

Mosaic Core Specification

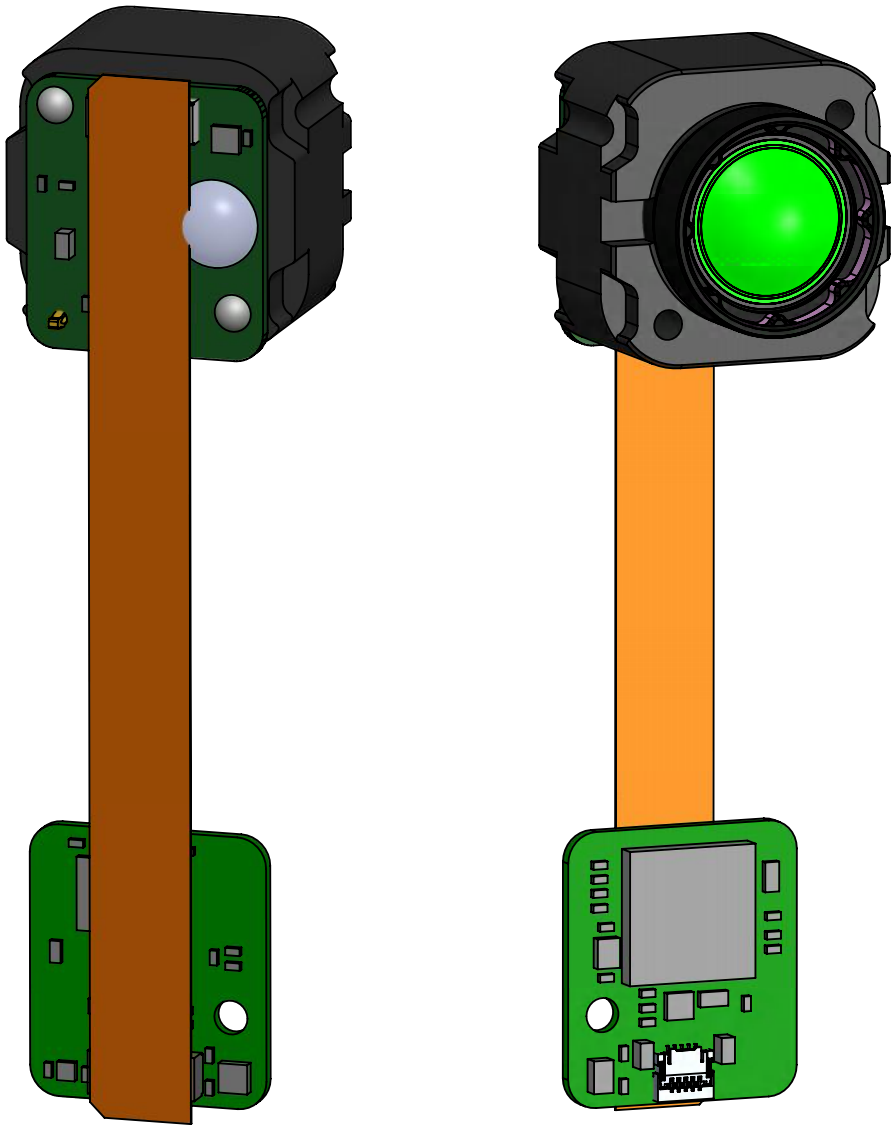
Core Number: C309SP		Starter Kit Number: S309SP		Mktg Rev. 3		11/05/2021	
Product Specifications:		Description					
Microbolometer		Uncooled Vanadium Oxide					
Pixel Pitch		12 Microns					
Spectral Response		7.8 - 14 Microns					
Sensor Resolution (Array Format)		320 (h) x 240 (v); 76,800 pixels					
Frame Rate		Slow Frame - <9Hz					
Non-Uniformity Correction (NUC)		Automatic NUC (with shutter)					
Video Output Interfaces		USB					
Power:							
Power Requirement		3.3-5.0V, <50mW (Core only), 300mW (Core + Coprocessor Board)					
Optical & Mechanical:							
Focal Length		9.1mm EFL					
F-number (Focal Length/aperture)		f/1.00					
Spatial Resolution (IFOV, center)		1.32					
Field of View (FOV)		24° Horizontal x 18° 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 20mmx 21mm				Core Weight: 12 g	
Seek Software Development Kit:							
Supported Platforms		USB: Seek Linux, Windows, & Android SDK					
Output Formates (User selectable)		Linux / Windows SDK			Android SDK		
		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.		
Imaging Specifications:		Calibrated Output in °C, °F, K					
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.					
Environmental Conditions:							
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					
Accessories:							
Cushion		Yes					
Bracket		Yes					
Sensor Flex		Yes					
Coprocesor Board		Yes					
USB Flex		Yes					
The diagram illustrates the components of the Thermal Core and the Coprocessor Board and Interface Kit. The Thermal Core consists of a Cushion, Thermal Camera, and Bracket. The Coprocessor Board and Interface Kit consists of a Sensor Flex, Interface Board, and USB Flex. A note below the diagram states: 'COPROCESSOR BOARD AND INTERFACE KIT Provided by Seek or receive design files for integration into other electronics'.							
Customer Responsibilities:							
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. KEEP-OUT 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.		

SEEK™
thermal

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

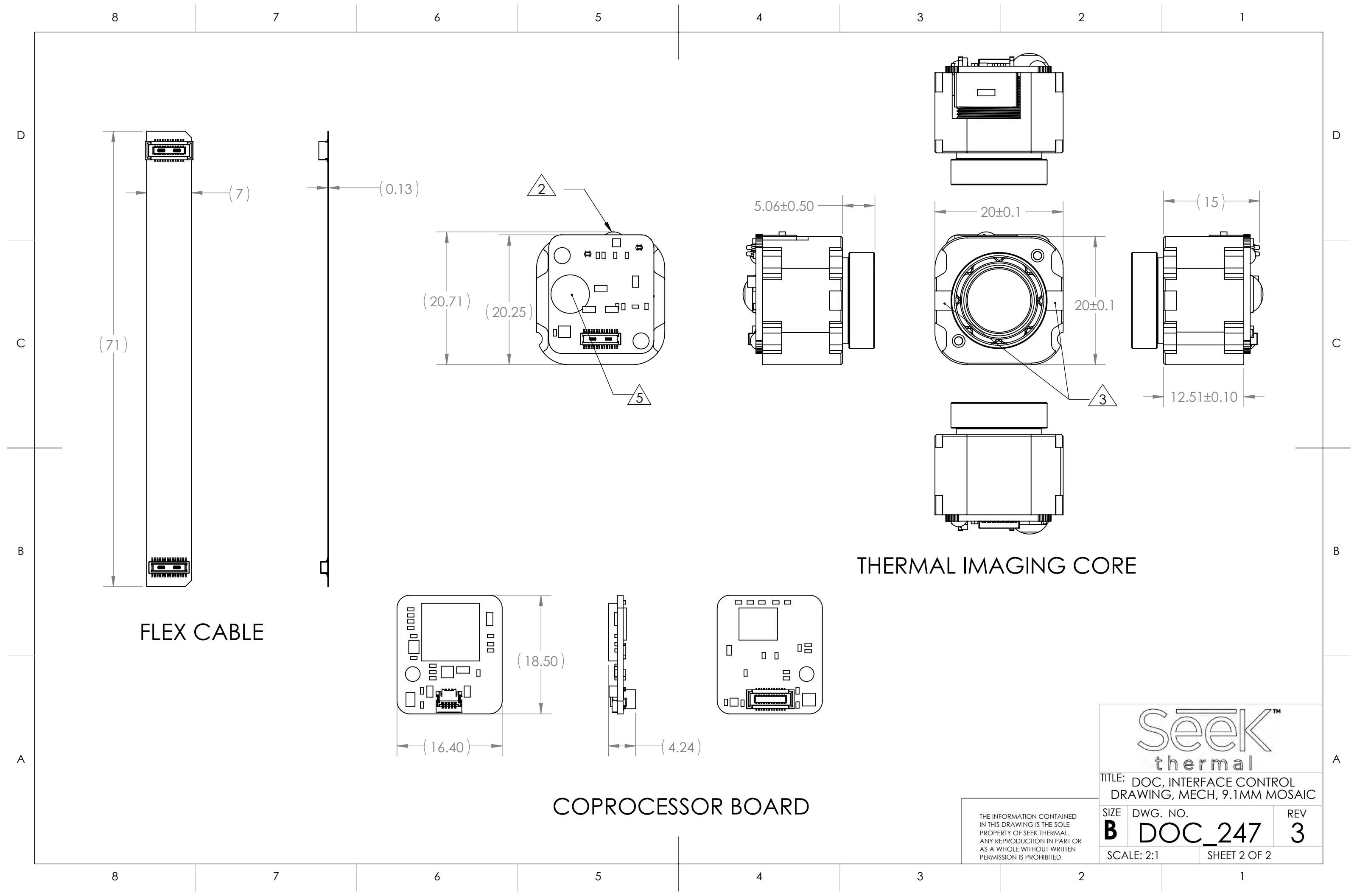
SIZE
B

DWG. NO.
DOC_247

SCALE: 2:1

REV
3

SHEET 1 OF 2



FLEX CABLE

COPROCESSOR BOARD

THERMAL IMAGING CORE



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

SIZE	DWG. NO.	REV
B	DOC_247	3
SCALE: 2:1		SHEET 2 OF 2

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