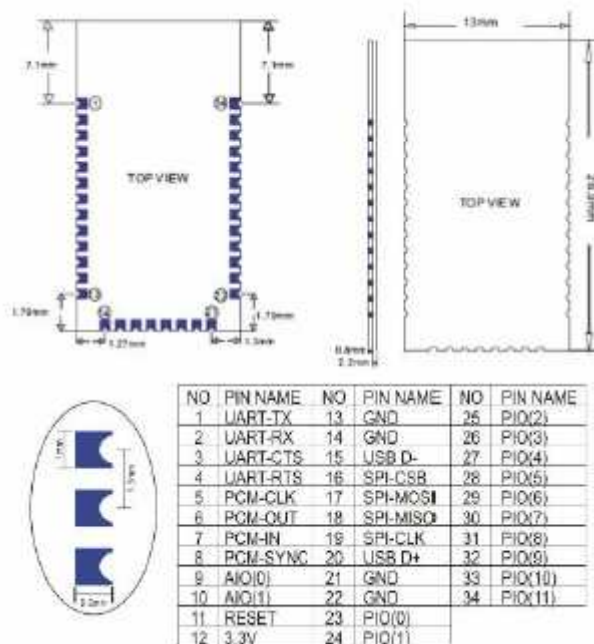
* Low power mode on the linear regulator is entered and exited automatically when the chip enters/leaves Deep Sleep mode. For more information about the electrical characteristics of the linear regulator, see section 4 in this document.



| NO | PIN NAME | NO | PIN NAME |
|----|----------|----|----------|
| 1 | UART-TX | 18 | SPI-MISO |
| 2 | UART-RX | 19 | SPI-CLK |
| 3 | UART-CTS | 20 | USB D+ |
| 4 | UART-RTS | 21 | GND |
| 5 | PCM-CLK | 22 | GND |
| 6 | PCM-OUT | 23 | PI0(0) |
| 7 | PCM-IN | 24 | PI0(1) |
| 8 | PCM-SYNC | 25 | PI0(2) |
| 9 | AI0(0) | 26 | PI0(3) |
| 10 | AI0(1) | 27 | PI0(4) |
| 11 | RESET | 28 | PI0(5) |
| 12 | 3.3V | 29 | PI0(6) |
| 13 | GND | 30 | PI0(7) |
| 14 | GND | 31 | PI0(8) |
| 15 | USB D- | 32 | PI0(9) |
| 16 | SPI-CSB | 33 | PI0(10) |
| 17 | SPI-MOSI | 34 | PI0(11) |

Pin Configurations

| PIN NO. | NAME | TYPE | FUNCTION | RE-MARK |
|---------|----------|---|--|------------------|
| 1 | UART-TX | CMOS Output | UART Data Output | |
| 2 | UART-RX | CMOS Input | UART Data Input | |
| 3 | UART-CTS | CMOS Input | UART Clear To Send Active Low | |
| 4 | UART-RTS | CMOS Output | UART Request To Send Active Low | |
| 5 | PCM-CLK | Bi-directional | Synchronous Data Clock | |
| 6 | PCM-OUT | CMOS Output | Synchronous Data Output | |
| 7 | PCM-IN | CMOS Input | Synchronous Data Input | |
| 8 | PCM-SYNC | Bi-directional | Synchronous Data Sync | |
| 9 | AIO(0) | Bi-directional | Programmable Input/Output Line | |
| 10 | AIO(1) | Bi-directional | Programmable Input/Output Line | |
| 11 | RESETB | CMOS Input | Reset if low. Input debounced so must be low for >5ms to cause a reset | |
| 12 | 3.3V | POWER | +3.3V Supply | For 3.3V Version |
| 13 | GND | GND | Ground | |
| 14 | GND | GND | Ground | |
| 15 | USB D- | Bi-directional | USB Data Minus | |
| 16 | SPI-CSB | CMOS Input | Chip Select For Synchronous Serial Interface | |
| 17 | SPI-MOSI | CMOS Input | Serial Peripheral Interface Data Input | |
| 18 | SPI-MISO | CMOS Output | Serial Peripheral Interface Data Output | |
| 19 | SPI-CLK | CMOS Input | Serial Peripheral Interface Clock | |
| 20 | USB D+ | Bi-directional | USB Data Plus with selectable internal 1.5K Ω | |
| 21 | GND | GND | Ground | |
| 22 | GND | GND | Ground | |
| 23 | PIO(0) | Bi-directional with programmable strength | Control output for external LNA (if fitted) | |
| 24 | PIO(1) | Bi-directional with programmable strength | Control output for external PA (if fitted) | |
| 25 | PIO(2) | Bi-directional | Programmable Input/Output Line | |
| 26 | PIO(3) | Bi-directional | Programmable Input/Output Line | |
| 27 | PIO(4) | Bi-directional with programmable strength | Programmable Input/Output Line or optional BT_Priority/CH_Clk output for co- | |
| 28 | PIO(5) | Bi-directional with programmable strength | Programmable Input/Output Line or optional BT_Active output for co-existence | |
| 29 | PIO(6) | Bi-directional with programmable strength | Programmable Input/Output Line or optional WLAN_Active/Ch_Data input for co- | |
| 30 | PIO(7) | Bi-directional | Programmable Input/Output Line | |
| 31 | PIO(8) | Bi-directional | Programmable Input/Output Line | |
| 32 | PIO(9) | Bi-directional | Programmable Input/Output Line | |
| 33 | PIO(10) | Bi-directional | Programmable Input/Output Line | |
| 34 | PIO(11) | Bi-directional | Programmable Input/Output Line | |

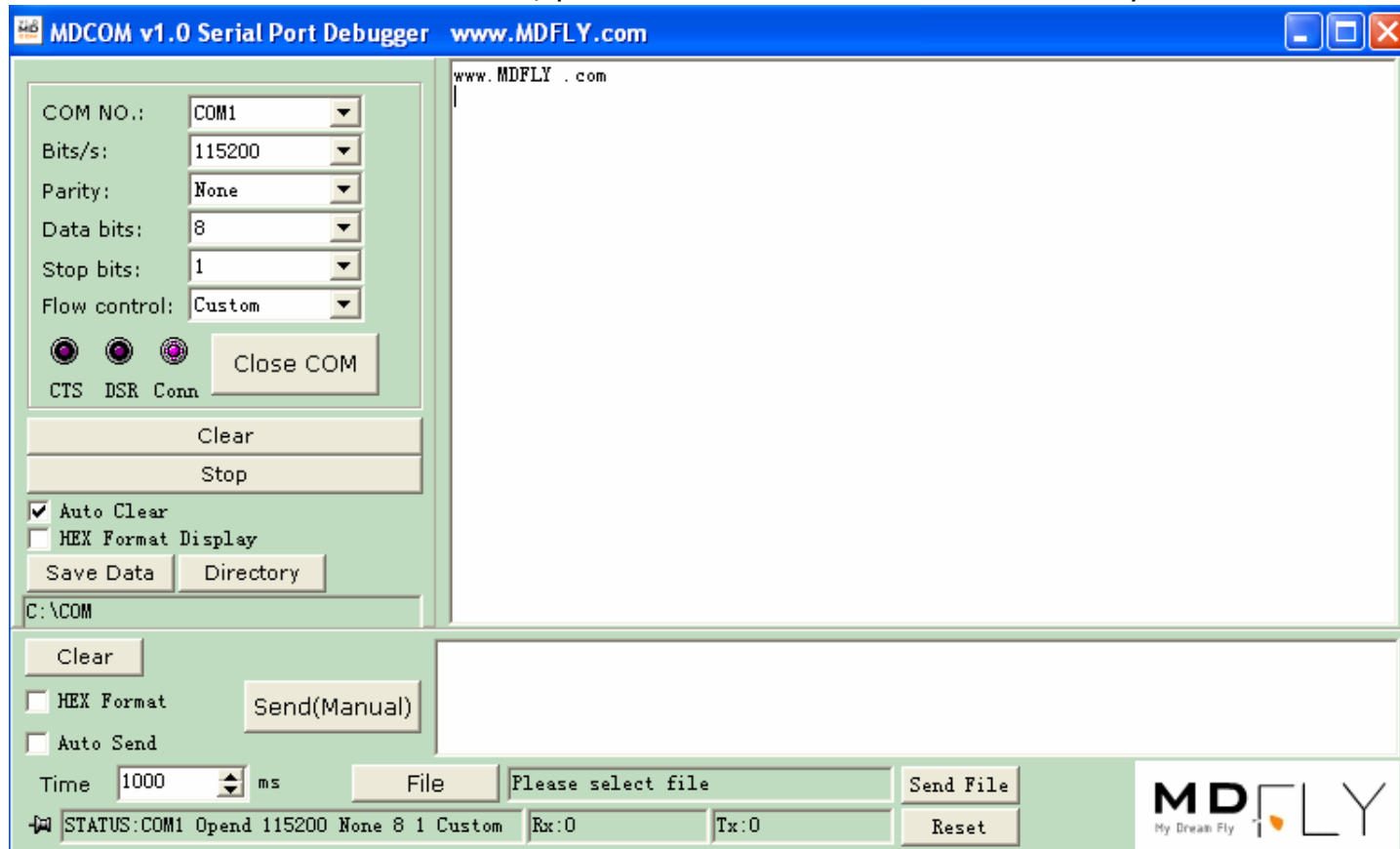


Note: When the Bluetooth modules are paired, the D2 LED will stay on, or it will stay flashing.

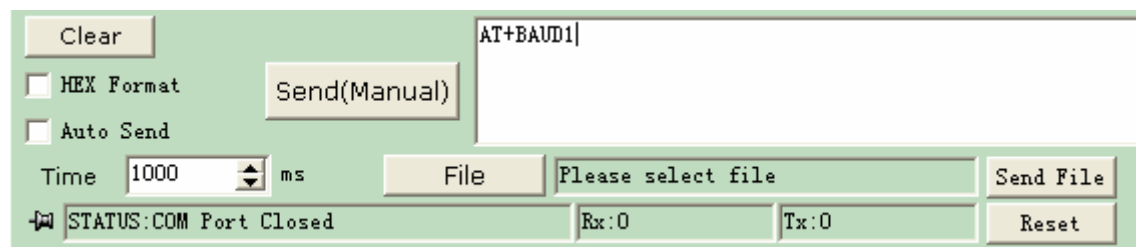
Baud Rate Setting: (Only when the module is unpaired)

You can reset the default baud rate (115200) via the serial port.

1.Run the COM terminal software, please set the Bits/s to 115200 if any:



2. If you want to change the baud rate to 1200, send 'AT+BAUD1', if succeed, the module will return 'OK1200'



Or send 'AT+BAUD2' -----2400

Or send 'AT+BAUD3' -----4800

Or send 'AT+BAUD4' -----9600

Or send 'AT+BAUD5' -----19200

Or send 'AT+BAUD6' -----38400

Or send 'AT+BAUD7' -----57600

Or send 'AT+BAUD8' -----115200