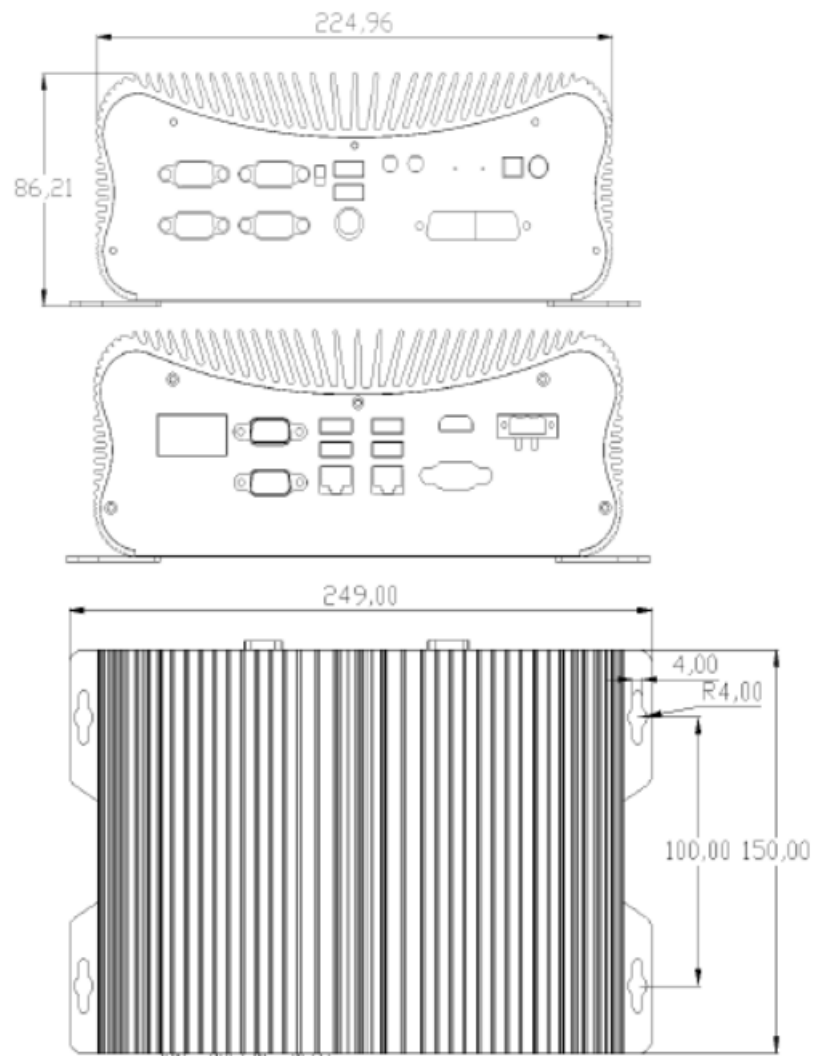


## 2.2 Dimensions

Unit:MM



## 3 IO Interface Definition

### 3.1 COM interface

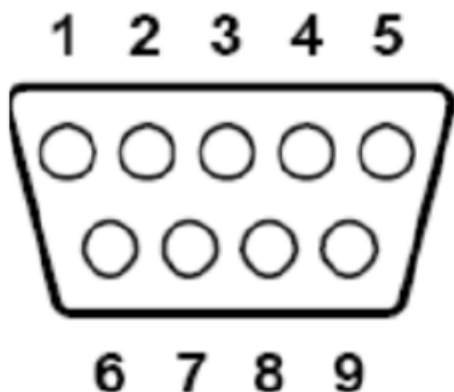
Up to six serial ports can be supported, and the following is a list of the operating modes supported by each serial port:

| serial port<br>operating mode | COM1    | COM2    | COM3    | COM4    | COM5        | COM6        |
|-------------------------------|---------|---------|---------|---------|-------------|-------------|
| RS232                         | support | support | support | support | support     | support     |
| RS485                         | support | support | support | support | unsupported | unsupported |
| RS422                         | support | support | support | support | unsupported | unsupported |

Note:

- 1.COM5,6 are 5-wire serial ports. ( TXD / RXD /GND/RTS/CTS)
- 2.By default, COM1~6 are factory set to RS232 mode.

COM1~4 pin signal definition:



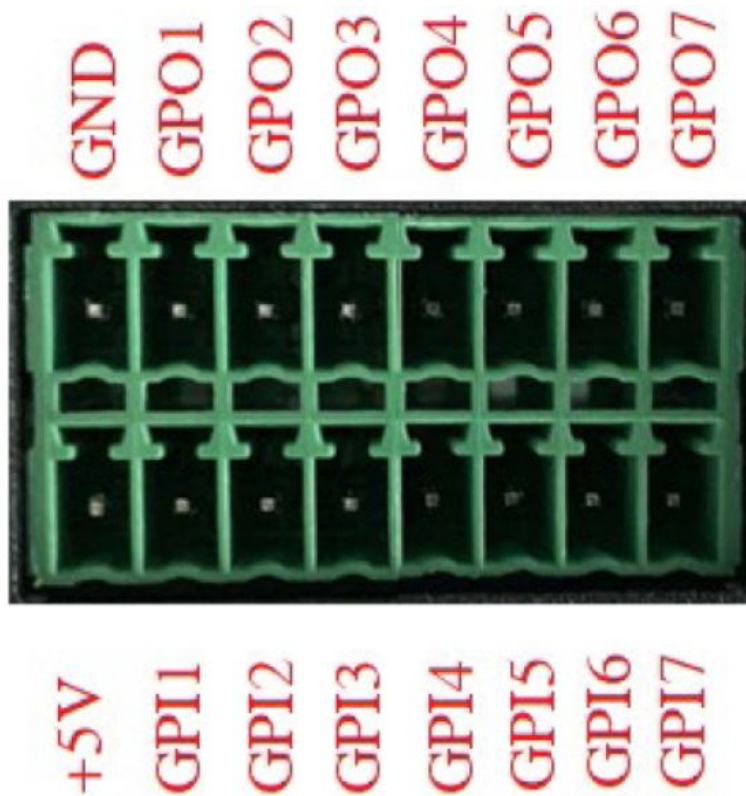
|       | DB9 Pin Name |        |      |      |      |      |      |      |      |
|-------|--------------|--------|------|------|------|------|------|------|------|
| Mode  | Pin1         | Pin2   | Pin3 | Pin4 | Pin5 | Pin6 | Pin7 | Pin8 | Pin9 |
| RS485 | DATA -       | DATA + |      |      |      |      |      |      |      |
| RS422 | TX+          | TX-    | RX+  | RX-  |      |      |      |      |      |
| RS232 | DCD#         | RXD    | TXD  | DTR# | GND  | DSR# | RTS# | CTS# | RI   |

COM5,6 pin signal definition:

|       | DB9 Pin Name |      |      |      |      |      |      |      |      |
|-------|--------------|------|------|------|------|------|------|------|------|
| Mode  | Pin1         | Pin2 | Pin3 | Pin4 | Pin5 | Pin6 | Pin7 | Pin8 | Pin9 |
| RS232 |              | RXD  | TXD  |      | GND  |      | RTS# | CTS# |      |

## 3.2 GPIO Interface

The PIN of GPIO1 is defined as follows



address assignment、 Base Address=0x500h

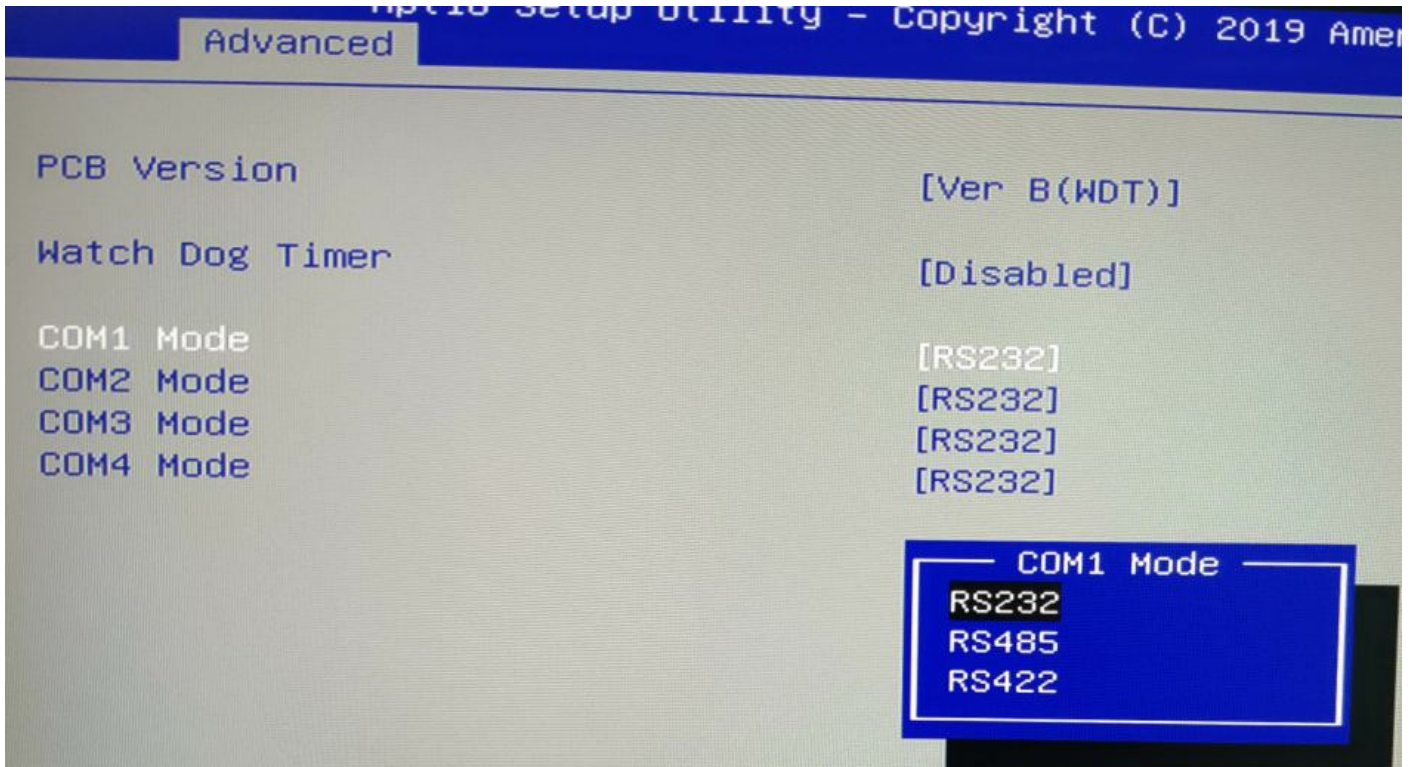
| PIN | code | IO Address | initial level | orientations | Output Driving Capability |
|-----|------|------------|---------------|--------------|---------------------------|
| 1   | +5V  | -          | -             | -            | -                         |
| 3   | GPI1 | 0xA06.bit0 | +5V           | import       |                           |
| 5   | GPI2 | 0xA06.bit1 | +5V           | import       |                           |
| 7   | GPI3 | 0xA06.bit2 | +5V           | import       |                           |
| 9   | GPI4 | 0xA06.bit3 | +5V           | import       |                           |
| 11  | GPI5 | 0xA06.bit4 | +5V           | import       |                           |
| 13  | GPI6 | 0xA06.bit5 | +5V           | import       |                           |
| 15  | GPI7 | 0xA06.bit6 | +5V           | import       |                           |
| 2   | GND  | -          | -             | -            | -                         |
| 4   | GPO1 | 0xA07.bit4 | 0V            | exports      | 35mA                      |
| 6   | GPO2 | 0xA07.bit5 | 0V            | exports      | 35mA                      |
| 8   | GPO3 | 0xA07.bit6 | 0V            | exports      | 35mA                      |
| 10  | GPO4 | 0xA07.bit7 | 0V            | exports      | 35mA                      |
| 12  | GPO5 | 0xA04.bit6 | 0V            | exports      | 35mA                      |
| 14  | GPO6 | 0xA04.bit7 | 0V            | exports      | 35mA                      |
| 16  | GPO7 | 0xA03.bit0 | 0V            | exports      | 35mA                      |

### 3.3 COM1~4 Working Mode Setting

#### Step1

Power up the machine, turn it on and press the **Delete** key to enter the **BIOS** setup interface and navigate to the following path:

Advanced – SIO MISC Configuration – COM1 MODE Select RS232/422/485 option;



#### Step2

After setting the BIOS options, press the F10 key and select [YES] in the pop-up dialog box to save the settings and exit.

### 3.4 GPIO Settings

GPIO address assignment、Base Address=0x500h

1,8-way GPIO GPIO0~GPIO7 register address:

| NO. | GPIO0      | GPIO1      | GPIO2      | GPIO3      | GPIO4      | GPIO5      | GPIO6      | GPIO7      |
|-----|------------|------------|------------|------------|------------|------------|------------|------------|
| add | 0xA06.bit0 | 0xA06.bit1 | 0xA06.bit2 | 0xA06.bit3 | 0xA06.bit4 | 0xA06.bit5 | 0xA06.bit6 | 0xA06.bit7 |

#### 2, GPIO

Set the port direction in BIOS (Input, Output): GPIO0~3 Default Output, GPIO4~7 Default Input

BIOS Setup Path: Advanced》SIO MISC Configuration》GPIO Mode

GPIO Port Access

Output port access:

Use the **outportb( )** function to output a byte of data directly to a specified port, to make the corresponding GPO port output a low level, write 0 to the corresponding port, for example, the following example is to make GPO1 output a low level:

```
TEMP=inportb(0x50c) ; Read the contents of port 0x50c first  
TEMP=TEMP&0xfe; Set bit0 of port 0x50c to 0.
```

```
outportb(0x50c,TEMP); Write data to port
```

To make the corresponding GPO port output a high level, write 1 to the corresponding port, for example, the following example is to make GPO1 output a high level:

```
TEMP=inportb(0x50c) ; Read the contents of port 0x50c first
```

```
TEMP=TEMP|0x01 ; Set bit0 of port 0x50c to 1.
```

```
outportb(0x50c,TEMP); Write data to port
```

Input port access:

Use the **inportb( )** function to read a byte from the port and then take the corresponding **bit** against the table above.

### 3.5 Watch Dog

```
#define SIO_CONFIG_INDEX 0x2E
```

```
#define SIO_CONFIG_DATA 0x2F
```

```
void WatchDogTimer(UINT16 TimerValue) // 1 < TimerValue < 65535 , Unit = Second
{
```

```
    // Enter Configuration Mode.
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x87);
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x01);
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x55);
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x55);
```

```
//=====LDN07=====//
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x07);
```

```
    IoWrite8(SIO_CONFIG_DATA, 0x07);
```

```
//=====WDT=====//
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x72);
```

```
    IoWrite8(SIO_CONFIG_DATA , 0x90); //Enable WDT
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x74);
```

```
    IoWrite8(SIO_CONFIG_DATA , (UINT8)((TimerValue & 0xFF00)>>8 )); //MSB
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x73);
```

```
    IoWrite8(SIO_CONFIG_DATA , (UINT8)(TimerValue & 0x00FF)); //LSB
```

```
}
```

```
void DisableWdt()
```

```
{
```

```
    // Enter Configuration Mode.
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x87);
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x01);
```

```
    IoWrite8(SIO_CONFIG_INDEX, 0x55);
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x55);
```

```
//=====LDN07=====//
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x07);
```

```
IoWrite8(SIO_CONFIG_DATA, 0x07);
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x72);
```

```
IoWrite8(SIO_CONFIG_DATA , 0x00); //Disable WDT
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x74);
```

```
IoWrite8(SIO_CONFIG_DATA , 0x00); //MSB
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x73);
```

```
IoWrite8(SIO_CONFIG_DATA , 0x00); //LSB
```

```
}
```