APC220 Radio Data Module

2010-01-19

Version: 1.3
**Introduction**

This APC220 is a highly versatile, low power radio solution that is easy to setup and integrate into any project requiring a wireless RF link.

It is perfect for robotic application which gives you a wireless control. You can connect one of these modules with your MCU through TTL interface. And connect your PC with another APC220 module through a TTL/USB converter.

**Specification**

- **Working frequency:** 431 MHz to 478 MHz
- **Power:** 3.3-5.5V
- **Current:** <25-35mA
- **Working temperature:** -20°C ~ +70°C
- **Range:** 1200m line of sight (1200 bps)
- **Interface:** UART/TTL
- **Baud rate:** 1200-19200 bps
- **Baud rate (air):** 1200-19200 bps
- **Receive Buffer:** 256 bytes
- **Size:** 37mm × 17 mm × 6.6mm
- **Weight:** 30g
Pin Definition

<table>
<thead>
<tr>
<th>Pin</th>
<th>Definition</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>0V Ground</td>
</tr>
<tr>
<td>2</td>
<td>VCC</td>
<td>3.3V-5.5V Power</td>
</tr>
</tbody>
</table>
| 3   | EN         | Enable the device when leave it disconnected or apply >1.6V  
|     |            | Disable the device when apply <0.5V |
| 4   | RXD        | UART RX |
| 5   | TXD        | UART TX |
| 6   | AUX        | UART Signal- Receive (low) Transmit (high) |
| 7   | SET        | Set parameters (low) |
Default Setting

Baud Rate: 9600 bps  
Bits: 8  
Parity: None  
Stop bit: 1  
RF Frequency: 431 MHz  
Air Rate: 9600 bps  
Output Power: 20mw  

Connection

- **Connect APC220 to PC**
  
  To connect APC220 to PC, a TTL to RS232 or TTL to USB converter is required.

![UART/TTL TO RS232](image)

**Figure:** Connect APC220 to PC via RS232-TTL converter

- **Connect APC220 to MCU**
  
  Any MCU which has TTL port is able to talk to APC220. A diagram is shown below for easy connection.
- **Connect PC to MCU via APC220**

  To connect PC with MCU via APC220, a RS232-TTL or USB-TTL converter is required.

  ![Connect PC to MCU via APC220](image)

  **Figure:** Connect PC to MCU via APC220
• Connect PC to PC via APC220

To connect PC to PC via APC220, two USB-TTL or RS232-TTL converters are required. A diagram is illustrated below.

![Diagram of Connect PC to PC via APC220](image)

Others:

![USB-TTL Converter Pin out diagram](image)
USB-TTL driver download:

http://silicon-laboratories-cp210x-vcp-drivers12.software.informer.com/

Tutorials:

Help

If you have any questions or difficulty in using this module, please leave your question and problems at

http://www.yerobot.com/forum/