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INDUSTRIAL PRODUCT DATASHEET

PureThermal 1 with Radiometric FLIR Lepton 2.5

Compact, open-source USB thermal camera module with plug-and-play UVC video and versatile expansion for FLIR Lepton cores.

SKU	UPDATED	PRICE
114991291	2024-08-09 01:52:04	$299.00(Excl. VAT)



Overview



The PureThermal 1 with Radiometric FLIR Lepton 2.5 is a hackable thermal webcam module for FLIR Lepton LWIR camera cores, pre-configured as a plug-and-play UVC 1.0 USB device delivering 9 Hz color video across Windows, Linux, Mac, and Android. It features an STM32F412 ARM microprocessor for on-board image processing, along with expansion headers for Wi-Fi, UART, I2C, analog video output, and integrated TMP007 temperature sensor and Li-ion battery charger support.

Key Features

Description

Dear customers, this product is not available in Seeed Bazaar now due to some policy reasons. You can buy it on our Amazon shop later when it's instock. Please stay tuned! Thanks for your support and sorry for the inconvenience.

PureThermal 1 is the latest innovation in FLIR Lepton® development by GetLab. Get thermal video over USB right out of the box for all of your favorite platforms and hack it to your heart's content because the firmware is open and the schematic is published.

The PureThermal 1 FLIR Lepton Smart I/O Module is a hackable thermal webcam module for the FLIR Lepton LWIR camera core. It ships pre-configured to operate as a plug-and-play UVC 1.0 USB thermal webcam that will work with standard webcam apps such as VLC Media Player on PC, Linux, Mac, and even Android. For developers and the more curious, it's reference firmware and hardware schematic are open-source for customized applications and alternate command, control, and video output channels such as analog. The FLIR Lepton camera core is required for operation but not included in the base unit price since many of our users already have Leptons.

Features

- PureThermal 1 can do 9 Hz color video over usb using the USB UVC class
- STM32F412 ARM microprocessor. Execute on-board image processing without the need for an external system. PureThermal 1 boards made before 3/24/17 contain the STM32F411CEU6 ARM microprocessor and not the 412.
- USB UVC works on Windows, Linux, Mac, and even Android
- Through-holes to solder in and integrate an ESP8622 Wi-Fi module
- TMP007 IR Thermopile contactless temperature sensor for manual Lepton calibration
- Open source reference firmware is on the GroupGets Github
- Flash the STM32 ARM MCU over JTAG through a debug ZIF socket and breakout adapter
- Power is supplied over USB. Battery through-holes are provided along with an on-board Li-ion charger IC
- UART Expansion on 100mill header pads
- I2C Expansion on 100mil header pads
- Compatible with all current 2.x and next-generation Leptons
- Compact form-factor that can be embedded into other modules or inconspicuously housed as a standalone web, research, or security camera
- 4-bit Analog Video Output (with different firmware than main release)

Technical Details
Technical details

Part List

DK-LEPTON-1	1

Compliance & Logistics

HSCODE	9031900090

Resource Links

- https://www.seeedstudio.com/PureThermal-1-with-Radiometric-FLIR-Lepton-2-5-p-2915.html
- Resources：PureThermal 1 - Datasheet - v0.9
- Resources：PT1 Hardware Schematic
- Resources：FLIR Lepton Camera Core Data Sheet PDF
- Resources：PT1 Reference Firmware on GitHub
- Resources：Eclipse IDE and JTAG debugging setup
- Resources：PT1 UVC Capture Examples
- Resources：Android App Releases
- Resources：PT1 STEP file
- Resources：PT1 Mechanical Drawing
- Resources：PureThermal 1 Firmware Flashing Video Guide for Windows
- Resources：Setting up a Windows Development Environment for PureThermal 1
- Software：GetThermal for x86 - Linux/macOS (open source)
- Software：GetThermal for Raspberry Pi
- Software：Multi PT1 Frame Grabber (beta, unofficial)
- Application Notes："GroupGets PureThermal 1 for Lepton Development" on FLIR's Lepton Maker Community
- Notable Projects：Cooking with PT1 and Mathematica

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