Datasheet

Arducam T2 - 1% Accuracy RGBD ToF Camera All-in-one Kit with RPI5 inside- **B0548**

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Version	Compile	Auditing	Authorize	DATE
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1. Overview

1.1 Product Description

The Arducam T2 All-in-One Kit is the ultimate solution for developers and innovators seeking a ready-to-use RGBD ToF camera. With its 1% depth accuracy, VGA resolution, and up to 33fps frame rate, it delivers unmatched precision and performance. The kit includes everything you need to get started—camera module, processor board, cables, and accessories—making it perfect for prototyping, robotics, AR/VR, and more.

1.2 Scope

The scope of this spec, includes

(1) RGB Camera Module

(2) Depth Camera Module

(3) Arducam RGBD RPI5 All-in-one Kit

In this scope, it does not include

(1) Reliability-Module Level

(2) Schematic

Above optional items can be designed by customer demand.

2. Highlight Features

- [RGBD Imaging for Enhanced Data]: The Arducam T2 combines RGB (color) and depth sensing in a single device, providing richer, more detailed visual data. This dual capability is ideal for applications where both color and depth information are critical, such as AR/VR, robotics, and 3D scanning.

- [Unmatched Depth Accuracy]: With 1% depth accuracy, the T2 ensures precise measurements, even in complex environments. This level of precision is a significant improvement over the T1's 3% accuracy, making it suitable for applications like industrial automation and medical devices

- [VGA Resolution]: The T2 supports up to VGA resolution (640×480), delivering clear, detailed depth maps. This is a major upgrade from the T1's 240×180 resolution, providing more data for accurate analysis and decision-making.

- [Complete Kit for Immediate Use]: The All-in-One Kit includes the camera module, processor board, cables, and accessories, providing everything you need to start your project right away. It's perfect for developers who want a plug-and-play solution without the hassle of sourcing components.

- [Point Cloud & ROS] Point Cloud and ROS supported, with existing demonstration.

3. Disclaimer

While we have made every effort to ensure the accuracy and completeness of the information presented in this datasheet, Arducam reserves the right to make changes to product specifications, features, and documentation without notice. All information provided in this datasheet is subject to change and should be considered for reference purposes only.

4. Basic Specification

RGB Camera	
RGB Sensor	16MP Color Image Sensor
Max Resolution	16 Megapixels 4656(H) x 3496(V)
Max Resolution&Frame Rate (Sensor)	4656×3496@30fps
Max Resolution&Frame Rate (Kit)	4656×3496@10fps
Optical Format	1/2.8"
Output Format	RAW10
Pixel Size	1.12μm x 1.12μm
Camera Interface	MIPI CSI-2
Focus Type	Fixed Focus
FOV	78.4°(D)×65°(H)×52°(V)
Lens Mount	Stock Lens Mount
E.F.L	3.95mm
IR Sensitivity	Integral 650nm IR Filter
Depth Camera	
Max Resolution	VGA
Max Resolution&Frame Rate (Sensor)	640*480: Single-Frequency(0.2 ~1.25m): 33fps Dual-Frequency(0.2 ~ 4.5m): 17fps
Max Resolution&Frame Rate (Kit)	640*480: Single-Frequency(0.2 ~1.25m): 7fps Dual-Frequency(0.2 ~ 4.5m): 4fps
Optical Format	1/4"
Output Format	Y16(RAW12)
Pixel Size	5μm x 5μm
Camera Interface	MIPI CSI-2
Focus Type	Fixed Focus
Light Source	940nm VCSEL illuminator
Focus Type	Fixed Focus
Focal Length	2.5 mm
F.NO	1.12
Field of View(FOV)	78°(D)×64°(H)×50°(V)
Lens Mount	Stock Lens
Depth operating mode/range:	Near mode: 1.25m Far mode: 4.5m
Modulation Frequency	Single Frequency: 120MHz Dual Frequency: 120MHz/20MHz
Measurement Distance	3m@10% Reflectivity
Measurement Accuracy	1%@full range

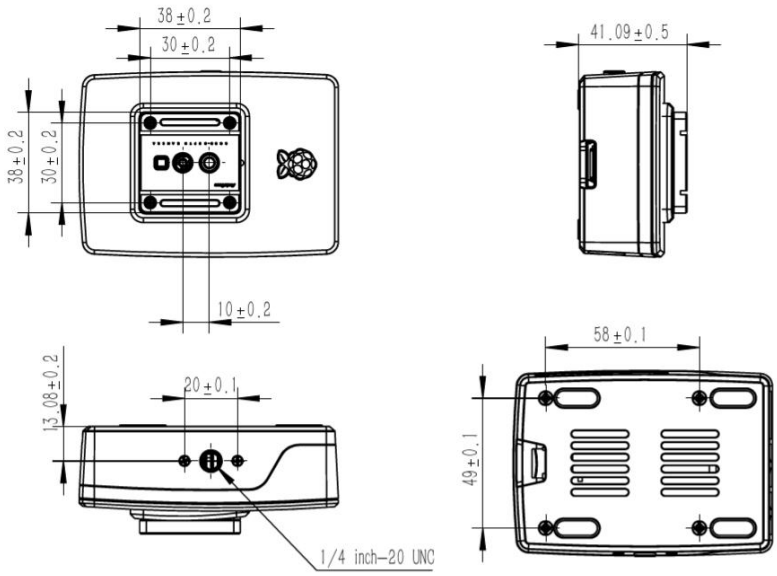
Electrical and Mechanical	
Backend Platform	Raspberry Pi 5
Software OS	Bookworm(32bit/64bit)
Camera Board Size	38mm x 38mm
Operating Temp.	-25°C to 60°C
Working Current (Camera Module)	MAX:3.3V/310mA MAX:5.0V/700mA
Power Supply Requirement	MAX: 27W
Standard and Certifications	
Temperature range (Storage)	-14°F-167°F (-10°C to +75°C)
Temperature range (Operating)	32°F-122°F (0°C to +50°C)
Certification	CE/RoHS

5. Mode & Frequency

MODE	**Mode 2**	**Mode 3**
Resolution	**Near VGA**	**Far VGA**
VCSEL	120MHz	120/20MHz
Frequency	**SF(single freq)**	**DF(dual freq)**
Distance	0.2 ~1.25m	0.2 ~4.5m
Resolution	640x480	640x480
Fps	7fps	4fps

6. Mechanical Drawing (Kit)

6.1 Dimension



6.2 3D Drawing

Please contact Arducam sales for 3D Drawing of camera module

7. More Resources

For any product-related questions, please feel free to contact us:

- **Official website:** www.arducam.com
- **Contact form:** https://www.arducam.com/contact-arducam/
- **Official Wiki:** https://docs.arducam.com/
- **Quick Start Guide:** Arducam PiVistation5 RGBD All-in-one Kit
- **Video Demo-Out of Box:** Arducam T2-PiVistation5 RGBD Kit
- **Video Demo-Point Cloud:** Arducam T2-Point Cloud
- **Video Demo-ROS2:** Arducam T2-ROS2
- **Video Demo-Volume Measurement:** Arducam T2-Volume Measurement Demo
- **Sales E-mail:** sales@arducam.com
- **Support E-mail:** support@arducam.com

8. Certifications