ST531 COFDM Wireless Downlink Transmitter

--10W/20W HD video COFDM wireless downlink transmitter with HDMI/ AV input interface

The ST531 wireless digital video transmitter was designed for use with HD or SD cameras, it's a superior miniature wireless video transmitter designed to capture real-time, high-quality video from Point of View Cameras, UAV/UGV/Body Cams/Concealments, and sports cameras. The transmitter features HDMI or AV inputs with COFDM modulation technology and H.264/H.265 encoding that complete video audio transmission in high-speed motion and NLOS (none line of sight) conditions with low latency. The ST531 delivers up to 10W or 20W of power in a small metal case weighing less than 910 grams, providing long range, reliable HD video transmission.

Features:

- COFDM modulation and H.264/H.265 video compression;
- Full HD resolution, 1080p/i @60fps;
- Supports two channel videos at the same time(optional)
- Great security by AES encryption;
- Modular design and high integration;
- Stable signal transfer in NLOS and high-speed motion;
- Adjustable working frequency, band width, bitrates, RF power, etc.

Specification:

IO

HD Video input	HDMI Type-A connector
Composite Video input	3.5mm earphone connector
UART data	YC8-3 connector, TTL 3.3V by default(optional RS232)
TTL UART control	YC8-4 connector, TTL 3.3V
Power in	GX12-2 connector
RF output	TNC female

Modulation

Modulation Formats	COFDM(DVB-T)
Carriers	2K
Bandwidth	Configurable from 1MHz to 8MHz, step by 1KHz
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/32, 1/16, 1/8, 1/4
Constellation	QPSK, 16QAM, 64QAM
Bitrates	0.5Mbps to 31.67Mbps

RF

Frequency Bands	Specify central working frequency F0 with band width about F0±15MHz, ranges available from 200~860MHz
Tuning Step size	1KHz
Transmission power	10W(40dBm) or 20W(43dBm)

Video and Audio

Video input	HDMI or CVBS, auto-detected after system start-up Optional: two channel video input/encoding/transmit at the same time
Video formats	1080@60P, 1080@50P, 1080@30P, 1080@25P, 1080@24P, 1080@60I, 1080@50I, 1080@30I, 720@60P, 720@50P, 720@30P, …… 720*480 60I(NTSC), 720*576 50I(PAL)
Video Coding	H.264/H.265
Audio input	Embedded HDMI or analog audio
Audio Coding	AAC, 16bit, stereo, 32Kbps
Encryption	AES256

Monitoring and control
Comprehensive transmitter setup with Sihid Config Panel or PC or other device via Control UART.

Temperature range
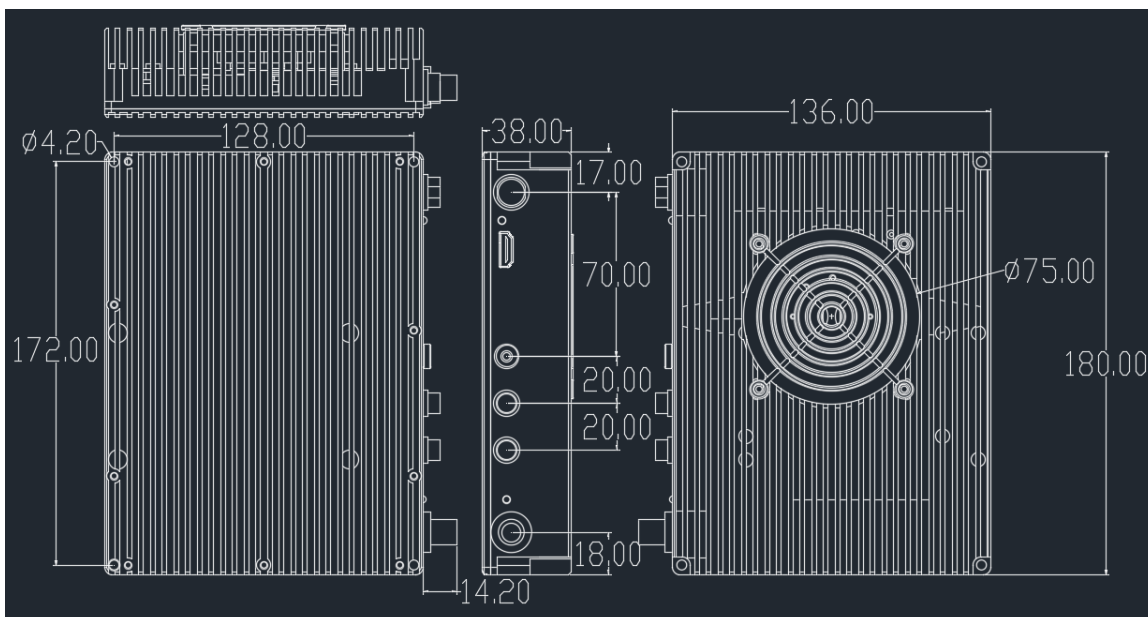Full specification: 0° to +55°C Ambient
Storage: –40° to +80°C

Physical Characteristics
Weight: 906g
Dimensions: 180*136*38mm (not including connectors out of the board)

Power requirements
Input range: 24~30VDC (28V as default)
Power consumption: <2.8A@24V(10W RF power) , <3.1A@24V(20W RF Power)

Outline(mm)

IO signals

AV-in

Analog video and audio input, 3.5mm earphone connector. Customer can set up PAL/NTSC video input via control uart. The default analog audio input is line-in, Mic-in need to be specified before shipping out. We will provide the AV-in connection cable as below picture with the transmitter.

Control uart

We will provide connection cable with the signals described as below table.

Cable color	Control uart signal
Red cable	5V
Green cable	Tx
Yellow cable	Rx
Black cable	GND

Data uart

We will provide connection cable with the signals described as below table.

Cable color	Control uart signal
Red cable	Tx
Yellow cable	Rx
Black cable	GND