

## IT780E

### Product Introduction

IT780E ground-side equipment is matched with air-side equipment to achieve long-distance two-way wireless video, audio, and data transmission. The longest air-to-ground transmission distance can reach more than 50km. The communication method can meet point-to-point two-way communication, and can also realize point-to-multipoint star network communication.

The device provides multiple business interfaces, including 1 Ethernet port, 1 transparent TTL serial port, and 1 transparent RS232 port. It has the characteristics of small size, light weight, easy installation, and easy use. The structure can be customized according to the usage scenario. It is very Suitable for use in image-data integrated wireless data transmission scenarios such as drones, unmanned ships, unmanned vehicles, and robots.

### Specifications

System	
Frequency	1428~1448MHz
Bandwidth	5MHz/10MHz/20MHz (flexible and configurable)
Transmission	TDD-OFDM
Modulation	BPSK/QPSK/16QAM/64QAM (adaptive)
Transmission capacity	24Mbps@10MHz (peak rate)
Transmission distance	15km/30km(Expandable to 80km/100km)
Transmitting power	2W
Receiving sensitivity	-99dBm@5MHz
Frequency hopping	Supports automatic hopping within the band
Encryption	Supports AES128
Power supply	DC12V
Power consumption	≤12W
Interface	
Antenna	SMA
Power	J30J (JST version available)
Ethernet	J30J (JST version available)
UART	J30J (JST version available)
USB	J30J (JST version available)
Data	
Dimensions	130*103*24mm (excluding mounting holes and antenna interface)
Weight	≤450g
Operation Temp Range	-20℃~+75℃

## Interface

Pin#	Name	Function	Remarks
<b>Enclosure: DATA+POWER / J30J</b>			
1, 2	VCC	+12V	-
3, 4	PGND	power supply ground	-
5	ETH_TXN	TX- (orange)	10/100M self-adaptive
6	ETH_TXP	TX+ (white orange)	
7	ETH_RXP	RX- (green)	
8	ETH_RXN	RX+ (white green)	
9	RS_GND	RS232 ground	RS232 transparent transmission interface, serial & network port interoperability
10	RS_RX	RS232 receiving	
11	RS_TX	RS232 sending	
12	NC	suspended	-
13	TTL_RX	TTL receiving	TTL point-to-point transparent transmission interface, 3.3V level
14	TTL_TX	TTL sending	
15	TTL_GND	TTL ground	
<b>Enclosure: M-ANT (main transceiver antenna port)/SMA socket</b>			
1	RFS1	radio frequency signal	impedance: 50Ω
<b>Enclosure: S-ANT (auxiliary receiving antenna port) / SMA socket</b>			
1	RFS2	radio frequency signal	impedance: 50Ω

## Design

