

Mosaic Core Specification

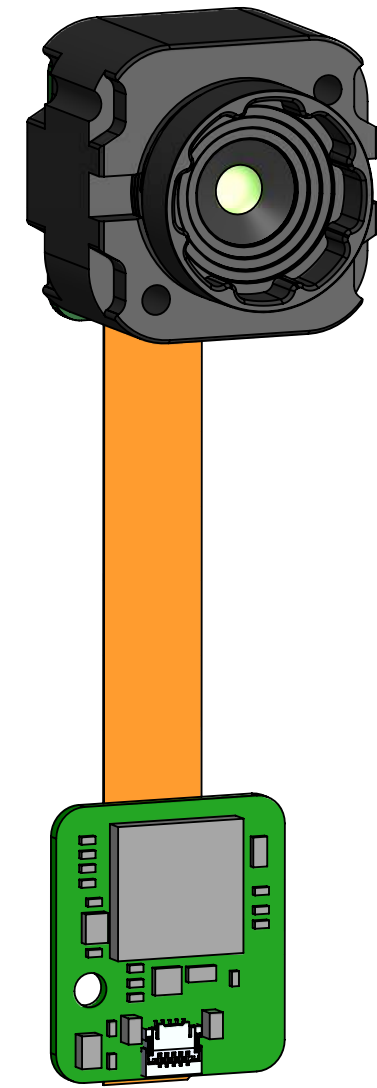
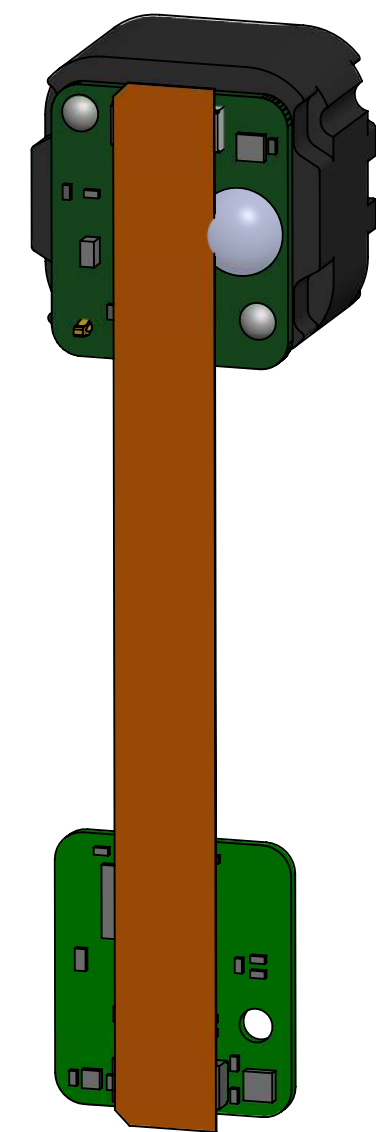
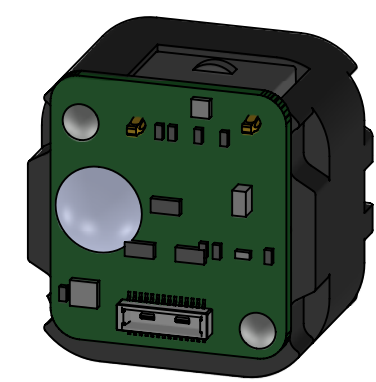
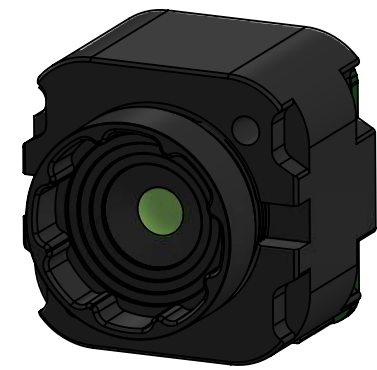
<b>Core Number: C314SPX</b>		<b>Starter Kit Number: S314SPX</b>		<b>Rev. 3</b>		<b>11/05/2021</b>	
<b>Product Specifications:</b>		<b>Description</b>					
Microbolometer		Uncooled Vanadium Oxide					
Pixel Pitch		12 Microns					
Spectral Response		7.8 - 14 Microns					
Sensor Resolution (Array Format)		320 (h) x 240 (v); 76,800 pixels					
Frame Rate		Fast Frame - up to <32Hz					
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)		56° Horizontal x 42° 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		
<b>Imaging Specifications:</b>		<b>Calibrated Output in °C, °F, K</b>					
Imaging Range		-40°C to +330°C at ambient operating temprature					
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					
Coprocesor Board		Yes					
USB Flex		Yes					
		<p style="text-align: center;"> <span style="margin-right: 100px;">THERMAL CORE</span> <span>COPROCESSOR BOARD AND INTERFACE KIT</span>  <small>Provided by seek or freelance design firms for integration into other electronics</small> </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.
4. THIS DESIGN IS CAPABLE OF BEING IP67 WHEN USED WITH APPROPRIATE SEALING DESIGN. SEE MOSAIC DATASHEET.
5. ADHESIVE BUMP PRESENT ON <9Hz CORES.
6. PROCESSOR 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.		

**Seek**<sup>™</sup>  
thermal

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

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

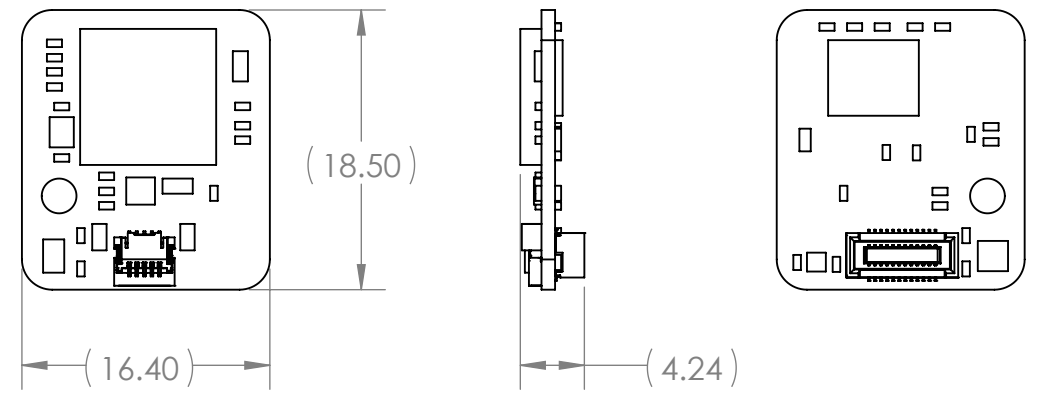
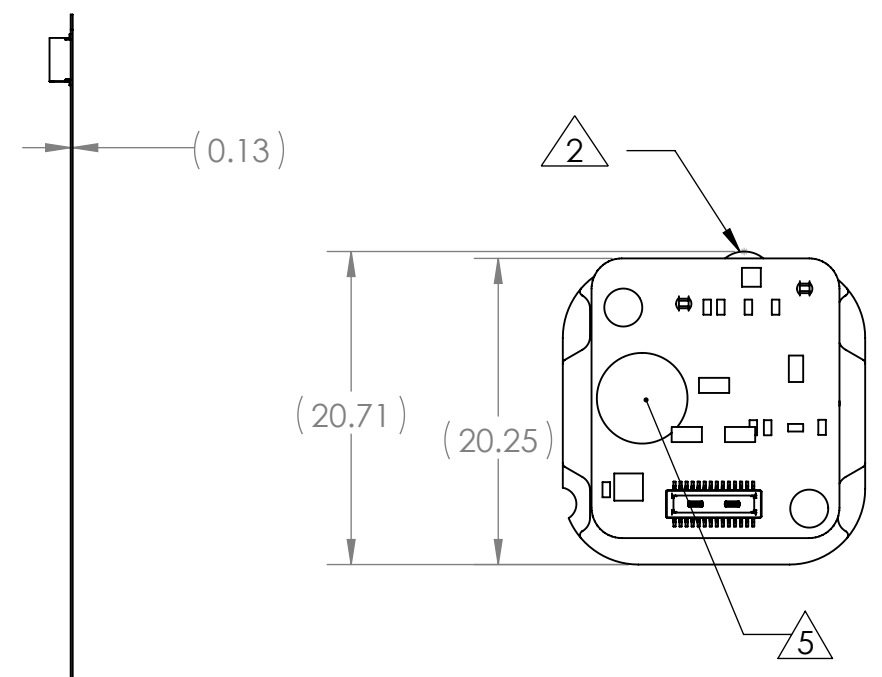
8 7 6 5 4 3 2 1

D  
C  
B  
A

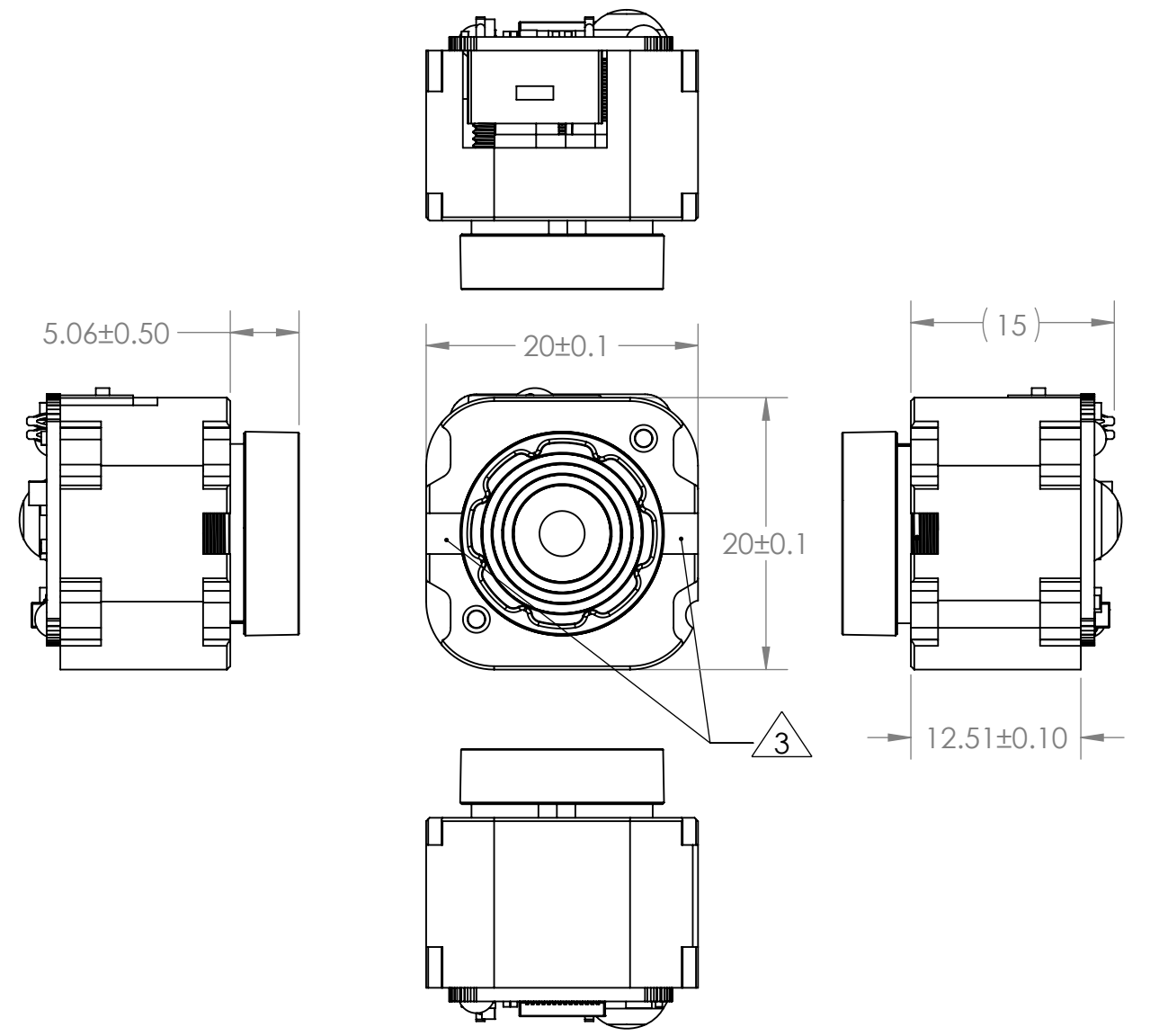
D  
C  
B  
A



FLEX CABLE



COPROCESSOR BOARD



THERMAL IMAGING CORE

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SCALE: 2:1		SHEET 2 OF 2

8 7 6 5 4 3 2 1