Mosaic Core Specification

| Core Number: C219SPX	Starter Kit Number: S219SPX	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)	200 (h) x 150 (v); 30,000 pixels		
Frame Rate	Fast Frame - up to <32Hz		
Non-Uniformity Correction (NUC)	Automatic NUC (with shutter)		
Video Output Interfaces	USB		
Power:			
Power Requirment	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)	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 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	
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		
Coprocessor Board	Yes		
USB Flex	Yes		
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
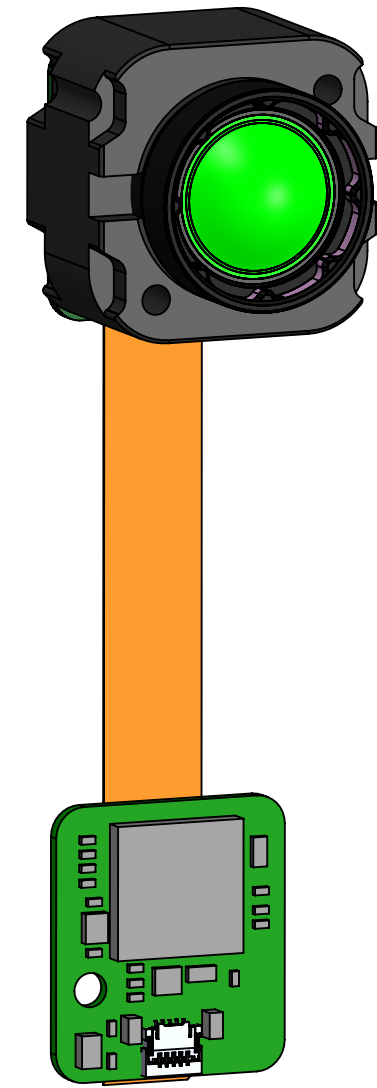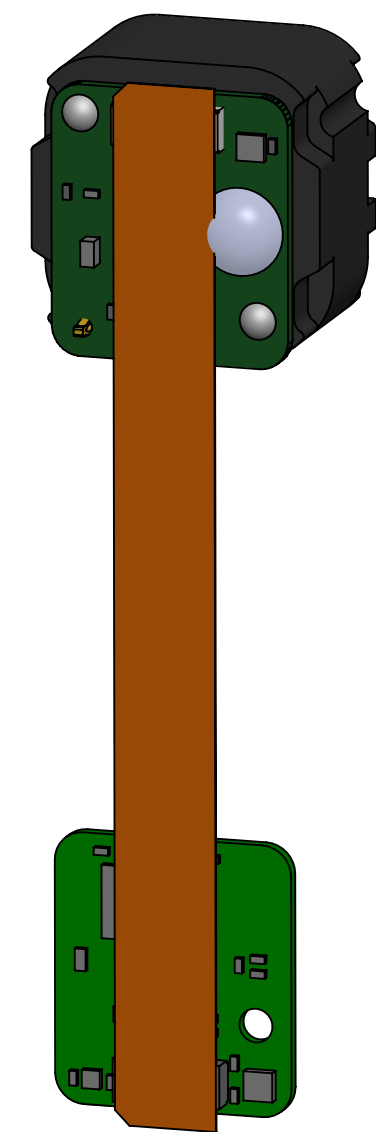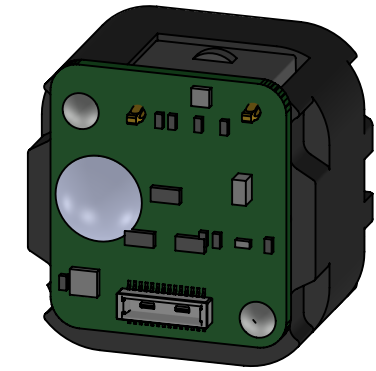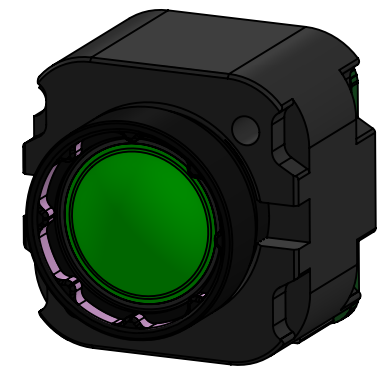
NOTES:

1. SEE 3D CAD FILE FOR FULL GEOMETRY.

⚠2. KEEPOUT 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

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°

THIRD
ANGLE
PROJECTION

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seek™ thermal

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

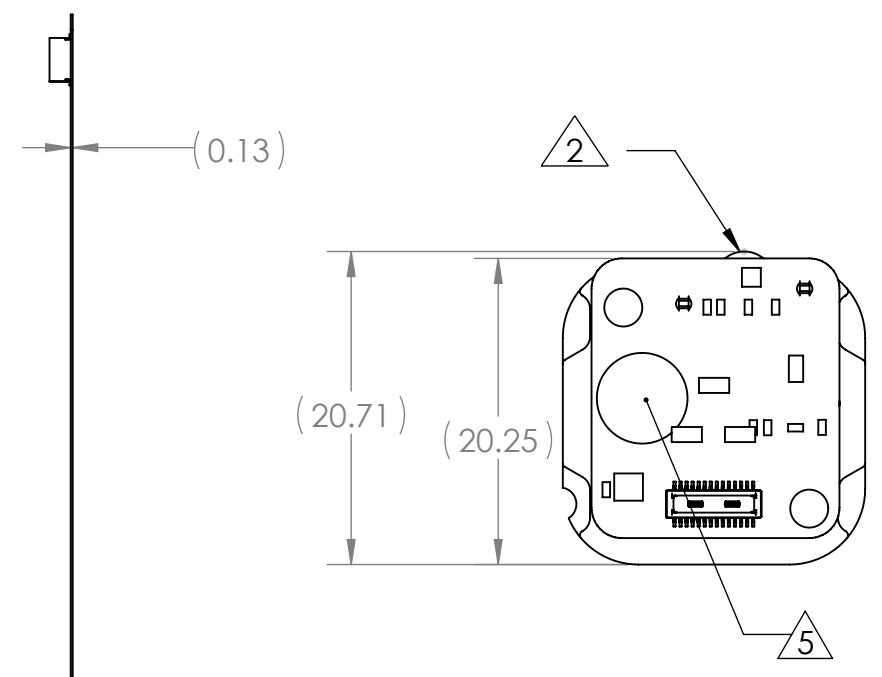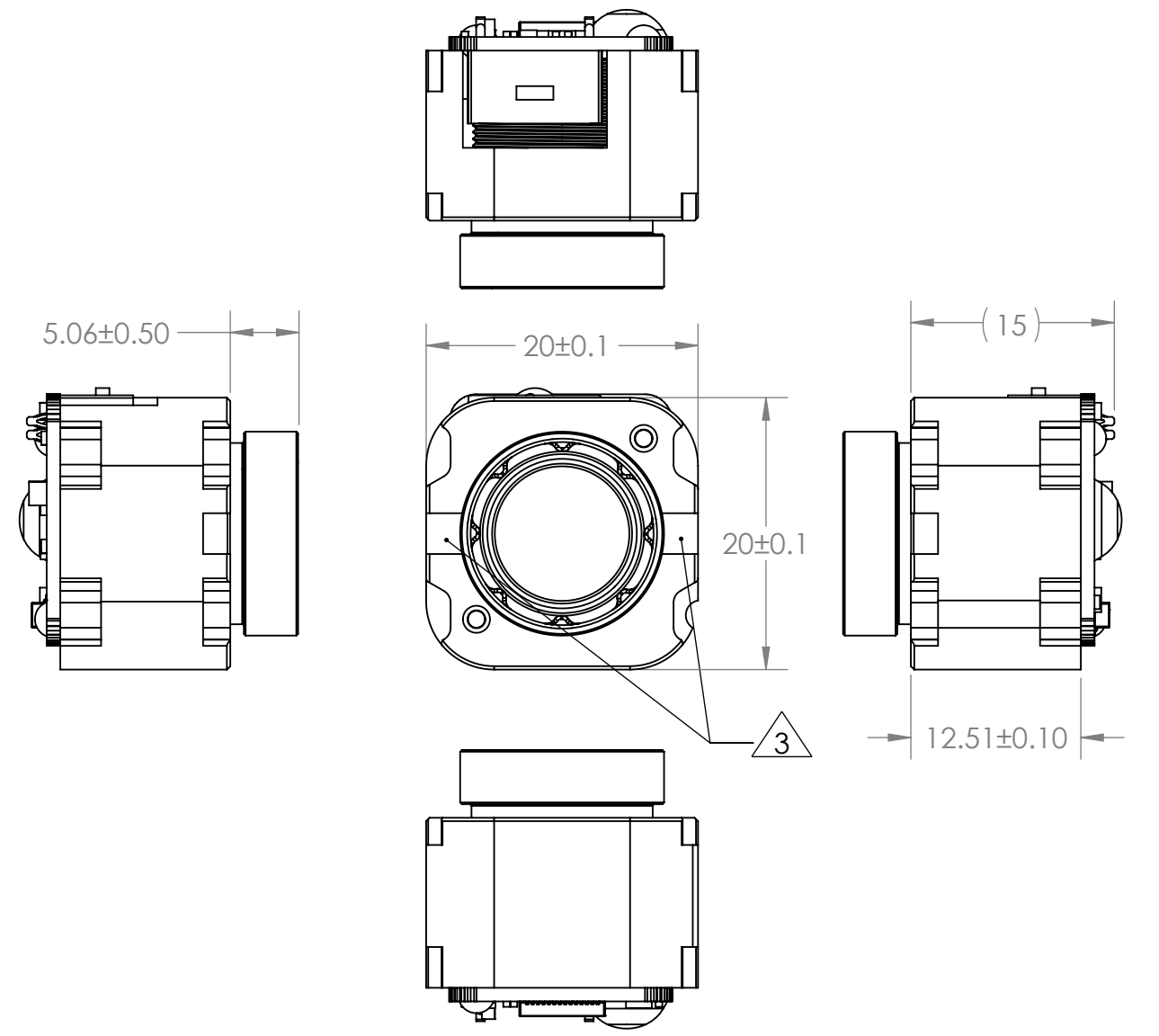| SIZE | DWG. NO. | REV |
| B | DOC_247 | 3 |

SCALE: 2:1   SHEET 1 OF 2

FLEX CABLE

(71)

(7)

(0.13)

2

(20.71) (20.25)

5

COPROCESSOR BOARD

(18.50)

(16.40) (4.24)

THERMAL IMAGING CORE

5.06±0.50

20±0.1

20±0.1

3

(15)

12.51±0.10

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

SIZE: B

DWG. NO. DOC_247

REV 3

SCALE: 2:1   SHEET 2 OF 2