

Mosaic Core Specification

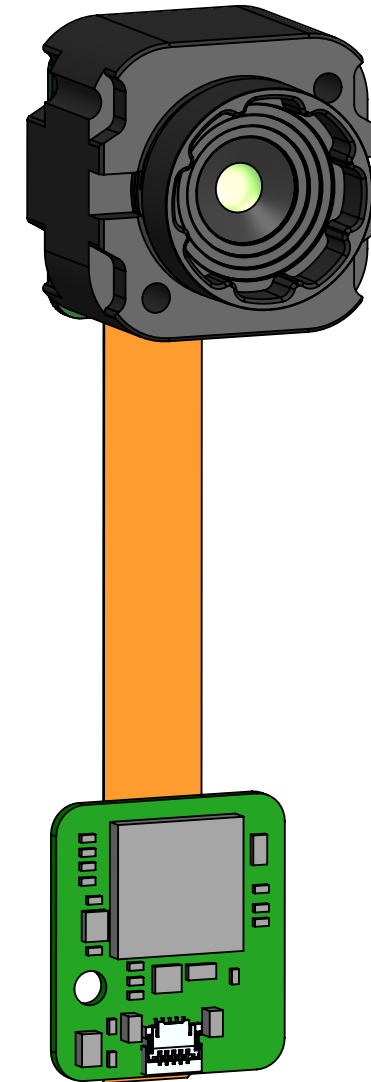
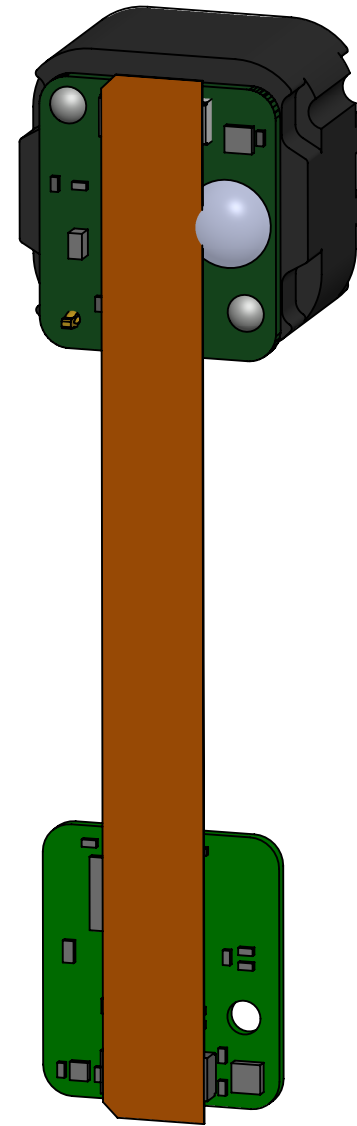
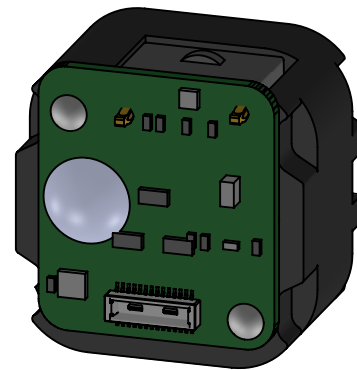
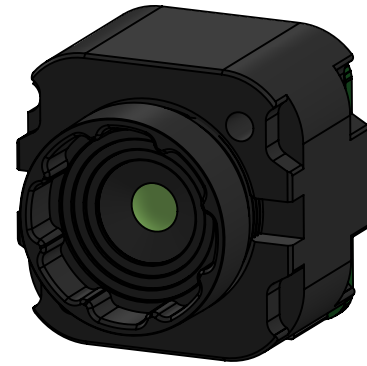
<b>Core Number: C204SP</b>		<b>Starter Kit Number: S204SP</b>		<b>Mktg Rev. 3</b>		<b>11/05/2021</b>	
<b>Product Specifications:</b>				<b>Description</b>			
Microbolometer				Uncooled Vanadium Oxide			
Pixel Pitch				12 Microns			
Spectral Response				7.8 - 14 Microns			
Sensor Resolution (Array Format)				200 (h) x 150 (v); 30,000 pixels			
Frame Rate				Slow Frame - <9Hz			
Non-Uniformity Correction (NUC)				Automatic NUC (with shutter)			
Video Output Interfaces				USB			
<b>Power:</b>							
Power Requirement				3.3-5.0V, <50mW (Core only), 300mW (Core + Coprocessor Board)			
<b>Optical &amp; Mechanical:</b>							
Focal Length				4.0mm EFL			
F-number (Focal Length/aperture)				f/1.00			
Spatial Resolution (IFOV, center)				3.00			
Field of View (FOV)				35° Horizontal x 26° Vertical			
Detection Range				333m (based on Johnson Criteria)			
Recognition Range				83m (based on Johnson Criteria)			
Identification Range				48m (based on Johnson Criteria)			
Distance to Spot Ratio				56:1			
Core Size / Core Weight				20mm x 20mm x 21mm		Core Weight: 12 g	
<b>Seek Software Development Kit:</b>							
Supported Platforms				USB: Seek Linux, Windows, & Android SDK			
<b>Output Formates (User selectable)</b>				<b>Linux / Windows SDK</b>		<b>Android SDK</b>	
				16-bit filtered pre AGC		16-bit filtered pre AGC	
				32-bit ARGB post colorization.		32-bit ARGB post colorization in the bitmap image.	
				32-bit floating point or 16-bit fixed point		32-bit floating point or 16-bit fixed point thermography data.	
<b>Imaging Specifications:</b>				<b>Calibrated Output in °C, °F, K</b>			
Imaging Range				-40°C to +330°C at ambient operating temperature			
Thermography Accuracy				Center spot temperature greater of ±5°C or 5% between 5°C to 140°C			
				Center spot temperature greater of ±10°C or 10% (typical) above 140°C			
				All measured at 25°C ambient operating temperature and nominal measurement distance of 12 inches.			
				Temperature reported is Center Spot temperature, which is an average of the center 36 pixels.			
Sensor Sensitivity				65 mK (typical), <100 mK (max) @ 25°C			
Emmissivity				Factory default emissivity is set to 0.97. Emissivity is adjustable using the SDK.			
<b>Environmental Conditions:</b>							
Operating Temperature Range				-10°C to +60°C (-14°F to 140°F)			
Storage Temperature Range				-40°C to +80°C (-40°F to 176°F)			
Solar Protection				Yes			
Humidity				10%~95%RH, non-condensing			
Regulatory				ROHS, WEEE, REACH			
<b>Accessories:</b>							
Cushion				Yes			
Bracket				Yes			
Sensor Flex				Yes			
Coprocessor Board				Yes			
USB Flex				Yes			
				<p>The diagram shows two main accessory groups. The first group, labeled 'THERMAL CORE', includes a white cushion, a black thermal camera, and a white bracket. The second group, labeled 'COPROCESSOR BOARD AND INTERFACE KIT', includes a yellow sensor flex, a green interface board, and a yellow USB flex. Below the diagram, text reads: 'Provided by seek or receive design files for integration into other electronics'.</p>			
<b>Customer Responsibilities:</b>							
IP Rating				IP67			
Shock/Vibe				Customer responsibility with proper integration into final product housing			

THIS DRAWING COVERS  
THE FOLLOWING SKUS:

- C2\*4\*
- C3\*4\*
- S2\*4\*
- S3\*4\*

NO COPROCESSOR BOARD

"P" OPTION WITH COPROCESSOR BOARD



NOTES:

1. SEE 3D CAD FILE FOR FULL GEOMETRY.

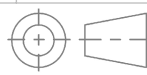
2.  KEYPPOINT FOR SHUTTER CLEARANCE.

3.  LENS ADHESIVE DOES NOT EXTEND ABOVE FRONT FACE.

2. THIS DESIGN IS CAPABLE OF BEING IP67 WHEN USED WITH APPROPRIATE SEALING DESIGN. SEE MOSAIC DATASHEET.

5.  ADHESIVE BUMP PRESENT ON <9Hz CORES.

3. COPROCESSOR BOARD AND FLEX INCLUDED WITH "P" OPTION CORES.

MATERIAL	SEE NOTES	DRAWN	DLM	27MAR2019
FINISH	SEE NOTES	APPR.		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM (IN) IN ACCORDANCE WITH ASME Y14.5-2009		THIRD ANGLE PROJECTION		
GENERAL TOLERANCES 0.5 TO 6 ±0.1 [.004] > 6 TO 30 ±0.2 [.008] > 30 TO 120 ±0.2 [.008] > 120 TO 400 ±0.3 [.012] ANGLES ±1°		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SEEK THERMAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED.		



TITLE: DOC, INTERFACE CONTROL  
DRAWING, MECH, 4.0MM MOSAIC

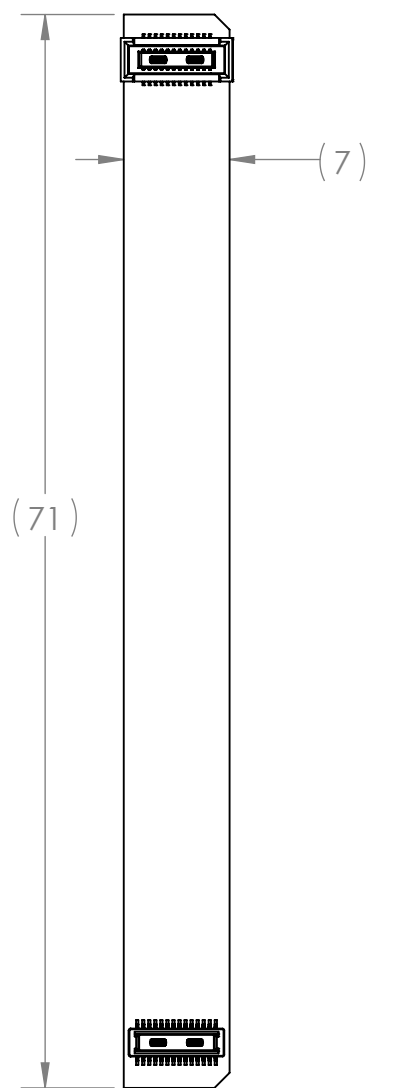
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<b>B</b>	<b>DOC_243</b>	<b>3</b>

SCALE: 2:1 SHEET 1 OF 2

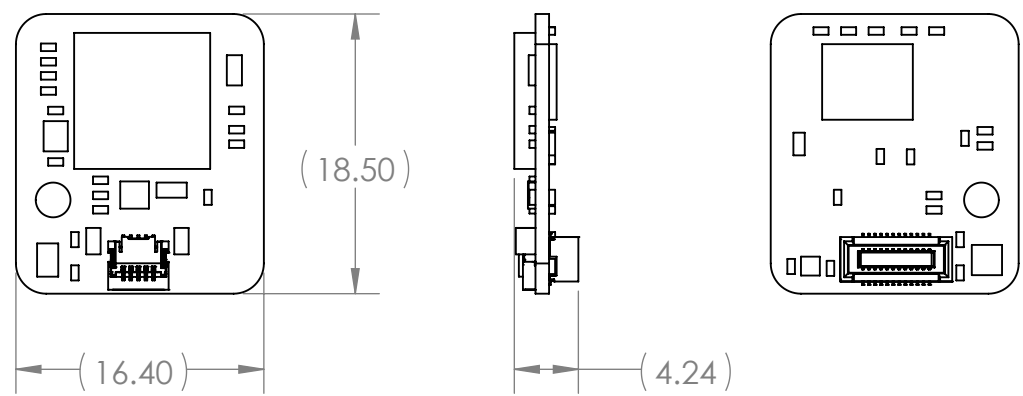
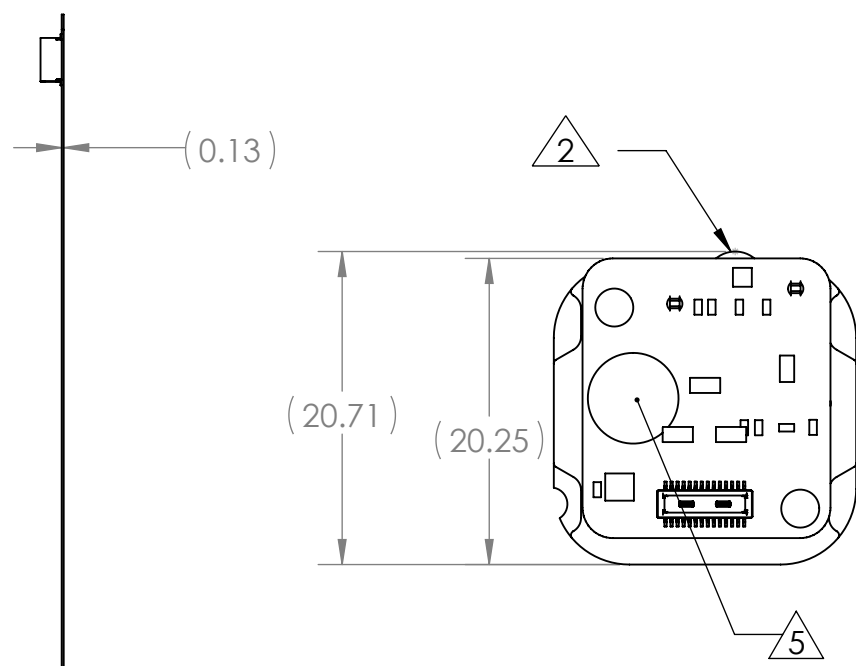
8 7 6 5 4 3 2 1

D  
C  
B  
A

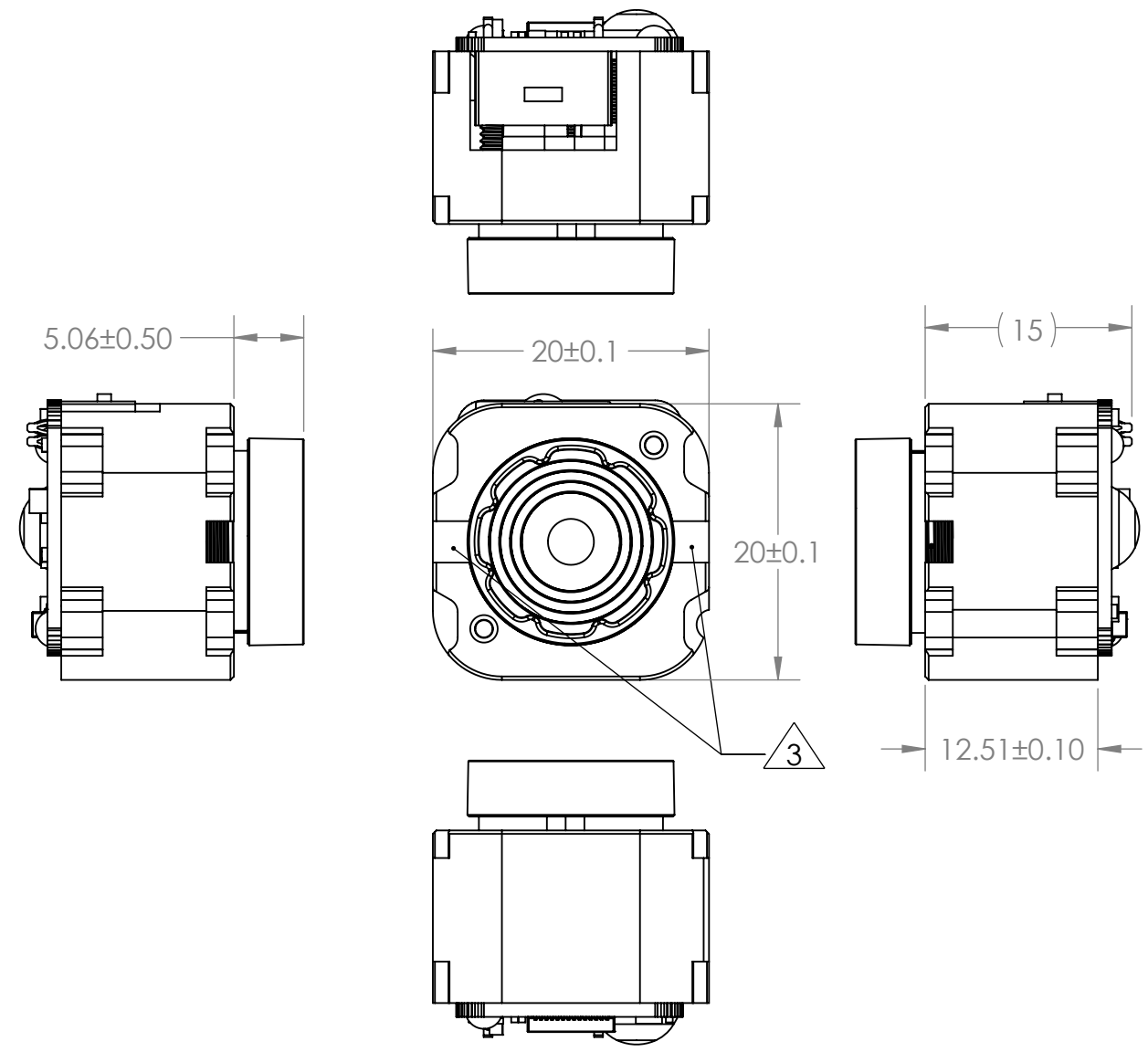
D  
C  
B  
A



FLEX CABLE



COPROCESSOR BOARD



THERMAL IMAGING CORE

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thermal

TITLE: DOC, INTERFACE CONTROL  
DRAWING, MECH, 4.0MM MOSAIC

SIZE <b>B</b>	DWG. NO. <b>DOC_243</b>	REV <b>3</b>
SCALE: 2:1		SHEET 2 OF 2

8 7 6 5 4 3 2 1