Shining Technology, Inc.
TAPELESS VIDEO RECORDING LEADER

SUV HD50K-Lava Specifications

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Overview

The SUV HD50K-Lava module based on Getop's Lava Pro design provides a remarkable performance full HD wireless solution for advanced and professional UAV drones. With the cutting edge communication Base Band technology powered by Lava Pro, the HD50K-Lava system provides robust uncapped ultra-long range FHD video wireless transmission in the easy integrated PCB modules.

And also, this HD50K-Lava is a full-duplex communication system which supports transmitting control signal in the uplink channel while video and data in the downlink channel. This HD50K-Lava module is highly integrated; dramatically reduces the difficulty and eases the complexity for the communication system design of the UAV drones.
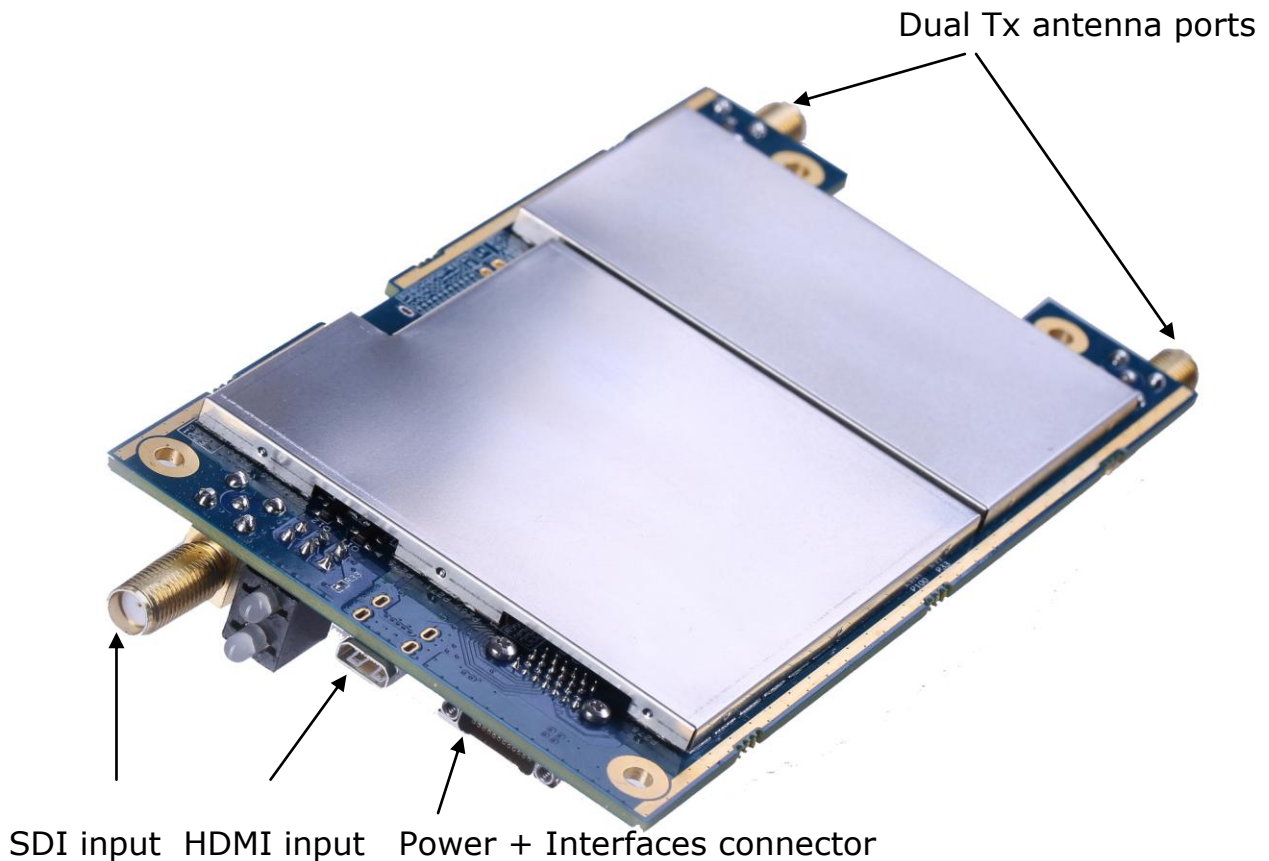
Features

- Dual camera inputs -- Dual video processors, i.e. one SDI and one HDMI input
- Integrating Transmitter & Receiver functions in one module –
  1080P@30fps & 720P@60fps
- Automatic carrier frequency, bandwidth & bit rate selections for both
  downlink and uplink --
  Wide carrier frequency range and full duplex communication
- Great signal quality and bit rate –
  MIMO antenna ports for both transmitter and receiver
- Co-exists with Wifi/3G/4G/Blutooth signals –
  Resilient signal processing algorithm eliminates in-band or neighboring bands'
  Interference
- Greatly improves signal integrity in dense city environment or in the valley –
  In-house developed echo estimation and balancing algorithm
- Multiple interfaces for control panel, joysticks, GPS, various sensors and flight
  control
- Multiple interfaces for control panel, joysticks, GPS, various sensors
- Perform well in high speed(500 km/h ~ 1000 km/h)
- Line-of-Sight distance 20 ~ 70 Kms

Applications

- UAV for aerial photography and FPV
- Wireless surveillance and security
- Mobile live board-cast
- Industrial and commercial inspection
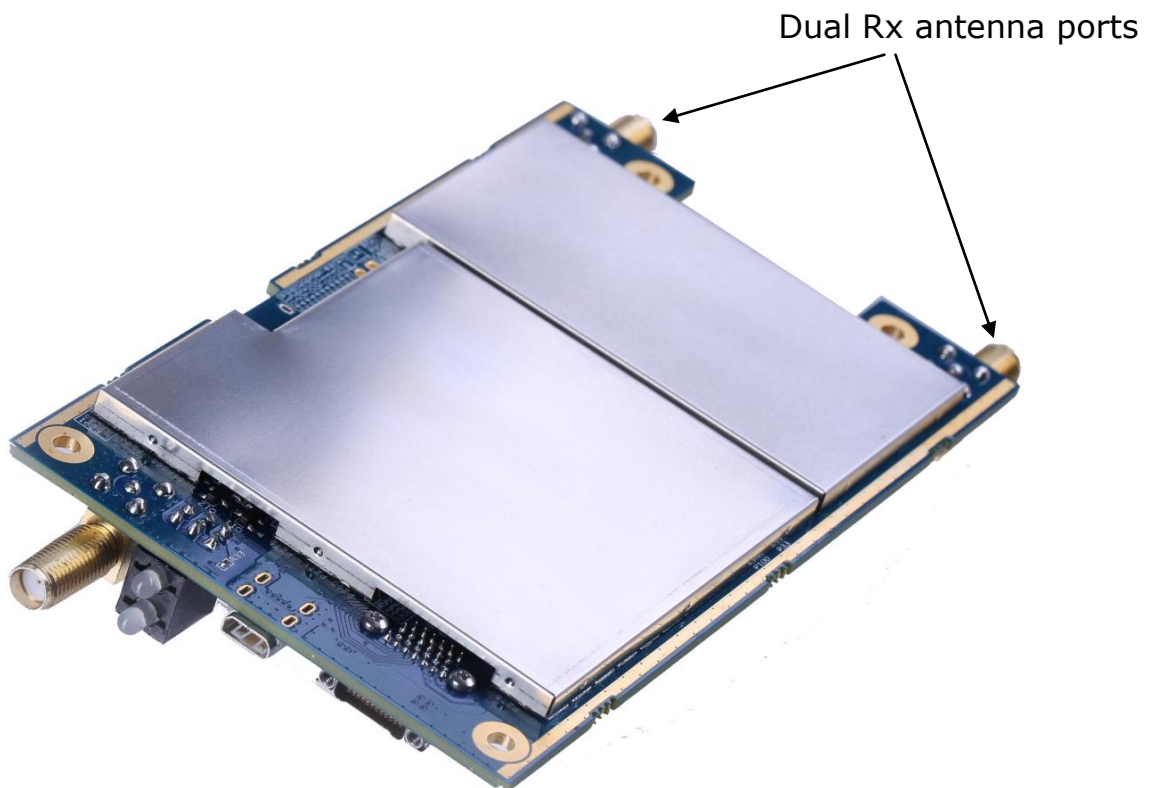- Search and rescue

SUV HD50k-Lava – Transmitter Function

- Transmitter function embeds two Processors encodes one SDI and one HDMI video inputs in H.264 form each simultaneously (dual camera streams)
- Multiple interfaces(SBUS, PWM, UART, USB and SPI) for various sensors' data input
- Embedded the accompanied sensors' data in the video downlink
- Dual MIMO transmitting antenna ports(SMA)
- Wide channel carrier frequency range – 600 Mhz to 800 MHz
  Note: Customizable in between 325 MHz to 3.8 GHz
- Frequency Domain Duplex or Time Division Duplex for simultaneous Tx & Rx
- Tunable channel bandwidth up to 20 Mhz
- Up to 10 Mbps bit rate per modulation(BPSK, QPSK, 16-QAM & 64-QAM)
- Line-of-Sight range up to 50 Km(31 miles)
- RF power output adjustable 17-26 dbm

Dual Tx antenna ports

SDI input   HDMI input   Power + Interfaces connector

SUV HD50k-Lava – Receiver Function

- Receiver function outputs the H.264 video data to USB2 OTC port
- Multiple interfaces(SBUS, PWM, UART, USB and SPI) for panel, control joystick and sensors' data output
- Dual MIMO receiving antenna ports(SMA)
- Wide channel carrier frequency range – 600 Mhz to 800 MHz
  Note: Customizable in between 325 MHz to 3.8 GHz
- Frequency Domain Duplex or Time Division Duplex for simultaneous Tx & Rx
- Tunable channel bandwidth up to 20 Mhz
- Up to 10 Mbps bit rate per modulation(BPSK, QPSK, 16-QAM & 64-QAM)
- Video latency < 200 ms
- Line-of-Sight range up to 50 Km(31 miles)

Dual Rx antenna ports

SUV HD50k-Lava – Dimension and Power

- Transmitter RF power in between 17 – 26 dbm(adjustable)

- Transmitter power consumption < 3 Watts

- Total power consumption < 5 Watts

- Operating humidity < 95%(+35 degree)

- Operating temperature -40° C - 85° C(-40° F - 175° F)

- Dimension: 115 x 70 x 20 mm(4.33" x 2.76" x 0.79")

- DC power input +5V to +15V