

## UHF Fixed Reader UF2889-AOS



Model : SID-FXRD-UF2889

Dimension : 180 x 128 x 28 mm

### Overview

SID-FXRD-UF2889 is a high performance UHF RFID reader. It is designed upon fully self-intellectual property. Base on the proprietary decoding and signal processing algorithm, SID-FXRD-UF2889 is able to perform high-speed tag read/write operations with an outstanding identification rate. SID-FXRD-UF2889 is embedded with Android OS, and supports 4G Wide Area Network (WAN). SID-FXRD-UF2889 forms an ideal choice for RFID applications, such as logistics, access control, anti-counterfeit and industrial production process control system.

### Key features

- Independent intellectual property rights (IPR) protected design;
- Working frequency: 840 ~ 960MHz (adjustable according to various frequency requirements in different countries and regions);
- Impinj R2000 based design, fully supports EPC CLASS1 G2、ISO18000-6B defined tag;
- Capable for both Frequency Hopping Spread Spectrum (FHSS) transmission and fixed-frequency transmission.
- Supports Received Signal Strength Indication (RSSI).
- Inventory speed > 700 tags/s at peak;
- Carries 8 external antenna ports and supports antenna check;
- MTK 8735 4G platform based, 4 cores 1.3GHz ARM®Cortex-A53, embedded Mali-T720 MP2;
- Android 5.1/6.0 OS;
- Memories: 1GB LPDDR3+8GB EMMC/2GB LPDDR3+16GB EMMC (optional);
- Supports 4G networks (capable with all network modes) with main and secondary 4G antenna ports;
- Supports Bluetooth 4.0;
- Supports GPS positioning;
- HDMI D Type port, supports up to 5GB/s transmission speed and 1920x1080P HD video signal output;
- Supports USB 2.0 OTG;
- Supports 100M / 10M auto-negotiation network ports;
- Supports RS-232 interface;
- Low power consumption design, single +9V ~ 24V power supply;
- Supports multi-channel isolated GPIO ports (4 inputs and 4 outputs), isolated voltage  $V_{RMS}>3kV$ ;
- Supports firmware online update, and SDK is provided for secondary development.
- Compact design with IP43 standards, capable for various applications.

### Characteristics

- Absolute maximum rating

| Parameter             | Symbol           | Value        | Unit |
|-----------------------|------------------|--------------|------|
| Supply Voltage        | VCC              | 30           | V    |
| Operating Temperature | T <sub>OPR</sub> | -30~+70      | °C   |
| Storage Temperature   | T <sub>STR</sub> | -40~+85      | °C   |
| Humidity              | H                | <95% (+25°C) |      |

- Specifications

T<sub>A</sub> = 25°C, VCC = +13.6V unless otherwise specified.

#### 1. Electrical characteristics

| Parameter           | Symbol         | Min. | Typ.           | Max. | Unit |
|---------------------|----------------|------|----------------|------|------|
| Supply Voltage      | VCC            | 9    | 13.6           | 24   | V    |
| Current Consumption | I <sub>c</sub> |      | 1.5            | 2.5  | A    |
| Dimensions          | L x W x H      |      | 180 x 128 x 28 |      | Mm   |

#### 2. UHF RFID parameters

| Parameter                 | Symbol | Min. | Typ.   | Max. | Unit |
|---------------------------|--------|------|--------|------|------|
| RF working frequency      | Freq   | 860  |        | 960  | MHz  |
| RF output frequency       | Prf    |      |        | 33   | dBm  |
| Output frequency accuracy | Aprf   |      | +/-1   |      | db   |
| RF output power flatness  | Fprf   |      | +/-0.2 |      | db   |
| Receiver sensitivity      | Sr     | -85  |        |      | dBm  |

### 3. Mobile communication parameters

| Parameter          | Symbol | Description                                                                                                                                                                       |
|--------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency band     | Fb     | 2G GSM: B2 B3 B5 B8(B2 is optional)<br>3G WCDMA: B1 B2 B5 B8(B2 is optional)<br>3G TD-SCDMA: B34 B39<br>4G LTE: B1 B3 B7 B38 B39 B40 B41(B7 is optional)<br>CDMA2000&1X EVDO: BC0 |
| Transmission power | TPrf   | Class 4(2W)<br>Class 1(1W)<br>Class 3(0.25W): $P_{\max} < 23\text{dBm}$                                                                                                           |
| Data rate          | Dbr    | LTE Downlink: 150Mbps<br>LTE Uplink: 50Mbps<br>HSDPA: 42.2Mbps<br>HSUPA: 11.5Mbps<br>TD-HSDPA: 2.8Mbps                                                                            |
| SIM card           | SC     | SIM/USIM card, rated voltage: 1.8V, 3V                                                                                                                                            |

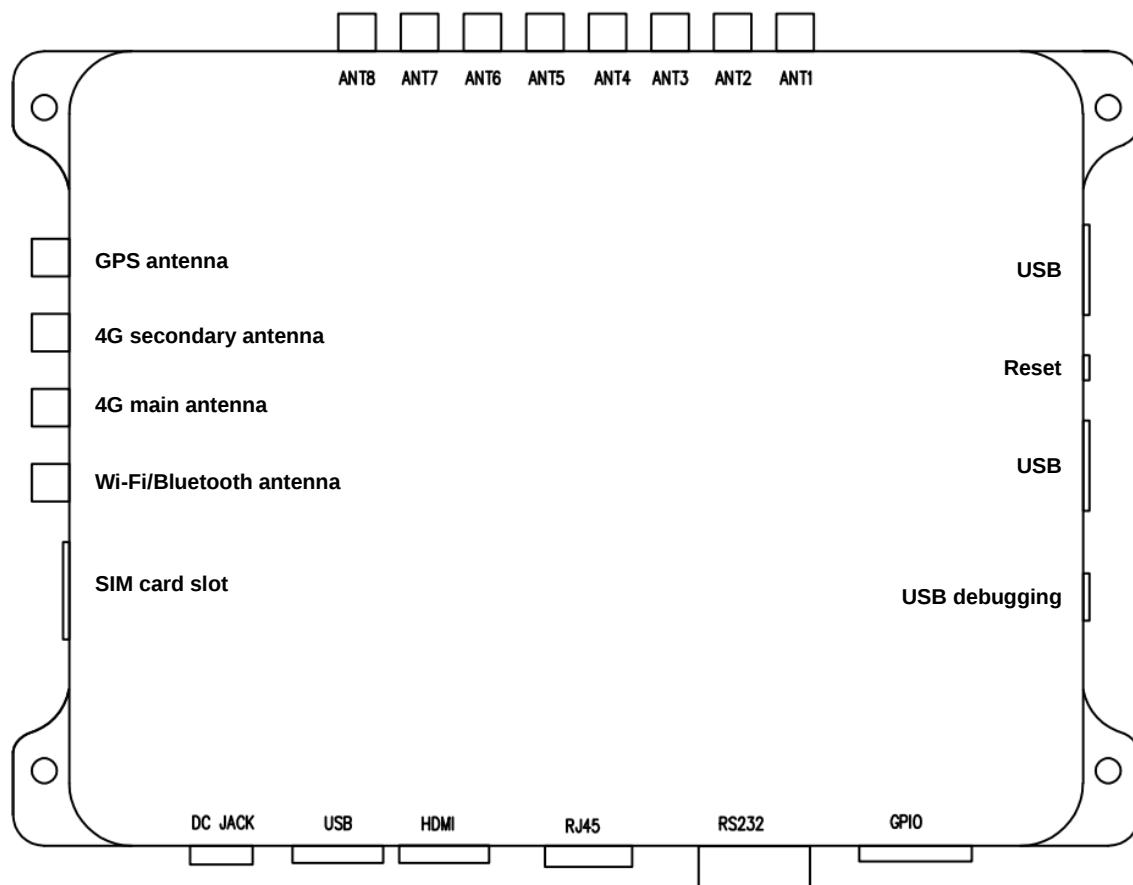
### 4. Wi-Fi/Bluetooth parameters

| Parameter | Description                                                                                                              |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| Wi-Fi     | Wireless standards: 802.11 b/g/n/a<br>Security: WPA WPA/WPA2<br>Output power: $P_{\max} < 20\text{dBm}$                  |
| Bluetooth | Bluetooth characteristics: V2.1+EDR, 3.0+HS, V4.0+HS<br>Receiver sensitivity: GFSK -94dBm, DQPSK -93dBm, 8-DPSK -87.5dBm |

### 5. GPS parameters

| Parameter | Description                                                                           |
|-----------|---------------------------------------------------------------------------------------|
| GPS       | Frequency: 1575.42MHz<br>Carrier to Noise Ratio(CNR): 41db/Hz<br>Sensitivity: -163dBm |

### Interfaces



1. GPS antenna
2. 4G network secondary antenna
3. 4G network main antenna
4. Wi-Fi/Bluetooth antenna
5. 4G network SIM card slot

6. DC power supply jack

| Pin     | Symbol | Description   |
|---------|--------|---------------|
| Central | PWR    | +9V ~ +24V DC |
| Outer   | GND    | Ground        |

7. USB port

8. HDMI port

9. TCP/IP network port (RJ45)

10. RS232 serial COM port (DB9 Female)

| Item | Symbol | Description            |
|------|--------|------------------------|
| 1    | NC     | Reserved               |
| 2    | TXD    | Serial COM transmitter |
| 3    | RXD    | Serial COM receiver    |
| 4    | NC     | Reserved               |
| 5    | GND    | Signal ground          |
| 6    | NC     | Reserved               |
| 7    | NC     | Reserved               |
| 8    | NC     | Reserved               |
| 9    | NC     | Reserved               |

11. GPIO port

12. Debugging/download USB port

13. USB port

14. System reset button

15. USB port

16. SMA antenna ports (ANT1 ~ ANT8)