

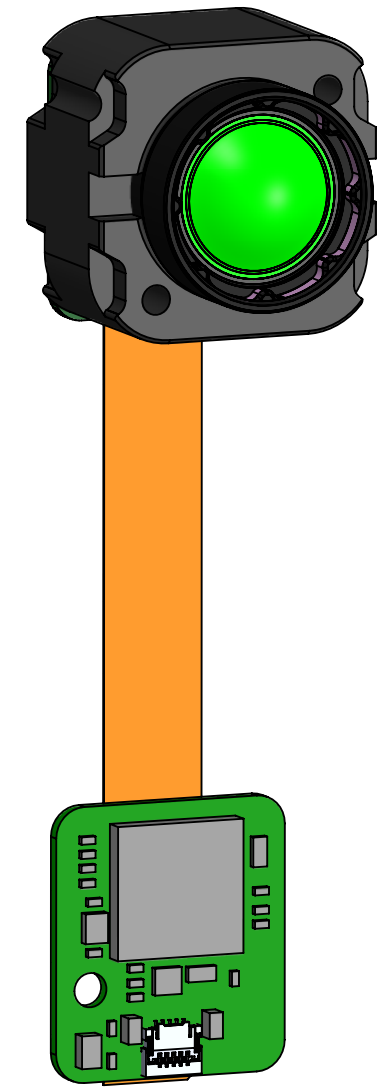
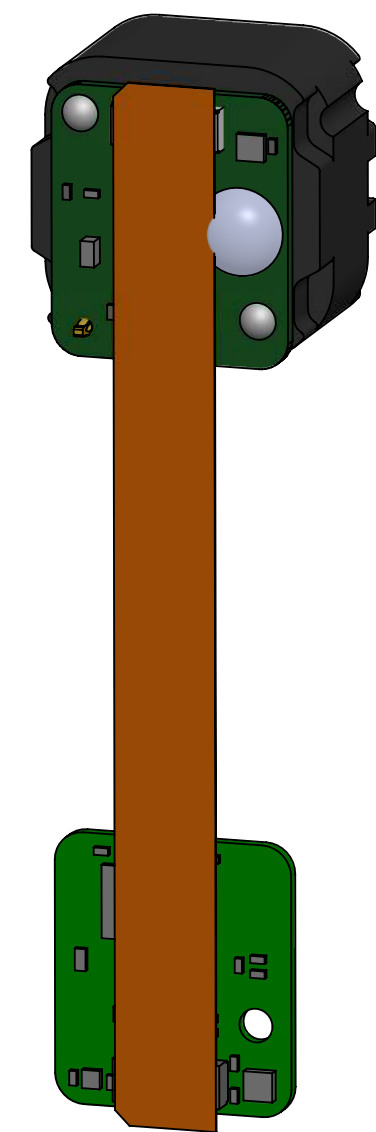
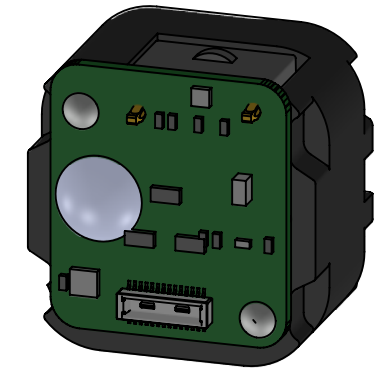
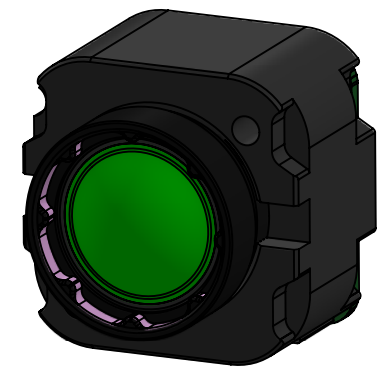
Mosaic Core Specification

<b>Core Number: C209SP</b>		<b>Starter Kit Number: S209SP</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		9.1mm EFL					
F-number (Focal Length/aperture)		f/1.00					
Spatial Resolution (IFOV, center)		1.32					
Field of View (FOV)		15° Horizontal x 12° Vertical					
Detection Range		758m (based on Johnson Criteria)					
Recognition Range		190m (based on Johnson Criteria)					
Identification Range		108m (based on Johnson Criteria)					
Distance to Spot Ratio		126:1					
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		<p>Provided by seek or receive design files for integration into other electronics</p>			
Bracket		Yes					
Sensor Flex		Yes					
Coprocessor Board		Yes					
USB Flex		Yes					
<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\*9\*  
C3\*9\*  
S2\*9\*  
S3\*9\*

NO COPROCESSOR BOARD

"P" OPTION WITH COPROCESSOR BOARD



NOTES:

- 1. SEE 3D CAD FILE FOR FULL GEOMETRY.
- 2. THIS DESIGN IS CAPABLE OF BEING IP67 WHEN USED WITH APPROPRIATE SEALING DESIGN. SEE MOSAIC DATASHEET.
- 3. COPROCESSOR BOARD AND FLEX INCLUDED WITH "P" OPTION CORES.

- 2. KEEP-OUT FOR SHUTTER CLEARANCE.
- 3. LENS ADHESIVE DOES NOT EXTEND ABOVE FRONT FACE.
- 5. ADHESIVE BUMP PRESENT ON <9Hz 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™**  
thermal

TITLE: DOC, INTERFACE CONTROL DRAWING, MECH, 9.1MM MOSAIC

SIZE	DWG. NO.	REV
<b>B</b>	<b>DOC_247</b>	<b>3</b>

SCALE: 2:1      SHEET 1 OF 2

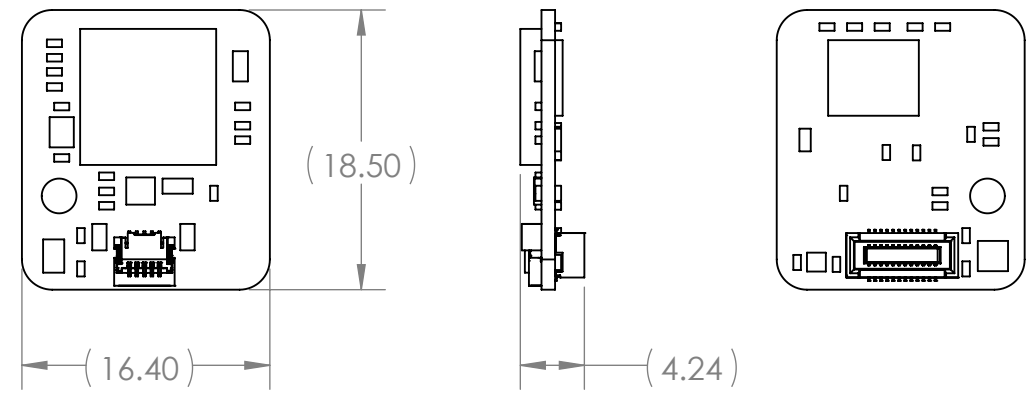
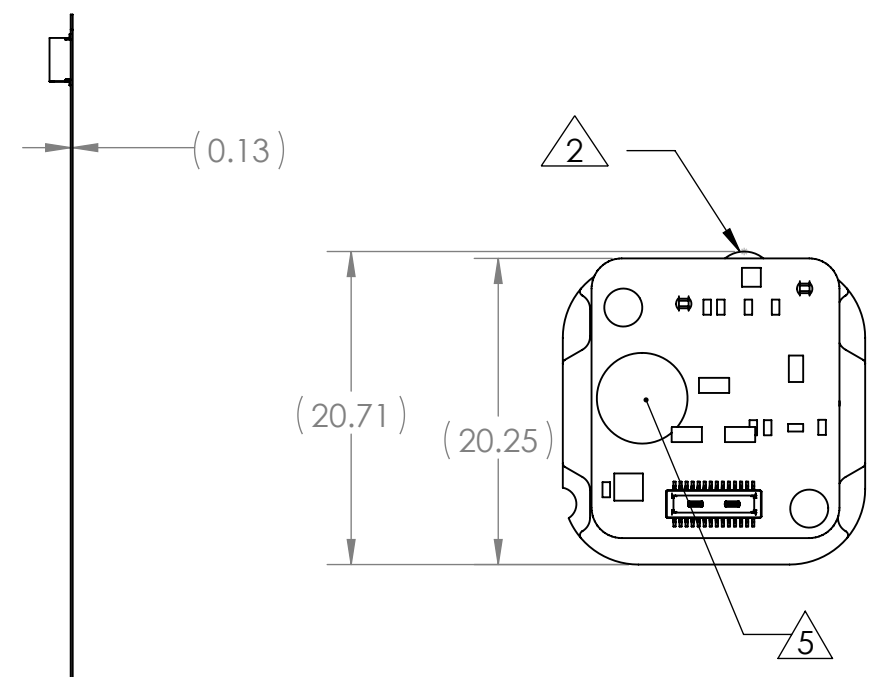
8 7 6 5 4 3 2 1

D  
C  
B  
A

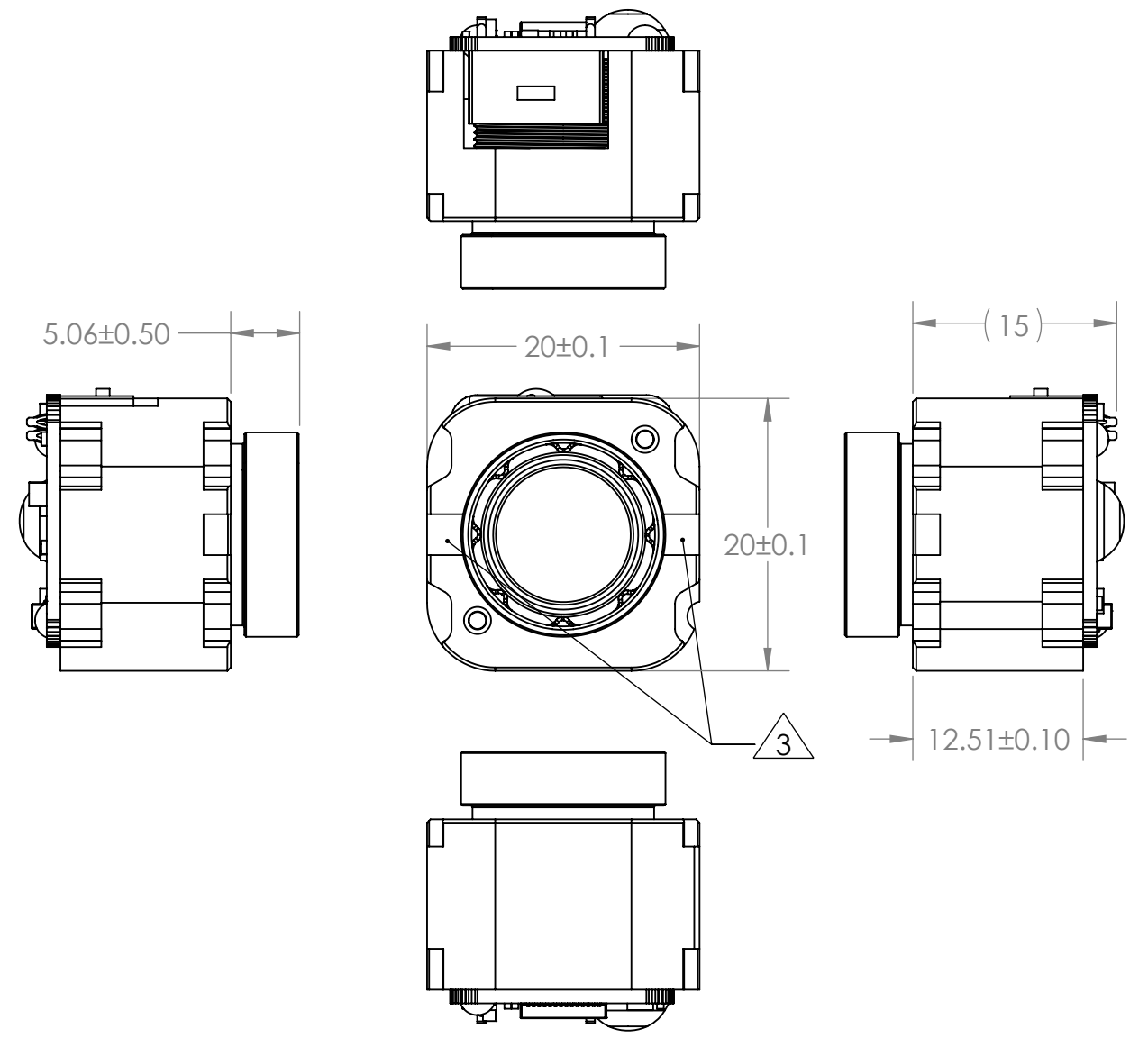
D  
C  
B  
A



FLEX CABLE



COPROCESSOR BOARD



THERMAL IMAGING CORE

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™**  
thermal

TITLE: DOC, INTERFACE CONTROL  
DRAWING, MECH, 9.1MM MOSAIC

SIZE	DWG. NO.	REV
<b>B</b>	<b>DOC_247</b>	<b>3</b>
SCALE: 2:1		SHEET 2 OF 2

8 7 6 5 4 3 2 1