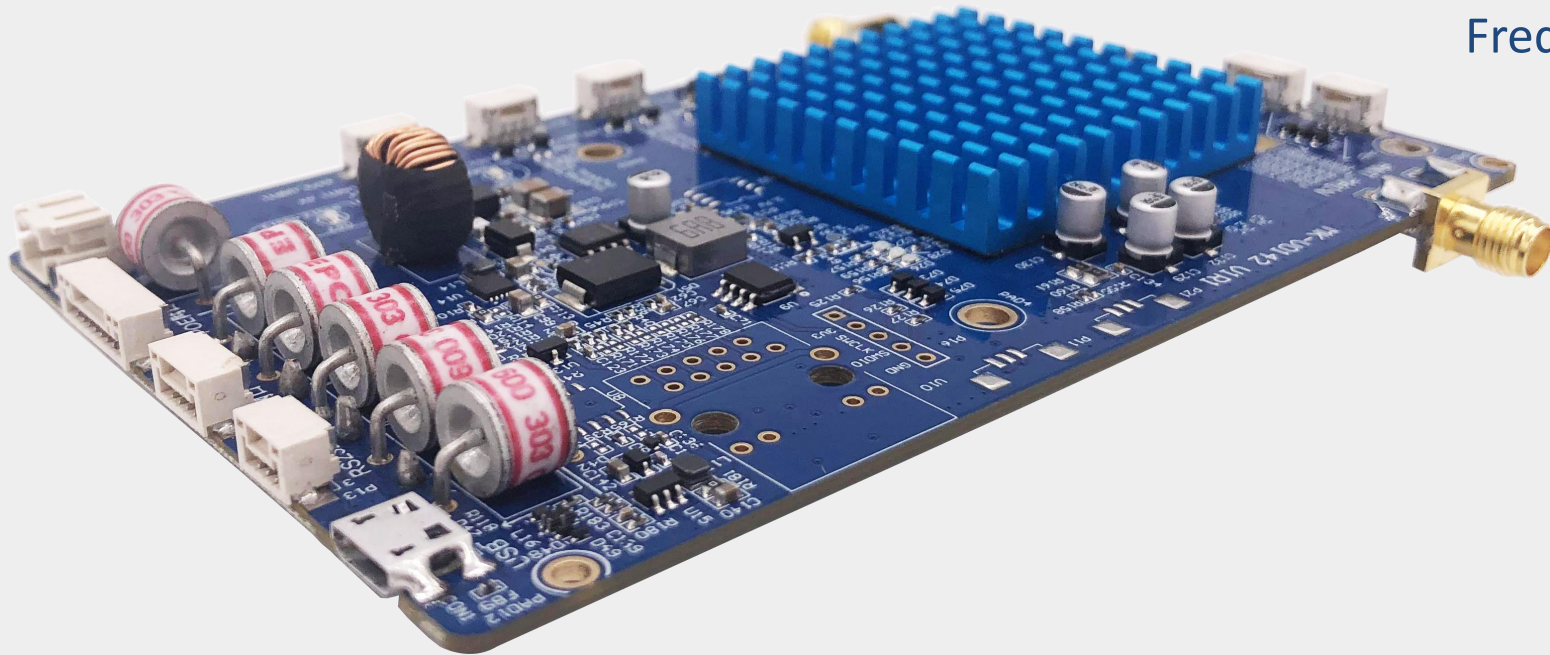IWAVE

120Mbps MIMO(2x2) NLOS Wireless Ethernet & Full Duplex TTL Serial Data Link

Model: FDM-6680

Frequency: 600Mhz and 1.4Ghz

IWAVE

➢ FDM-6680 is a wireless transmission product designed by IWAVE based on mature SOC chipset, which supports point to point and point to multi-point. 1 maseter node supports up to 64 sub-nodes to shares 80Mbps-100Mbps bandwidth for video and data transmitting.

➢ FDM-6680 is designed based on TD-LTE wireless communication standard, OFDM and MIMO technologies. It doesn't rely on any carrier's base station.

➢ Supports Ethernet and full duplex TTL data transmission. And the control data transmission is higher priority than network signal.

➢ It adopts the Automatic frequency hopping technology for anti-interference greatly reduce system power consumption and size of the module.

GENERAL		WIRELESS		
TECHNOLOGY	Wireless based on TD-LTE Technology Standards	COMMUNICATION	Communication between any 2 slave nodes must be forwarded through the master node	
ENCRYPTION	ZUC/SNOW3G/AES(128) Optional Layer-2	MASTER NODE	Any node in the network can be configured as the master node.	
DATE RATE	Max 120Mbps(Uplink and Downlink)	SLAVE NODE	All nodes support unicast, multicast, and broadcast	
RANGE	10km-15km(Air to ground) 500m-3km(NLOS Ground to ground)	ACCESS	Multiple slave nodes can access the network simultaneously.	
CAPACITY	Point to 64-Point	SENSITIVITY		
MIMO	2x2 MIMO	1.4GHZ	20MHZ	-102dBm
POWER	23dBm±2 (2w or 10w on request)		10MHZ	-100dBm
LATENCY	End to end≤20ms-50ms		5MHZ	-96dBm
MODULATION	QPSK, 16QAM, 64QAM	600MHZ	20MHZ	-102dBm
ANTI-JAM	Automatically Cross-Band frequency hopping		10MHZ	-100dBm
BANDWIDTH	1.4Mhz/3Mhz/5Mhz/10MHZ/20MHZ/40Mhz		5MHZ	-96dBm
POWER CONSUMPTION	5Watts	FREQUENCY BAND		
POWER INPUT	DC12V	1.4Ghz	1420Mhz-1530MHz	
DIMENSION	123 X 77mm	600Mhz	566Mhz-678Mhz	

Interfaces
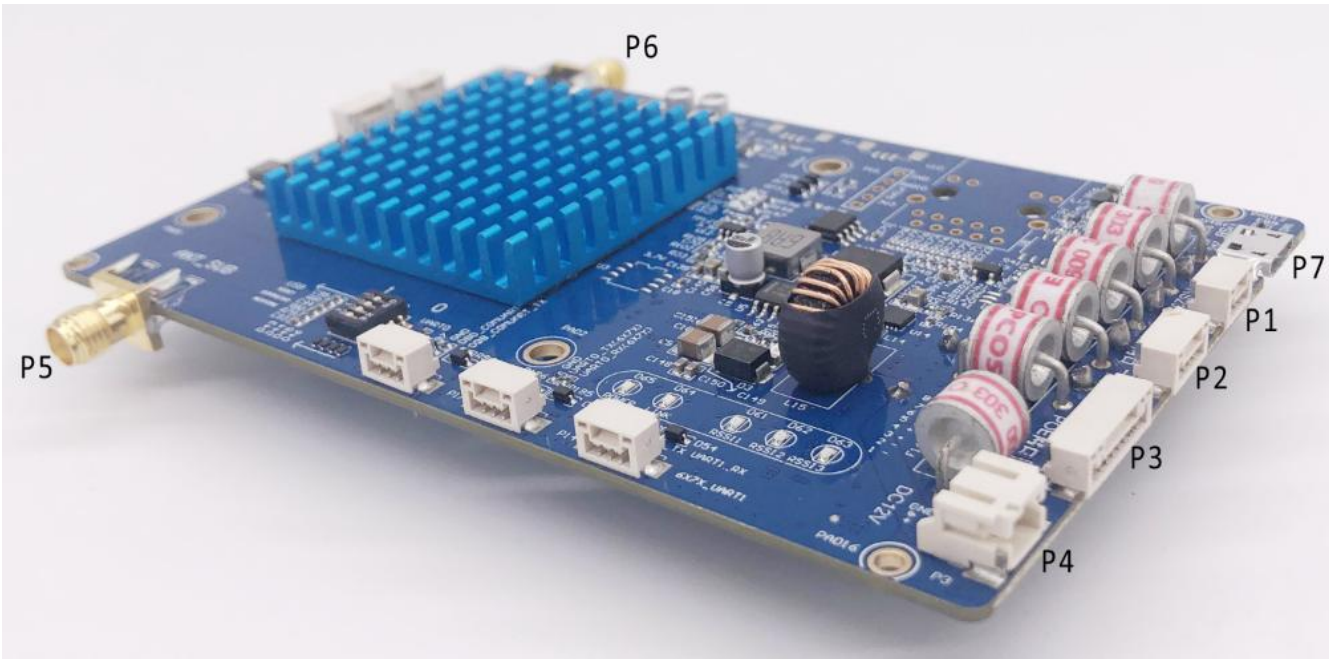
P1: RS232		P2: ETHERNET		P3: ETHERENT & POE	
1TX	O	1RX-	I	1, 2 GND	GND
2RX	I	2RX+	I	3,4 VCC	POSITIVE
3GND	GND	3TX-	O	5 TX+	O
		4TX+	O	6 TX-	O
				7 RX+	I
				8 RX-	I
P4: POWER INPUT		P5, P6 RF PORT		P7: USB	
1 VCC	POSITIVE	P5	I/O	1 VCC5V	I/O
2 GND	GND	P6	I/O	2 DM	POSITIVE
				3 DP	I/O
				4 USB_ID	I/O
				5 GND	GND

MECHANICAL		
TEMPERATURE	-40℃~+80℃	
WEIGHT	60grams	
INTERFACES		
RF	2 x SMA	
ETHERNET	2xEthernet	POE
		Ethernet port for data(4Pin)
COMUART	1xCOMUART	RS232 3.3V level, 1 start bit, 8 data bits, 1 stop bit , no parity check
		Baud Rate: 115200bps(Default) (57600, 38400, 19200, 9600 configurable)
POWER	1xDC INPUT	DC12V
USB	1xUSB	

Advantages

IWAVE

FDM-6680

Support 64 nodes
1 Central node support 64 units sub-nodes nodes

Power Self-adaptive
According to the channel conditions, adaptively adjust the transmitting and receiving power to reduce power consumption and network interference
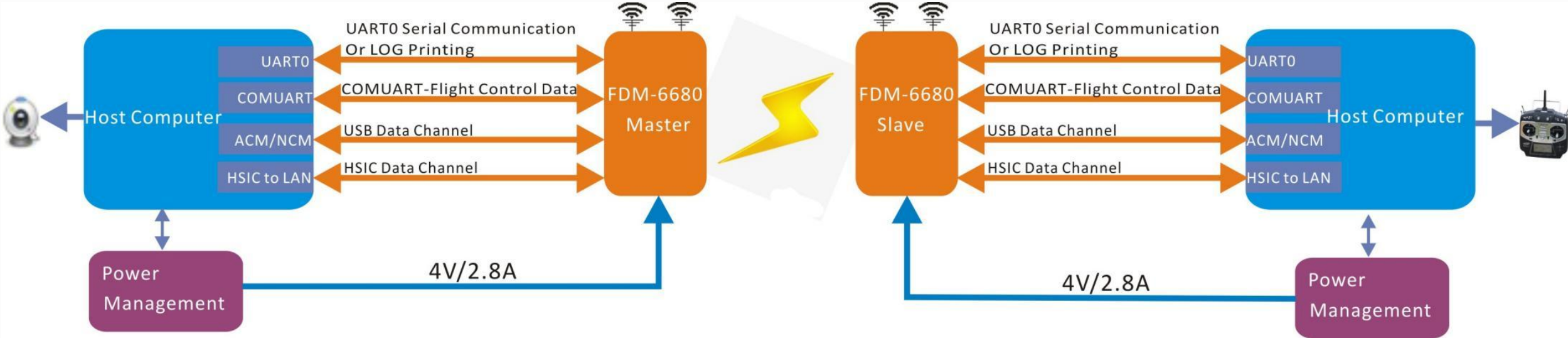
Diverse bandwidth options
3M/5M/10M/20Mhz/40Mhz

High Throughput
80Mbps-100Mbps for uplink and downlink at same time

Long Distance Transmission
10-15km(los air to ground)/500m-3KM(NLOS ground to ground)

High Speed Moving
All the nodes can be carried for fasting moving. And the wireless link is stable

Data Flow Diagram of FDM-6680
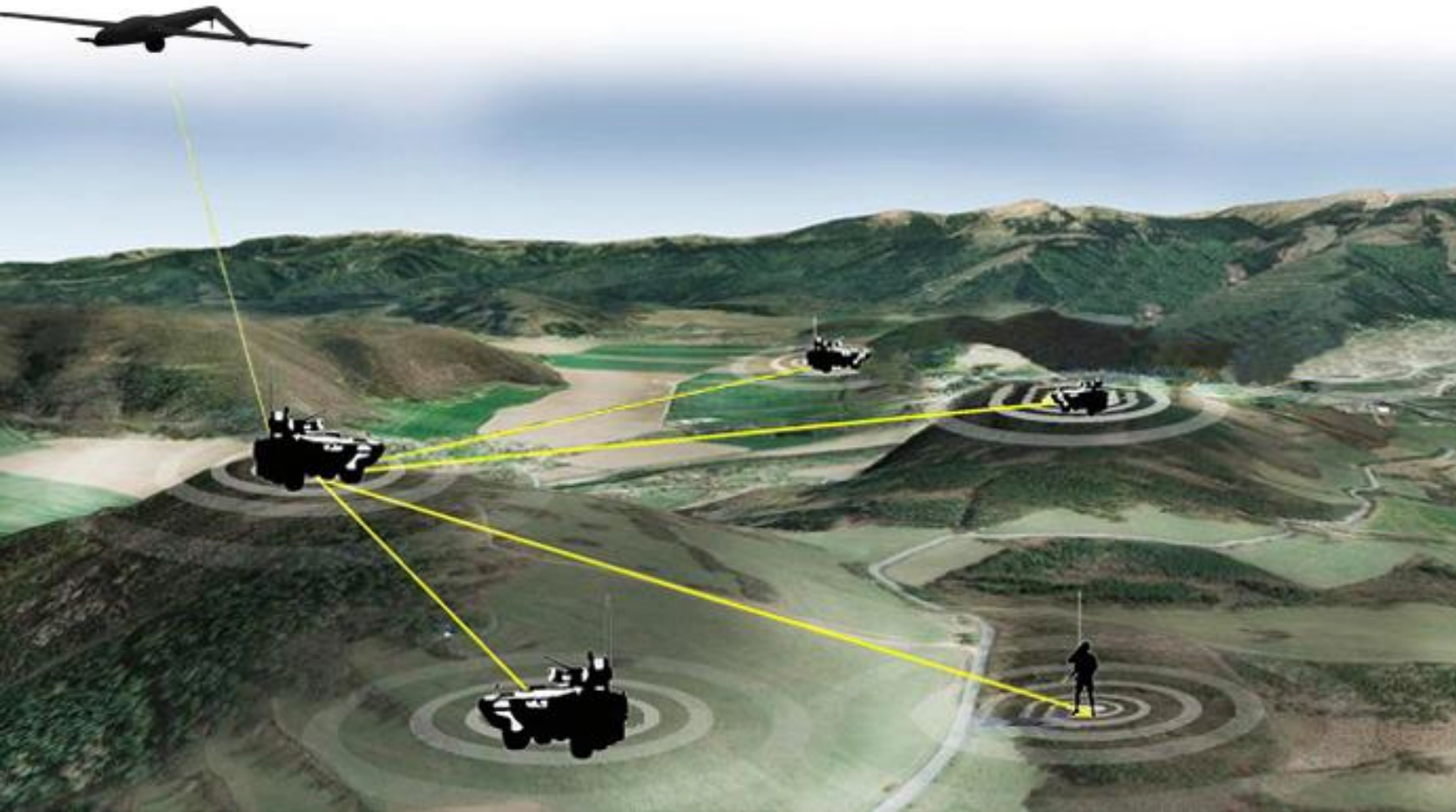
- Drone/robot/Vehicle collaborative networking
- Stable/real-time/long-distance communication
- Supports Point to point/point to multi-point
- Full duplex RS232 control data transmission
- hd video transmission for NLOS/LOS

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