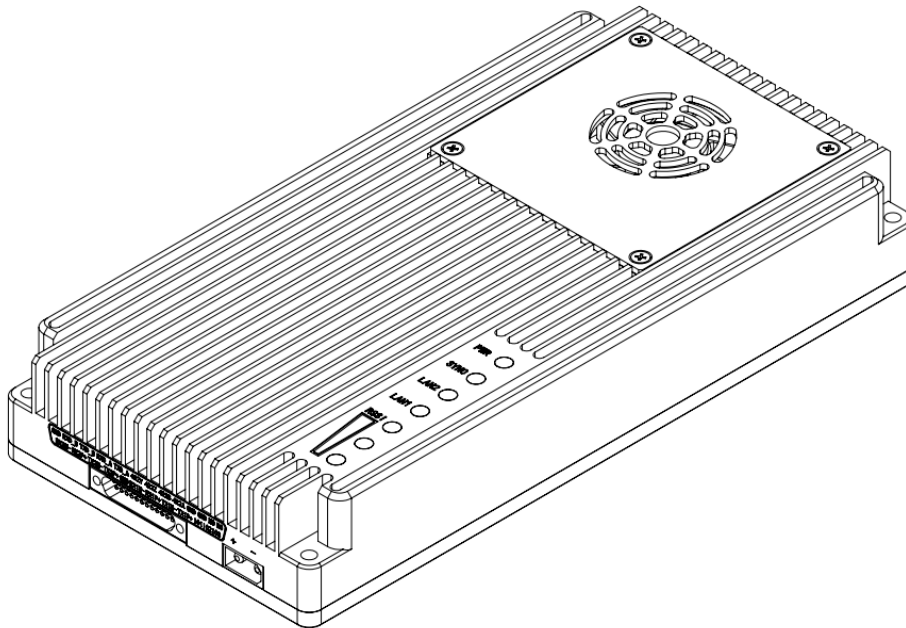

S1400-P39 User manual (P2P/P2MP)

SwiftLink series: 1.4GHz
Version: 20250704V4.0



Version history

Date	Version	Modification description
20231219	V1.0	Initial version
20240315	V2.0	Modify the weight dimensions, modify the total data in Table MCS & Sensitivity
20240405	V3.0	Add multiple sets of coexistence switches. Modify the serial-to-network configuration mode. Modify the ID number length and modify the English words of background noise detection. Added the frequency matching function
20240701	V3.1	supports 2 SBUS channels. Optimized antenna selection
20250704	V4.0	Merge point-to-multipoint functionality

Catalogue

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1.Product overview

S1400-P39 is a self-developed TDD bidirectional graph integrated wireless transmission device. The product has the functions of real-time interference detection, adaptive frequency selection, adaptive stream, automatic retransmission, and automatic power control, which greatly improves the ability of anti-multipath and anti-interference, and has the characteristics of high reliability, good stability, and low delay.

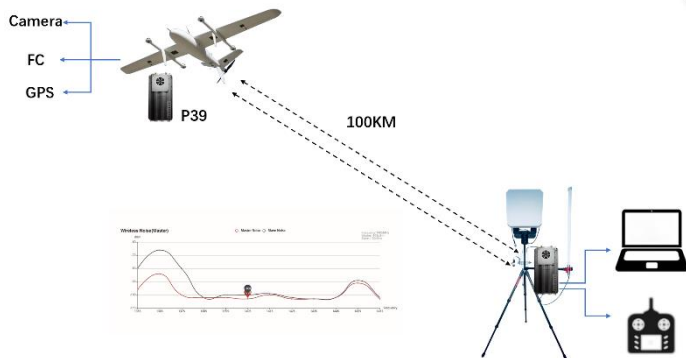
This product is suitable for firefighting, inspection, monitoring, and other scenarios, and can transmit 100KM under good air-to-ground vision.

2.Product characteristics

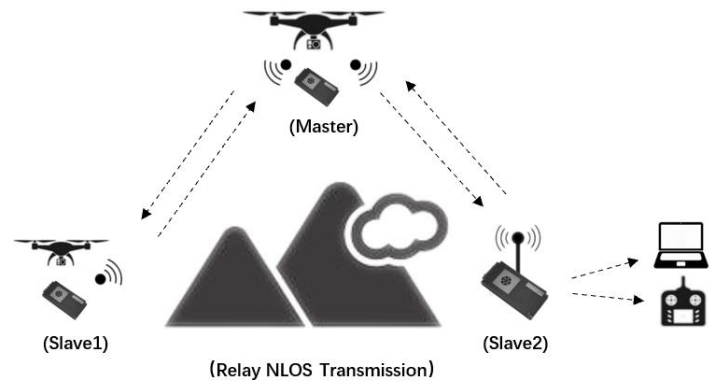
- The maximum transmission distance : 100 kilometers.
- Maximum support for 26.4Mbps@20MHz@P2MP.
- Support P2P, P2MP, and Repeater.
- Supporting RS232/TTL/RS422/SBUS.
- Support automatic frequency selection (AFS)
- Support for automatic retransmission
- Support adaptive bitstream
- Support automatic power control (APC)
- Support for automatic antenna selection (AAS)
- Support for frequency alignment function

3. Application

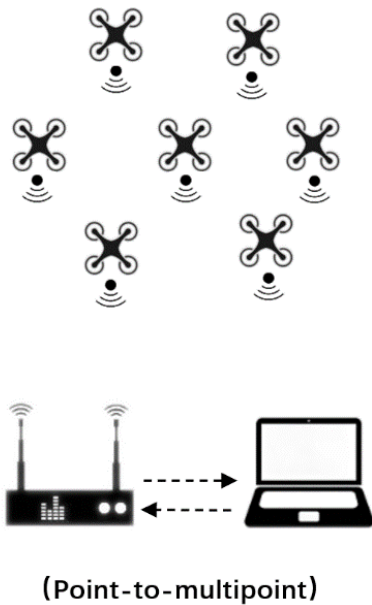
Application 1 (P2P)



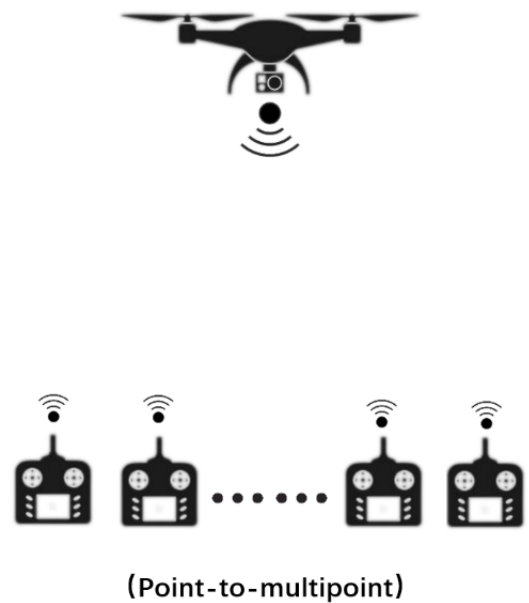
Application 2 (repeater)



Application 3 (P2MP)



Application 4 (P2MP)



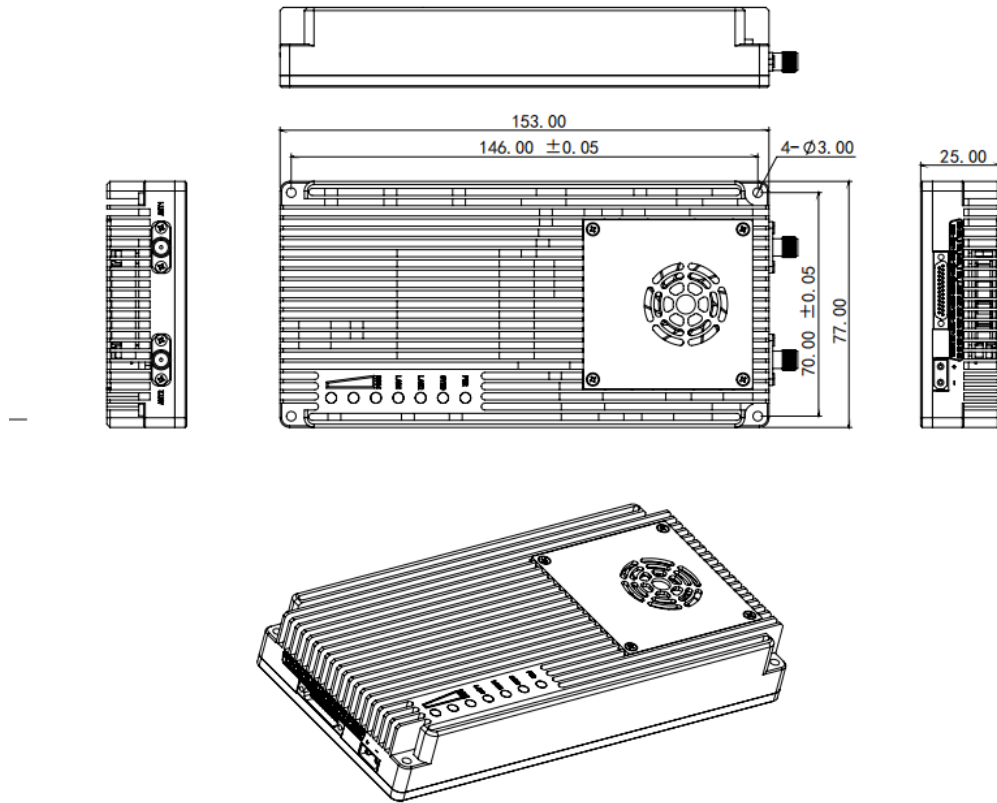
4.Product index

System parameter	Technical index
Equipment model	S1400-P39
Working frequency	1350~1470MHz (customizable)
Radio frequency	2T2R
Transmission power	39dBm (8W)
Transmission distance	LOS : 100KM
Channel bandwidth	10MHz/20 MHz
Modulation mode	QPSK/16QAM
Transmission mode	P2P; P2MP; Repeater
Maximum rate	16.4Mbps@10M (P2P) 26.4Mbps@20M (P2MP)
Communication encryption	AES256
Transmission delay	≤10ms
Radio frequency interface	SMA*2
Equipment interface	XT30PW-M
Device interface	Ethernet*2; TTL/RS232*2; RS422*1; SBUS*2/TTL*1
Power Consumption	≤48W@4Mbps (Air unit); ≤12W@1Mbps (Ground unit)
Dimension(L*W*H)	163*77*25mm
Weight	340g
Working voltage	DC22~30V, Typical value: +24V@2A
Working temperature	-40~+75℃

Table 2 MCS and Total Throughput (P2P/P2MP)			
No	MCS	Total P2P throughput (Mbps)	Total P2MP throughput (Mbps)
1	BPSK1/3	Not supported	3.5
2	BPSK1/2	Not supported	5.1
3	BPSK2/3	Not supported	6.1
4	BPSK3/4	Not supported	7.3
5	QPSK1/3	4.0	7.3
6	QPSK1/2	5.8	10.6
7	QPSK2/3	7.1	12.8
8	QPSK3/4	8.2	15.0
9	16QAM1/3	8.0	13.0
10	16QAM1/2	11.6	18.7
11	16QAM2/3	14.3	22.7
12	16QAM3/4	16.4	26.4

5.Product dimension and weight

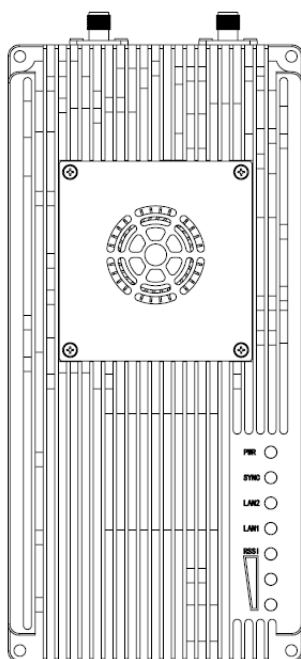
5.1 Dimension diagram



5.2 Dimension and weight

- ◆ Dimension (L*W*H): 163mm*77mm*25mm(including SMA 10mm)
- ◆ Weight : 340g

7.Product indicator meaning



Power light PWR (green)

When the PWR light is on, the device is powered on.

SYNC (green)

Out of sync state, light flashing.

After synchronization, the light is steady on.

Network port light : LAN1, LAN2 (green)

The network port light blinks when data is being sent or received.

Receiving signal energy light(RSSI 3 green lights)

The greater the number of energy lights, the greater the signal reception strength.

The RSSI light represents the strength of the received signal	
Number of RSSI energy lights on	Received energy dBm
3 RSSI lights on	about -50dBm
2 RSSI lights on	about -80dBm
1 RSSI light on	about -95dBm

Module type	Mode	S1400-P39 light status				
		PWR	SYNC	LAN 1 LAN 2	RSSI 123	Working mode
master	Un-sync	Powered on	Flashing	Data sending and receiving, flashing	Off	P2P/P2MP
master	Sync	Powered on	Steady on	Data sending and receiving, flashing	Proportional to the strength of the received signal	P2P/P2MP
repeater	Un-sync	Powered on	Flashing	Data sending and receiving, flashing	Searching	P2P
repeater	Sync	Powered on	Steady on	Data sending and receiving, flashing	Display the received slave energy	P2P
slave	Un-sync	Powered on	Flashing	Data sending and receiving, flashing	Searching	P2P/P2MP
slave	Sync	Powered on	Steady on	Data sending and receiving, flashing	Proportional to the strength of the received signal	P2P/P2MP