Product Document

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Hermes – USB 3D Camera

Description

Hermes is a USB 3D camera that allows users to evaluate the performances of ams 3D sensing solutions for structured light and active stereo technologies.

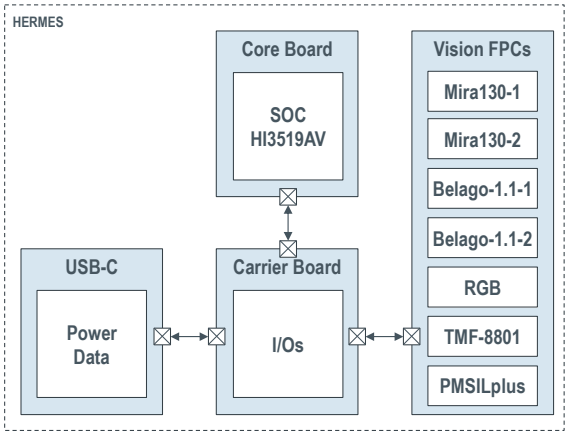

Figure 1 Hermes Block Diagram

Key Features

- Simple and convenient to use.
- Active stereo vision (ASV) and structured light (SL) technologies implemented and supported.
- 3 possible baselines for different evaluation scenarios (50mm ASV, 25mm SL, 42mm SL).
- UVC-1.5[1] device compatible with Windows.
- UVC API provided to drive the system's illuminators and sensors.
- Depth map viewer to export NIR and depth frames.

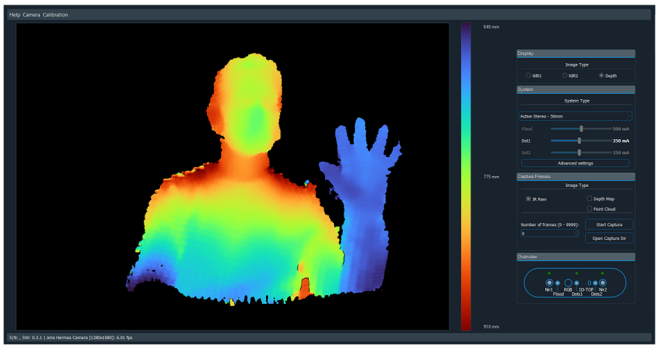

Figure 2 Depth map viewer

System Specifications

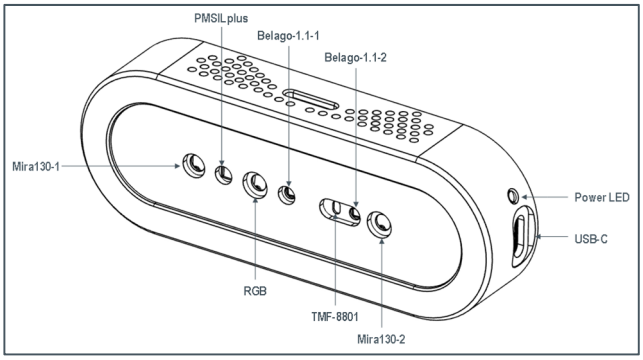

Figure 3 Hermes System

Physical	
Size	50x20x120 mm
Power (max.)	8W
Power interface	USB-C
Heat dissipation	Passive cooling
Components Selection	
NIR Camera	Mira130 (1280*1080px) FOV H 58.2 x V 50.3°
RGB Camera	OV8856 (3264x2448px) FOV H 60.2° x V 75°
Flood Illuminator	PMSILplus 70x60° FOI
Dot Illuminator	Belago1.1 78x60° FOI - 5k dots.
1D-TOF	TMF-8801
3D Sensing	
Baseline Active Stereo	50mm
Baseline Structured Light 1	25mm
Baseline Structured Light 2	42mm
Active Stereo Precision[2]	0.35% @1.0m 100KLux
Active Stereo Accuracy[2]	0.3% @1.0m 100KLux
Structured Light 1 Precision[2]	0.8% @1.0m 100KLux
Structured Light 1 Accuracy[2]	0.62% @1.0m 100KLux
Structured Light 2 Precision[2]	0.5% @1.0m 100KLux
Structured Light 2 Accuracy[2]	0.45% @1.0m 100KLux
Streaming	
UVC Channel 1	NIR (set by UVC) 2560x1080px Grey Advertised as 1280x1080px **y422**
UVC Channel 2	RGB 3264x2448px **h264**
UVC API	
Illuminators	Current, illuminator selection.
Sensor	Gain

[1] USB Video Class Documentation https://www.usb.org/documents?search=video+class+v1.5&category%5B%5D=49&type%5B%5D=55&items_per_page=50

[2] Measured in a central area of the depth map corresponding to 50% of the total surface of the depth map.