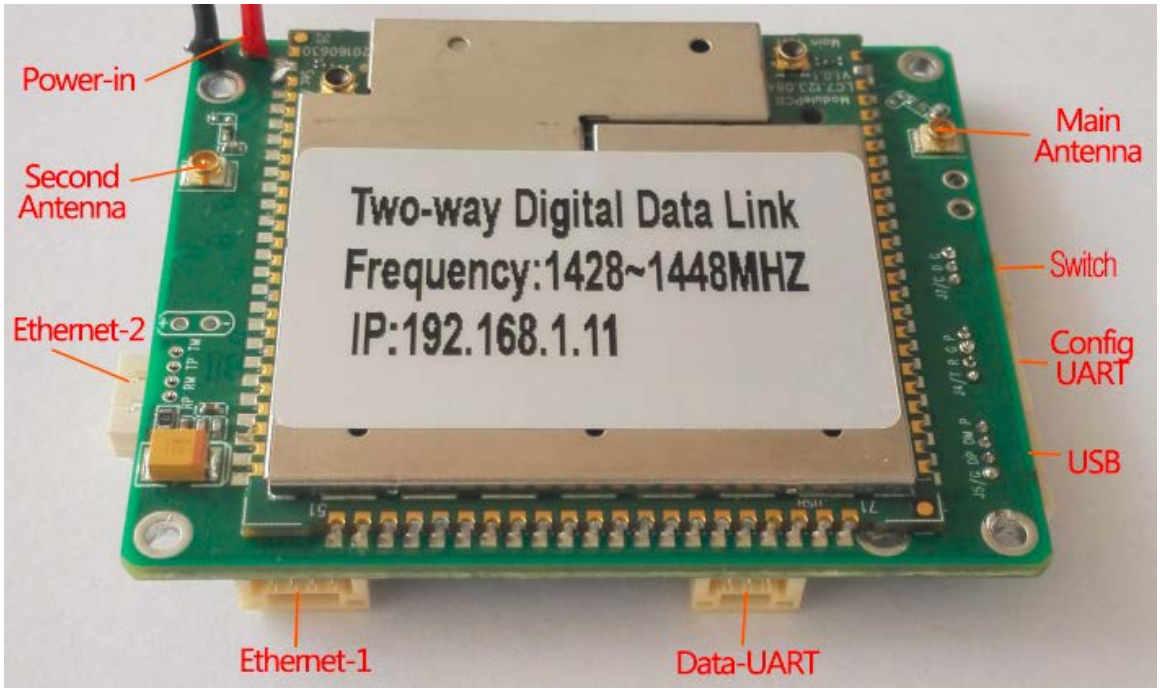
DLM Module

-- TDD OFDM full duplex wireless transceiver module for video and data Link
-- RF Power: 25±2dBm
-- Working Frequency: 806~826HMz, 1428~1448MHz, 2402~2482MHz
-- 2 Ethernet and 1 TTL uart data link
-- Transmit distance: 500~2000 meter(ground-to-ground), 5~17km(UAV-to-ground)



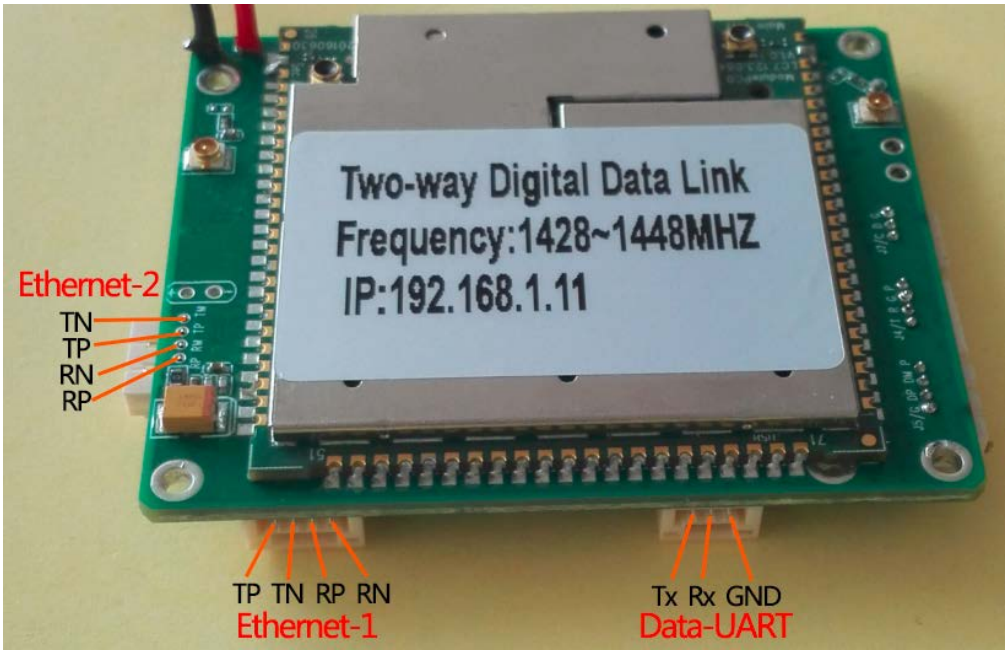
Sihid DLM module was designed for video and data wireless transmission with two way wireless data link. This OFDM radio module works at 800MHz, 1.4GHz and 2.4GHz bands, with frequency hopping technology (FHSS) to make sure better stability signal communication.

Features:

- TDD OFDM modulation

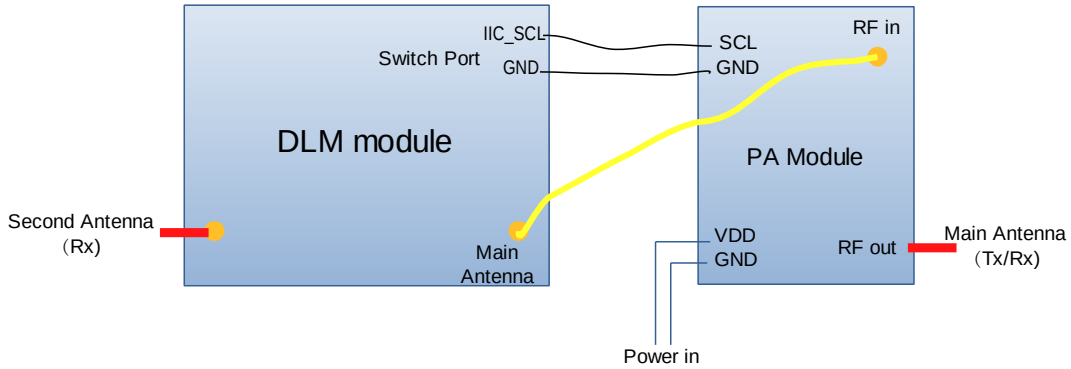
- Supports 3 bands (806~826HMz/1428~1448MHz/2402~2482MHz)
- Supports FHSS inside each band
- 1.4/3/5/10/20MHz bandwidths
- Max 30Mbps@20MHz throughput
- RF transmission power: 25±2 dBm
- Constellation: QPSK, 16QAM, 64QAM, self-adaption
- Sensitivity: -106dBm(2.4GHz 1Mbps), -108dBm(1.4GHz 1Mbps), -108dBm(800MHz 1Mbps)
- Supports IP data transmission(2 Ethernet port)
- Supports serial data transmission(1 channel, TTL)
- Up to 17km LOS (UAV-to-ground) and 2km LOS(ground-to-ground)
- WebUI or config uart for management
- AES128 encryption
- Uplink and downlink stream control
- Networking mode: One-to-one, one-to-many, many-to-one, mesh(specify)
- Power consumption: <4W
- Dimensions: 58*48*10mm
- Weight: 28g
- Working Temp. -20℃ ~ +65℃
- Storage Temp. -40℃ ~ +80℃

Power in	2 welding hole, DC in:7~30V
Ethernet-1	4PIN PH1.25mm Connector(lockable)
Ethernet-2	4PIN PH1.25mm Connector
FPC_Main	Designed for connecting with Sihid video encoder/decoder module
Data UART	3PIN PH1.25mm lockable Connector, TTL 3.3V
Config UART	4PIN PH1.25mm Connector
USB	4PIN PH1.25mm Connector, for software upgrading
Switch	Tx/Rx control signal for outside power amplifier
Main-Antenna	Tx/Rx Antenna port, IPEX
Second-Antenna	Rx Antenna port, IPEX



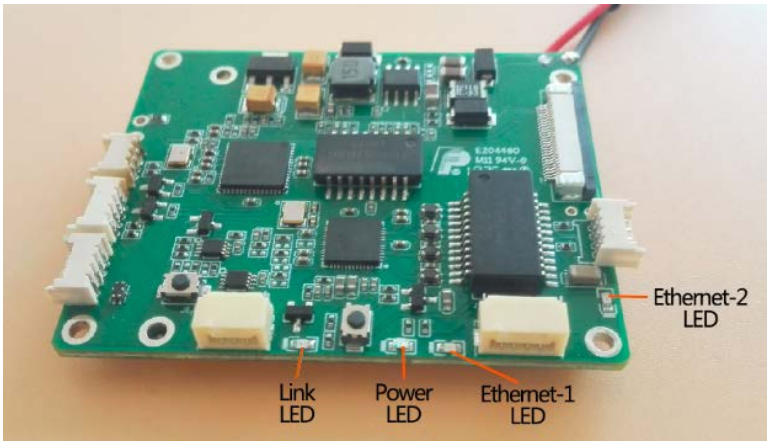
Switch Port

This port is Tx/Rx control signal for outside power amplifier. The maximum RF transmission power of DLM module is 25±2 dBm, Sihid also provides power amplifier to increase the RF Power to 2W/5W/10W. Below diagram shows how to add power amplifier outside of the DLM module.



Config UART and USB port

Only one of these two ports is valid at the same time. USB port is valid by default shipment. Please contact with Sihid if you need to use config uart.



Ethernet-1 LED: green, blinks on data transmission

Ethernet-2 LED: green, blinks on data transmission

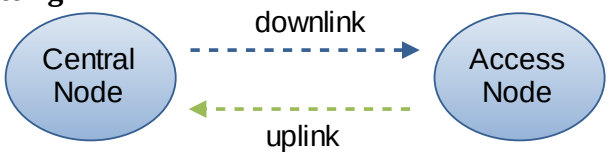
Power LED: red, light on normal powered

Link LED: green, light on wireless linked (access node)

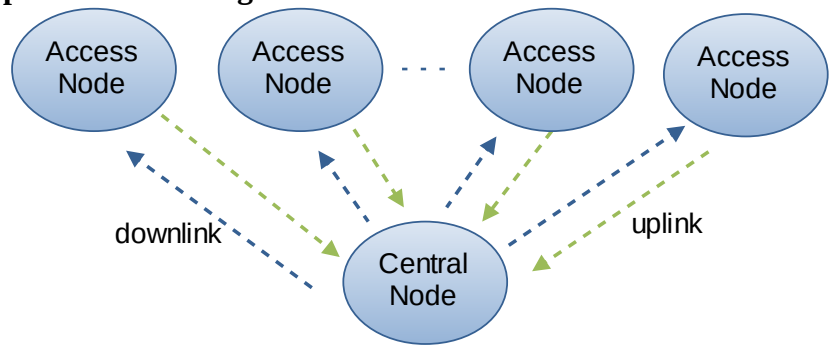
Wireless networking with DLM module

DLM module supports two operating modes: Access Node or Central Node. It can be managed through Web UI or AT command via config uart. DLM module supports features of maximum 16 Access Nodes connected to a Central Node. All of the Nodes are in a same wireless LAN and share the whole transmission bandwidth (maximum 30Mbps@20MHz throughput). Data from Central Node to Access Node, we call downlink, and data from Access Node to Central Node, we call uplink. Uplink and downlink stream ratio can be controlled through web UI or AT command. When using DLM module for Point-to-Point transmitting, uplink and downlink share the whole transmission bandwidth (maximum 30Mbps@20MHz throughput) too. DLM module supports networking mode: Point -to-Point, Point-to-Multipoint, Relay, and Mesh (specify mesh version when order).

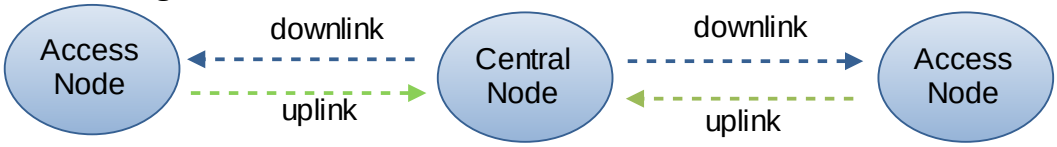
Point-to-Point transmitting



Point-to-Multipoint transmitting



Relay transmitting



Mesh transmitting (Specify)