

# Bluetooth V4.1 Low Energy BLE RS-232 Serial Adapter

Model: BLE-232



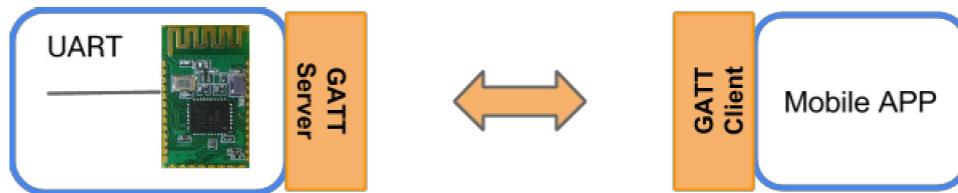
## Application:

- Automation
- Sports & fitness
- Health care & Consumer wellness
- Home application
- Automotive
- Security & Proximity
- Data Transferring

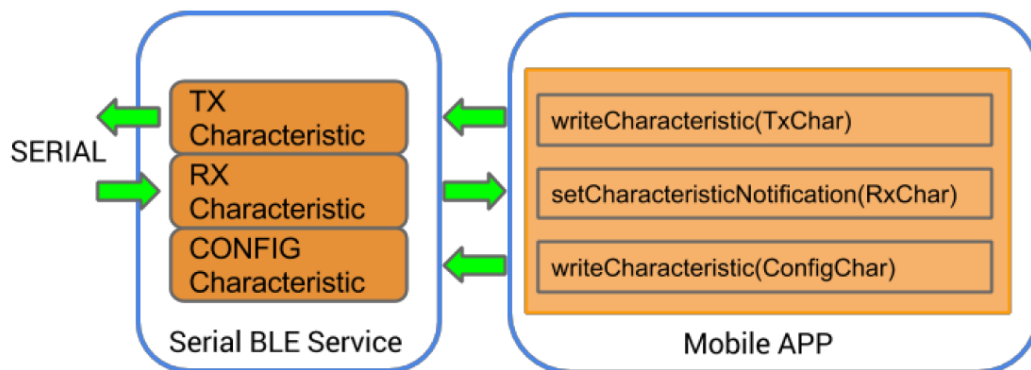
## Specifications:

|  |   |
|--|---|
| Frequency band                           | 2.4GHz ISM ( 2.40000 – 2.4835GHz)   |
| Microcontroller                          | 32-bit ARM Cortex M0  |
| On-air data rate                         | 250 kbps, 1 Mbps or 2 Mbps  |
| Modulation                               | GFSK  |
| Output power                             | Programmable: +4 to -20dBm in 4dB steps   |
| Sensitivity                              | -93dBm <i>Bluetooth</i> low energy<br>-96dBm at 250kb<br>-90dBm at 1Mbps<br>-85dBm at 2Mbps |
| Radio current consumption<br>LDO at 1.8V | 16mA – TX at +4dBm output power<br>10.5mA – TX at 0dBm output power<br>13mA – RX at 1Mbps   |
| Radio current consumption<br>DC-DC at 3V | 10.5mA – TX at +4dBm output power<br>8.1mA – TX at 0dBm output power<br>9.5mA – RX at 1Mbps |
| System current<br>consumption            | 420nA – No RAM retention<br>530nA - 8k RAM retention<br>2μA – All peripherals in IDLE mode  |
| Hardware Security                        | 128-bit AES ECB/CCM/AAR co-processor  |

## System Architecture:



## GATT Service:



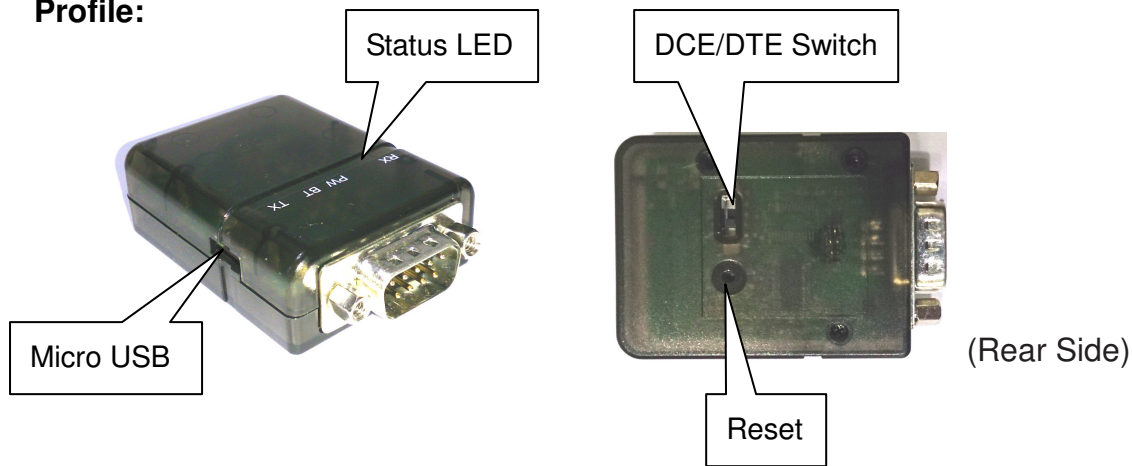
## Programming Interfaces:

|                    |                                      |
|--------------------|--------------------------------------|
| GATT               | UUID                                 |
| Serial BLE Service | ba920001-d666-4d59-b141-05960b3a4ff7 |
| TX Char            | ba920002-d666-4d59-b141-05960b3a4ff7 |
| RX Char            | ba920003-d666-4d59-b141-05960b3a4ff7 |
| Config Char        | ba920004-d666-4d59-b141-05960b3a4ff7 |

## Configuration Command:

| Function                | Command  |
|-------------------------|--|
| Config Serial baud rate | <baud rate>,8,<parity>,1,<flow control><br>ex. "115200,8,0,1,0" (baud rate 115200, no parity, no flow control) |
| Change Device Name      | name=<device name><br>ex. "name=SerialBLE"   |

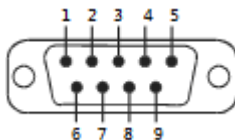
## Profile:



## User Interfaces:

1. DB9 Male
2. Micro USB (side): Power input
3. Slide switch (Rear side): DCE/DTE
4. Tact switch (Rear side): Reset to default setting

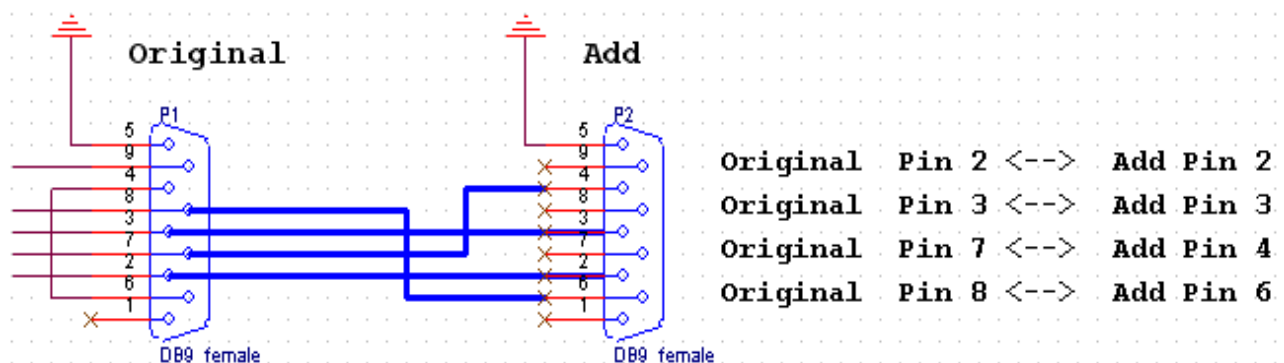
## Pin-out Definition: (DB9 Male)



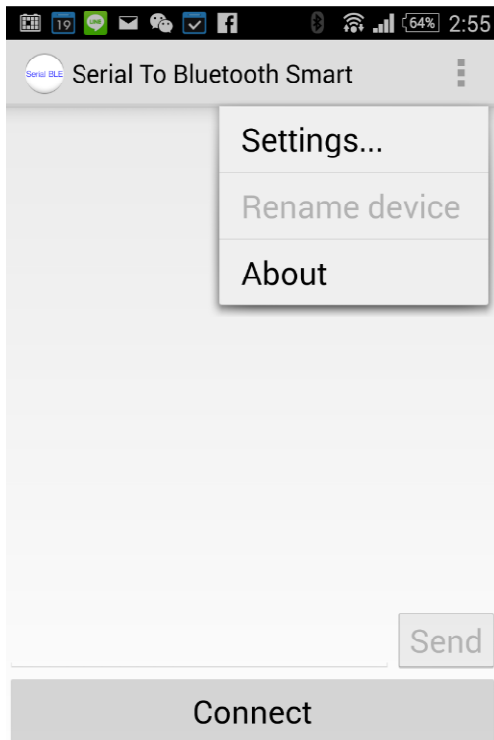
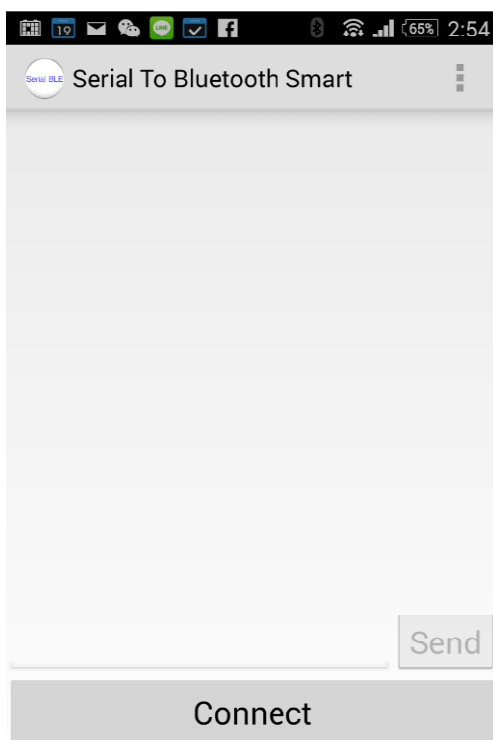
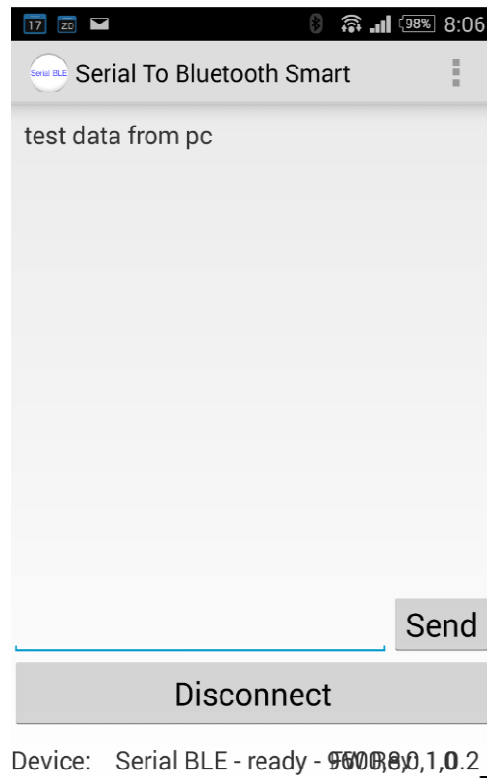
## Signals:

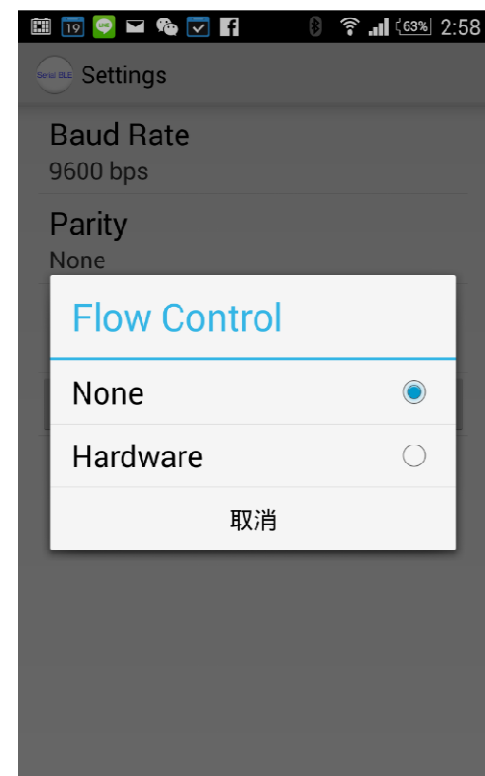
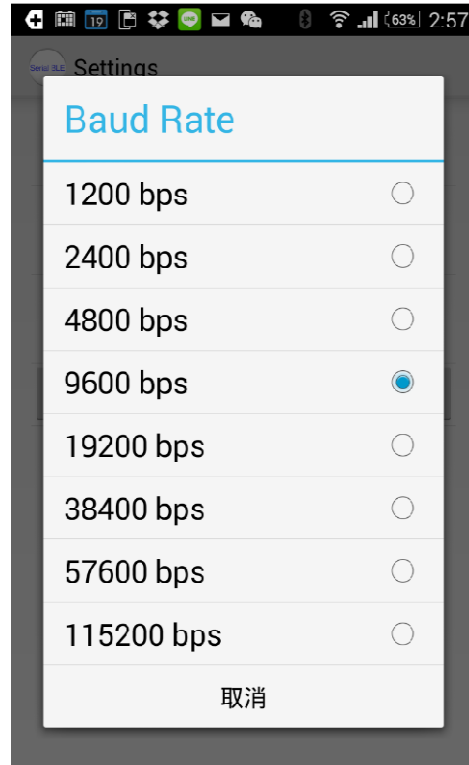
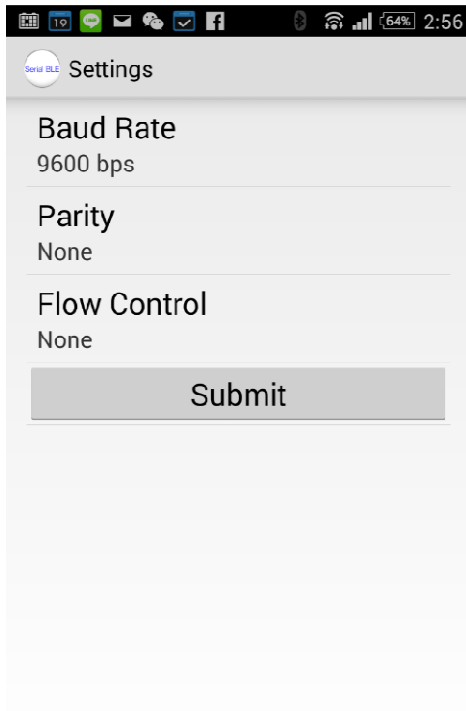
| Pin | Signal | DTE Direction | DCE Direction | Description                      |
|-----|--------|---------------|---------------|----------------------------------|
| 1   | CD     | Input         | Output        | Not connected                    |
| 2   | TxD    | Output        | Input         | Transmitted data                 |
| 3   | RxD    | Input         | Output        | Received data                    |
| 4   | DSR    | Input         | Output        | Contact manufacturer to set this |
| 5   | GND    | N/A           | N/A           | Signal ground                    |
| 6   | DTR    | Output        | Input         | Contact manufacturer to set this |
| 7   | CTS    | Input         | Output        | Clear to send                    |
| 8   | RTS    | Output        | Input         | Request to send (Default)        |
| 9   | Vcc    | Input         | Input         | Power supply (5VDC, 1.5A Max.)   |

Remark: DSR/DTR Connection



Configuration APP (Android): Please contact the vendor for the APP





Remark: All contents are subject to change without notice.



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