

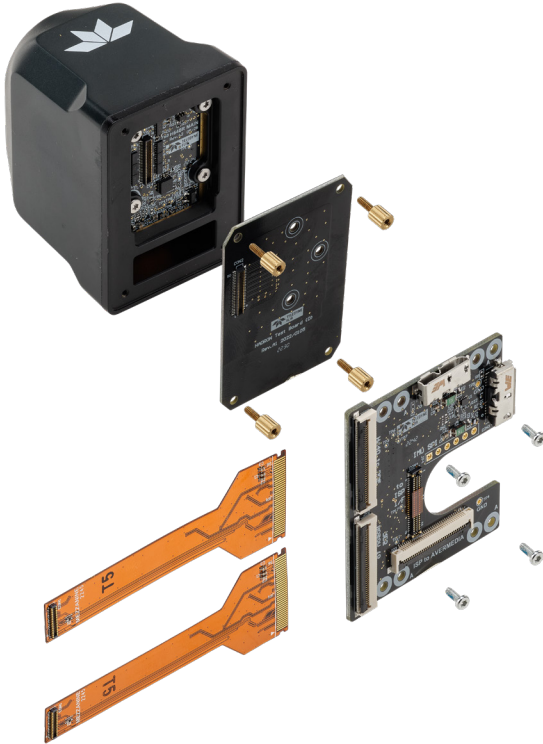
Development Kits for Hadron 640R Dual Camera Module

HADRON™ 640R DEVELOPMENT KITS

Hadron 640R development kits pair the performance-leading Hadron 640R with hardware and reference software drivers for quick integration with development boards supporting the Qualcomm RB5, the NVIDIA Jetson Nano, and the Qualcomm Snapdragon 865.

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 640R includes a 64 MP visible camera and a 640x512 resolution radiometric 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.

With a size, weight, and power (SWaP) optimized design and the rapid development kits, the Hadron 640R 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*)
- Reference drivers available for specified development boards from Avermedia, Lantronix, and Qualcomm
- Supports Linux and Android development
- US-based 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

- 64 MP visible camera resolution
- Compact, radiometric, 640x512-resolution Boson provides the temperature of every pixel
- Flexible dual 60 Hz video output via USB or MIPI



SIZE, WEIGHT, AND POWER OPTIMIZED DESIGN

Extend operation time with compact, lightweight, and low-power Hadron 640R

- 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/hadron640R

www.teledyneflir.com

Imagery for illustration purposes only. Specifications are subject to change without notice. ©2022 Teledyne FLIR LLC, Inc. All rights reserved.
04/10/2023 REV1



PRODUCT SPECIFICATIONS

EMBEDDED SYSTEM	Nvidia Jetson Nano	Qualcomm Snapdragon 865	Qualcomm RB5
Operating System	Linux	Android	Linux
Development Board (not included)	Avermedia D111NO Jetson Nano Development System*	Lantronix Open-Q™ 865XR SOM Development Kit	Qualcomm® Robotics RB5 Vision Kit*
KIT COMPONENTS			
Hardware Included (<i>Does not include Hadron 640R</i>)	<ul style="list-style-type: none"> QC RB5/Nvidia Nano interface board for Hadron 640R 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 640R Test Board, Hadron 640R (2) FPC cables 	<ul style="list-style-type: none"> QC RB5/Nvidia Nano interface board for Hadron 640R Test Board for Hadron 640R (2) FPC cables
Part Number	421-0095-00	421-0094-00	421-0096-00
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	Qualcomm / Android Restricted	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		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

Specifications are subject to change without notice

*For plug and play support, the Avermedia D111NO Jetson Nano and Qualcomm RB5 development boards must be used.

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. ©2023 Teledyne FLIR LLC, Inc.

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

All rights reserved. Revised 04/10/2023

23-0331-OEM-UAS-Hadron-640R-Devkits-Datasheet-LTR

For More Information Visit:
www.flir.com/hadron640R

www.teledyneflir.com