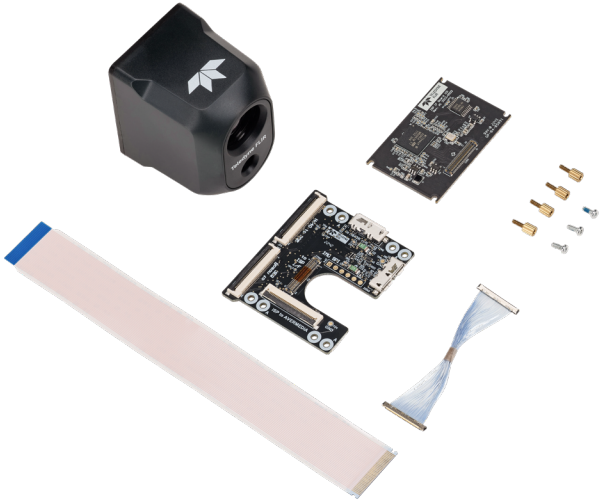


Development Kits for Hadron 640 Dual Camera Module

HADRON™ 640 DEVELOPMENT KITS



Hadron 640 development kits pair the performance-leading Hadron 640 series with development hardware and software drivers to quickly integrate with the Qualcomm® RB5, NVIDIA® Jetson Nano, Qualcomm Snapdragon 865, or the FLIR AVP.

The development kits enable integrators to start imaging and controlling the infrared thermal and visible camera in hours, saving potentially weeks of development time and cost. Hadron 640 includes a 640x512 radiometric resolution Boson® or Boson+ providing the ability to see through total darkness, smoke, most fog, and glare as well as take the temperature of every pixel in the scene.

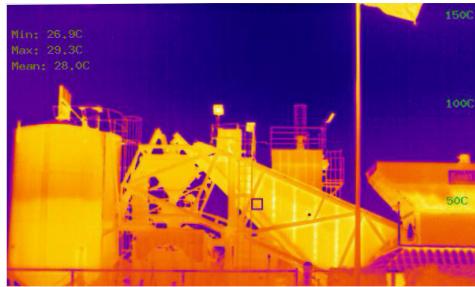
The 64MP visible camera enables long-distance imaging and AI and machine learning for intelligent sensing applications. With a size, weight, and power (SWaP) optimized design and the rapid development kits, the Hadron 640 is the ideal dual sensor payload for integration into unmanned aircraft systems (UAS), unmanned ground vehicles (UGV), robotic platforms, and AI-ready applications where battery life and run-time are mission critical.



PLUG-AND-PLAY DEVELOPMENT SOLUTION

Same-day operation reduce development cost and time to market

- Includes interface boards and cabling hardware (development board not included)
- Drivers available for NVIDIA Jetson Nano and Qualcomm RB5 and 865
- Supports Linux and Android development
- Highly qualified, technical services team available to support integration



INDUSTRY-LEADING THERMAL AND VISIBLE CAMERA PERFORMANCE

Collect high-speed, dual VGA radiometric thermal and HD visible imagery

- 64MP visible camera resolution
- Compact, radiometric, 640x512-resolution Boson or Boson+ provides the temperature of every pixel
- Flexible dual 60 Hz video output via USB or MIPI
- Classified under US Department of Commerce jurisdiction as EAR99



SIZE, WEIGHT, AND POWER OPTIMIZED DESIGN

Extend operation time with compact, lightweight, and low-power module

- Low, steady state power consumption at 1.8W
- IP54-rated dust and water protection
- Lightweight 56 g enables longer flight time and extends battery life

For more information visit:
www.flir.com/hadron

www.teledyneflir.com

Imagery for illustration purposes only. Specifications are subject to change without notice. ©2024 Teledyne FLIR LLC, Inc. All rights reserved.
06/07/2024 REV1



PRODUCT SPECIFICATIONS

EMBEDDED SYSTEM	NVIDIA Jetson Nano	Qualcomm Snapdragon 865	Qualcomm Snapdragon RB5
Operating System	Linux	Android	Linux
Development Board	AVerMedia® EN715 Carrier Board	Lantronix Open-Q™ 865XR SOM Development Kit	Qualcomm Robotics RB5 Development Kit
CAMERA FEATURES SUPPORTED BY PLATFORM			
Maximal Resolution	16MP	64MP	64MP
White Balance (Defined Presets)	Yes	Yes	Yes
White Balance (Granular)	Yes	Yes	Yes
Resolution Change	Yes	Yes	Yes
Sensitivity (ISO)	Yes	Yes	Yes
Zoom	Yes	Yes	Yes
Image Capture to jpeg	Yes	Yes	Yes
RAW Image Capture	Yes		Yes
Brightness	Yes		Yes
Horizontal & Vertical Flip	Yes		Yes
Sharpness	Yes		Yes
Shutter Speed	Yes		Yes
Gain (Granular)	Yes		Yes
Auto Exposure Control	Yes		Yes
Binning for Low Light	Default Bin to 16MP	Qualcomm / Android Restricted	Yes
Sensor Crop Zones	Yes		Yes
Reading Sensor Temperature	Yes		Yes
Contrast	Yes		No
Saturation	Yes		No
Hue	Yes		No
WDR	Yes		No
Denoise	Yes		Feature Requires Image Tuning
Sensor HDR Utilization	No - ISP does not support		Feature Requires Image Tuning
KIT COMPONENTS			
Parts Included (Hadron 640 module not included)	<ul style="list-style-type: none"> QC RB5/Nvidia Nano interface board for Hadron 640 ISP Board Cable Assembly, Univ IF FFC-20220512 Cable Assembly, Univ IF-20220517 	<ul style="list-style-type: none"> QC RB5/Nvidia Nano interface board for Hadron 640 Test Board, Hadron 640 (2) FPC cables 	<ul style="list-style-type: none"> QC RB5/Nvidia Nano interface board for Hadron 640 Test Board for Hadron 640 (2) FPC cables
Part Number	421-0095-00	421-0094-00	421-0096-00

Specifications are subject to change without notice.

SANTA BARBARA
Teledyne FLIR LLC, Inc.
6769 Hollister Ave.
Goleta, CA 93117
PH: +1 805.690.6602

EUROPE
Teledyne FLIR LLC, Inc.
Luxemburgstraat 2
2321 Meer
Belgium
PH: +32 (0) 3665 5106

Equipment described herein is subject to US export regulations and may require a license prior to export. Diversion contrary to US law is prohibited. Imagery for illustration purposes only. Specifications are subject to change without notice. ©2024 Teledyne FLIR LLC, Inc.

Approved for public release. Teledyne FLIR Approved [FLIRGTC-SBA-001]

All rights reserved. Revised 06/07/2024

22-0420-OEM-UAS-Hadron-640-Datasheet-LTR

For more information visit:
www.flir.com/hadron

www.teledyneflir.com