

NOTES: (UNLESS OTHERWISE SPECIFIED)

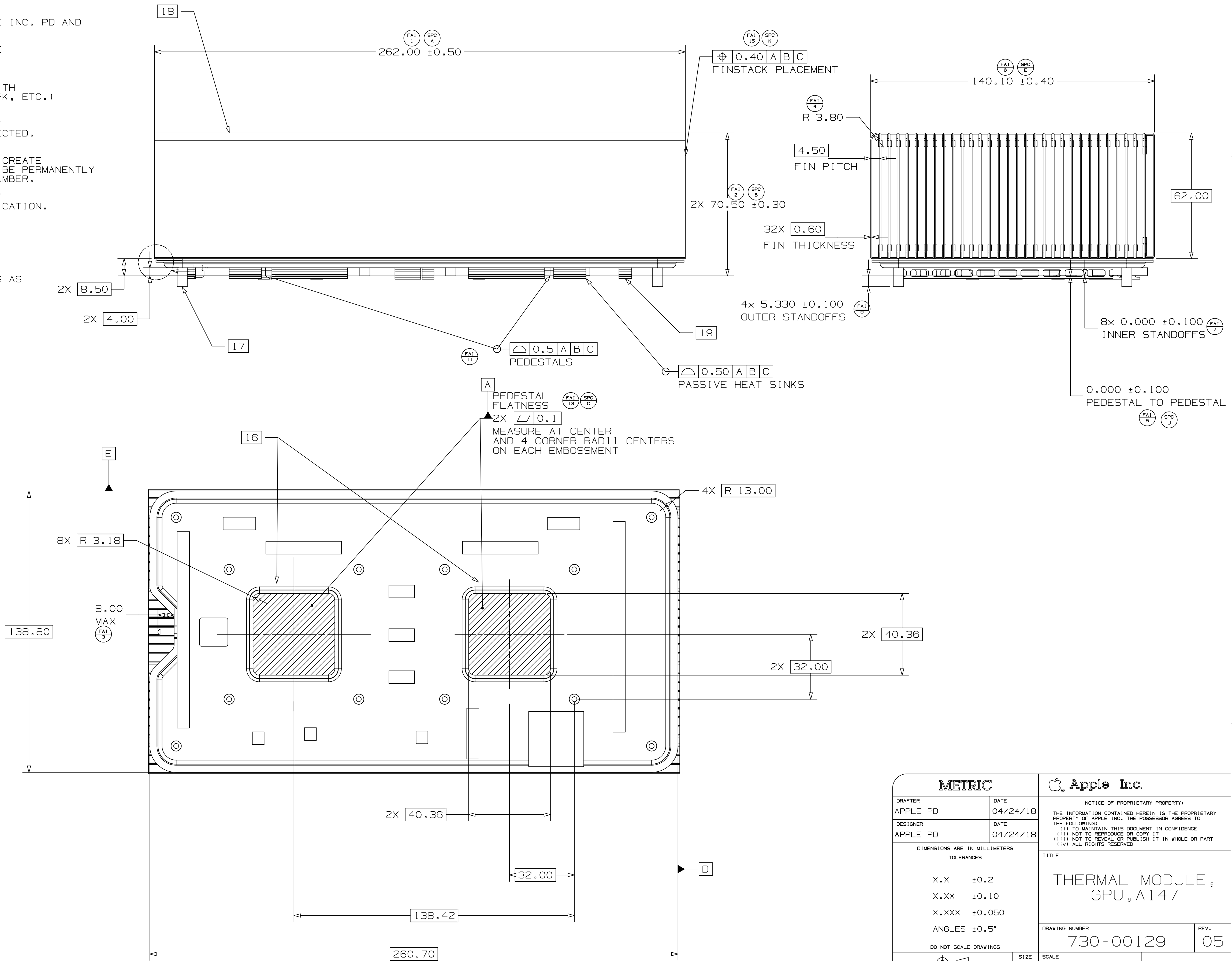
- THREE DIMENSIONAL CAD GEOMETRY PROVIDED BY APPLE INC. SHALL BE USED FOR CREATION OF THIS PART OR ASSEMBLY. DRAWING SHALL BE USED FOR DIMENSIONAL INSPECTION OR TO IDENTIFY CRITICAL TOLERANCES AND REFERENCE FEATURES.
- ALL DIMENSIONS AND TOLERANCES APPLY PER ASME Y14.5M, 2009. IT IS EXPECTED THAT THE SUPPLIER UNDERSTAND AND COMPLY WITH ALL TOLERANCES AS DESCRIBED IN THIS STANDARD AND APPLIED TO THIS DRAWING.
- ALL DIMENSIONS MEASURED IN FREE STATE UNLESS SPECIFIED BY APPLE INC. PD AND APPLE INC. SQE.
- UNLESS OTHERWISE SPECIFIED, ALL SURFACES TO BE WITHIN A SURFACE PROFILE TOLERANCE OF $\sqrt[0.20]{A|B|C}$.
- TOLERANCES DESIGNATED WITH THE SYMBOL SPC SHALL BE MONITORED WITH STATISTICAL PROCESS CONTROLS. THE PROCESS CONTROL DATA (CP, CPK, ETC.) OF THE PART MUST BE VALIDATED AND APPROVED BY APPLE INC. SQE.
- DIMENSIONS DESIGNATED WITH THE FAI SYMBOL SHALL BE FIRST ARTICLE INSPECTION DIMENSIONS. THREE SAMPLE PARTS MUST BE FULLY INSPECTED. FAI REPORT MUST BE VALIDATED AND APPROVED BY APPLE INC. SQE.
- ALL TOOLING, FIXTURING AND OTHER UNIQUE ITEMS THAT ARE USED TO CREATE OR INSPECT THIS PART ARE THE PROPERTY OF APPLE INC. AND SHALL BE PERMANENTLY MARKED WITH APPLE INC. NAME AND APPROPRIATE APPLE INC. PART NUMBER.
- THE DESIGN OF ALL TOOLING OR FIXTURING SHALL BE APPROVED BY THE APPROPRIATE APPLE INC. ENGINEER PRIOR TO TOOL OR FIXTURE FABRICATION.
- ALL HOMOGENEOUS MATERIALS MUST COMPLY WITH THE FOLLOWING ENVIRONMENTAL SPECIFICATIONS:
 - APPLE INC. REGULATED SUBSTANCES SPECIFICATIONS, 069-0135
- ALL DIMENSIONS APPLY AFTER FINISHING.
- PART TO BE FREE FROM CONTAMINANTS, LUBRICANTS, AND METAL FLAKES AS SPECIFIED BY APPLE INC. SBE OR SQE.
- REMOVE ALL BURRS.
- COLOR: HALOGEN FREE BLACK PAINT, 4.5 +/-2.0 GLOSS UNITS TO BE COLOR-FAST AFTER THERMAL CYCLING. CROSSHATCHED AREA TO BE MASKED.
- VAPOR CHAMBER EVAPORATOR SKIN TO BE 1.00MM THICK CU 1020.
- VAPOR CHAMBER CONDENSER SKIN TO BE 0.80MM THICK CU 1020.
- PRIMARY HEAT SOURCE ZONE. MUST WITHSTAND 0.80MPA PRESSURE.
- STANDOFF , MATERIAL : SUS 303 , THREAD M3 X 0.5
- FINS , MATERIAL : AL 1100 , THICKNESS 0.60 MM, PITCH 4.5 MM ZIPPER MUST NOT BE VISIBLE FROM ABOVE
- PASSIVE HEAT SINKS, MATERIAL : AL 6063

CONDENSOR
FLATNESS
 $\sqrt[0.26]{A|B|C}$
MEASURE AT 4 CORNER
RADIi CENTERS
AND AT LEAST 4 ADDITIONAL
EVENLY SPACED POINTS

$\sqrt[1.00]{A|B|C}$
TOLERANCE ZONE 0.25MM
OUTWARD AND 0.75MM
INWARD OF THE NOMINAL

DETAIL B
SCALE 5:1

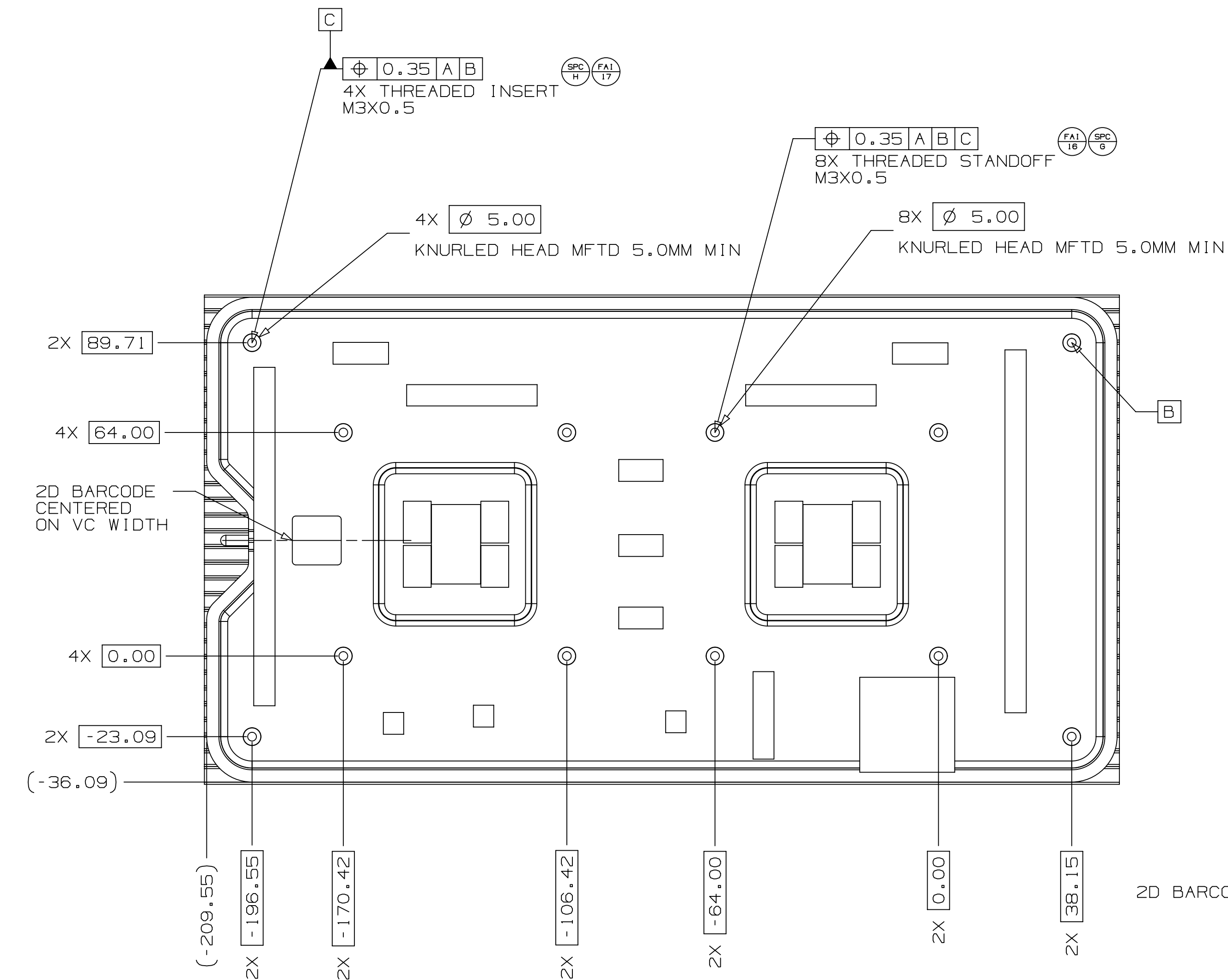
REV	ECO#	DESCRIPTION OF REVISION
03	0012135935	RELEASE FOR DFM SCOTT_J.CAMPBELL 04/24/18
04	0012135925	ADDED PASSIVE HEAT SINKS, EXTENDED OUTER STANDOFFS SCOTT_J.CAMPBELL 04/26/18
05	0012249001	ADDED SHEET 3 FOR CNC MOCKUP PROCESS SCOTT_J.CAMPBELL 05/02/18



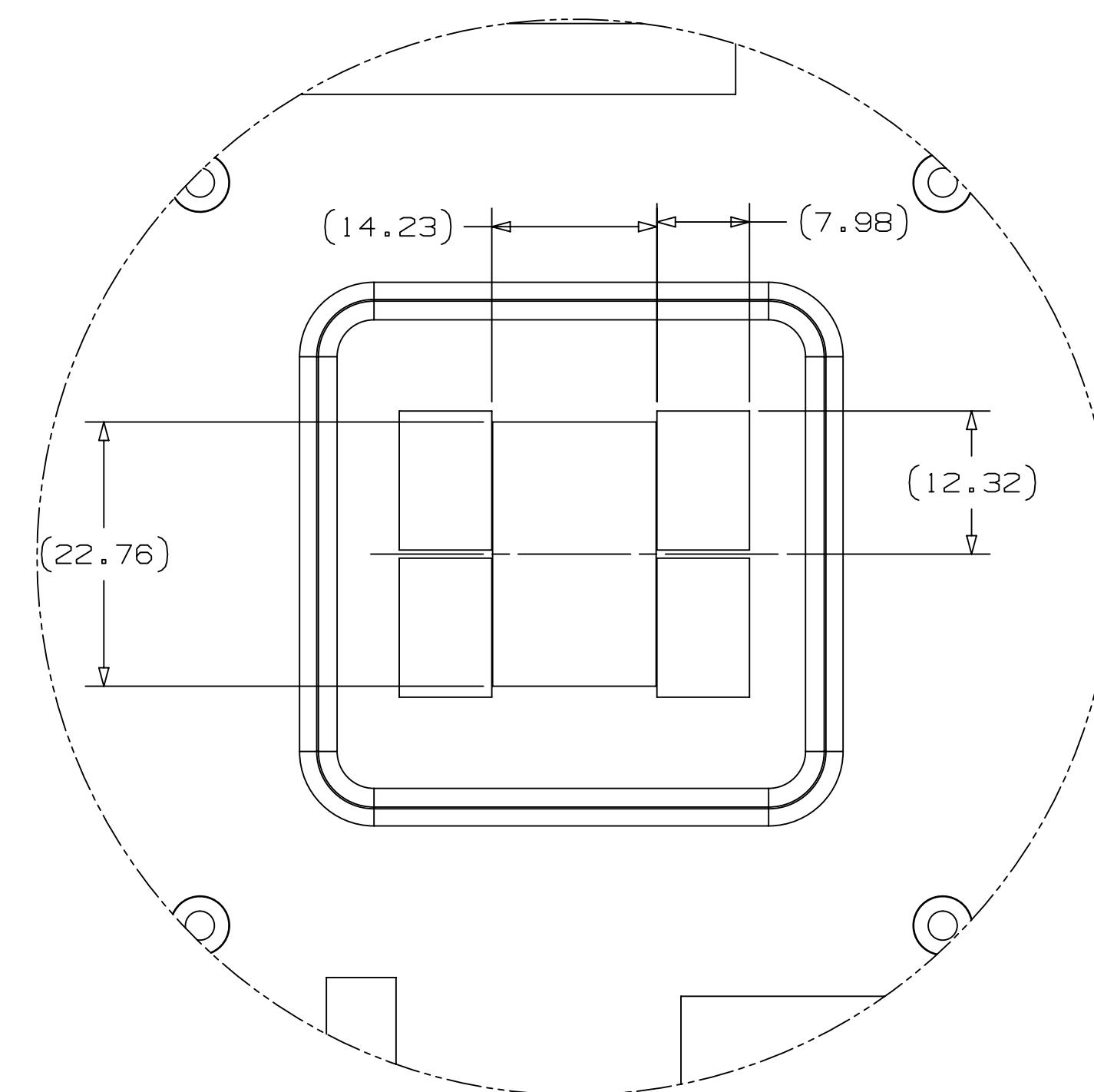
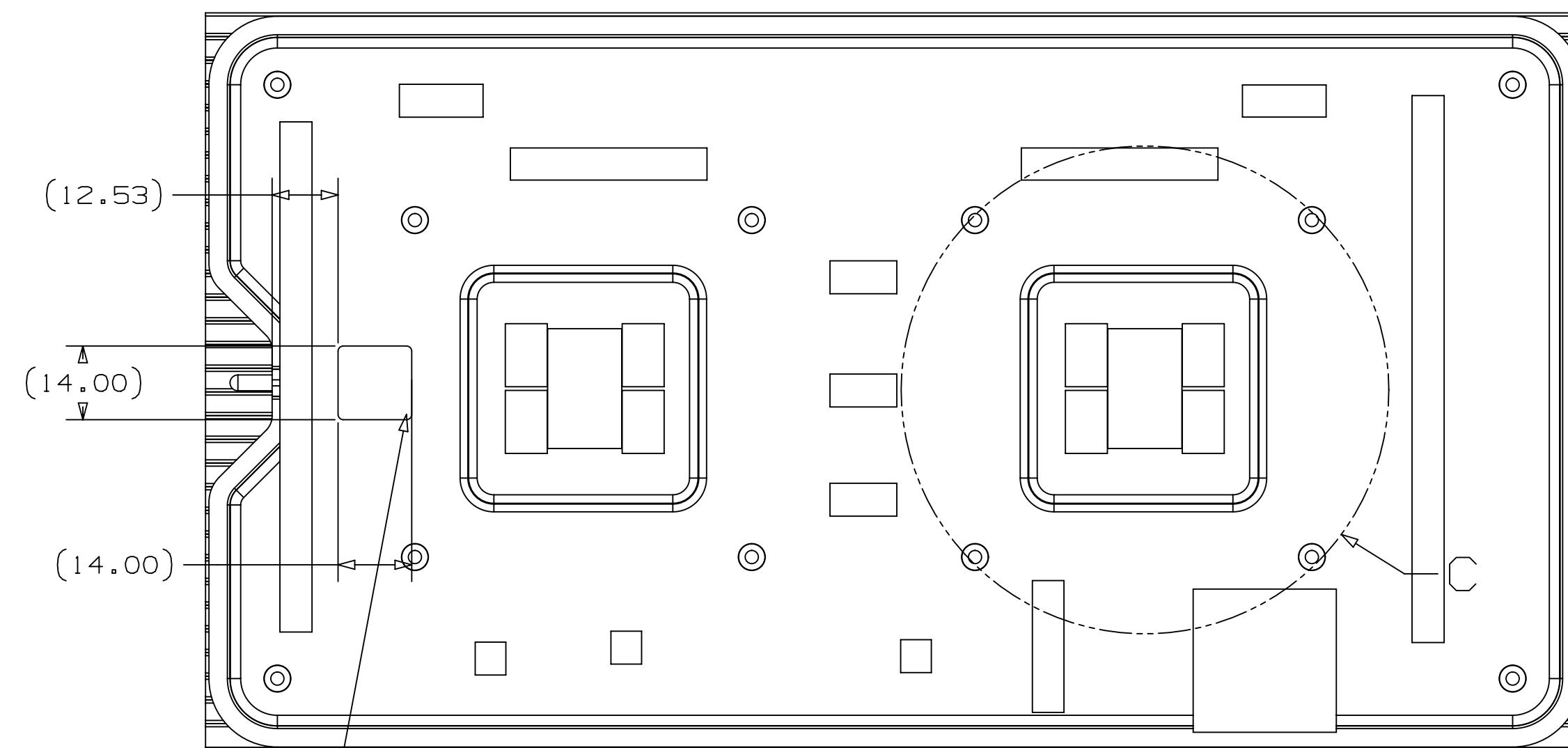
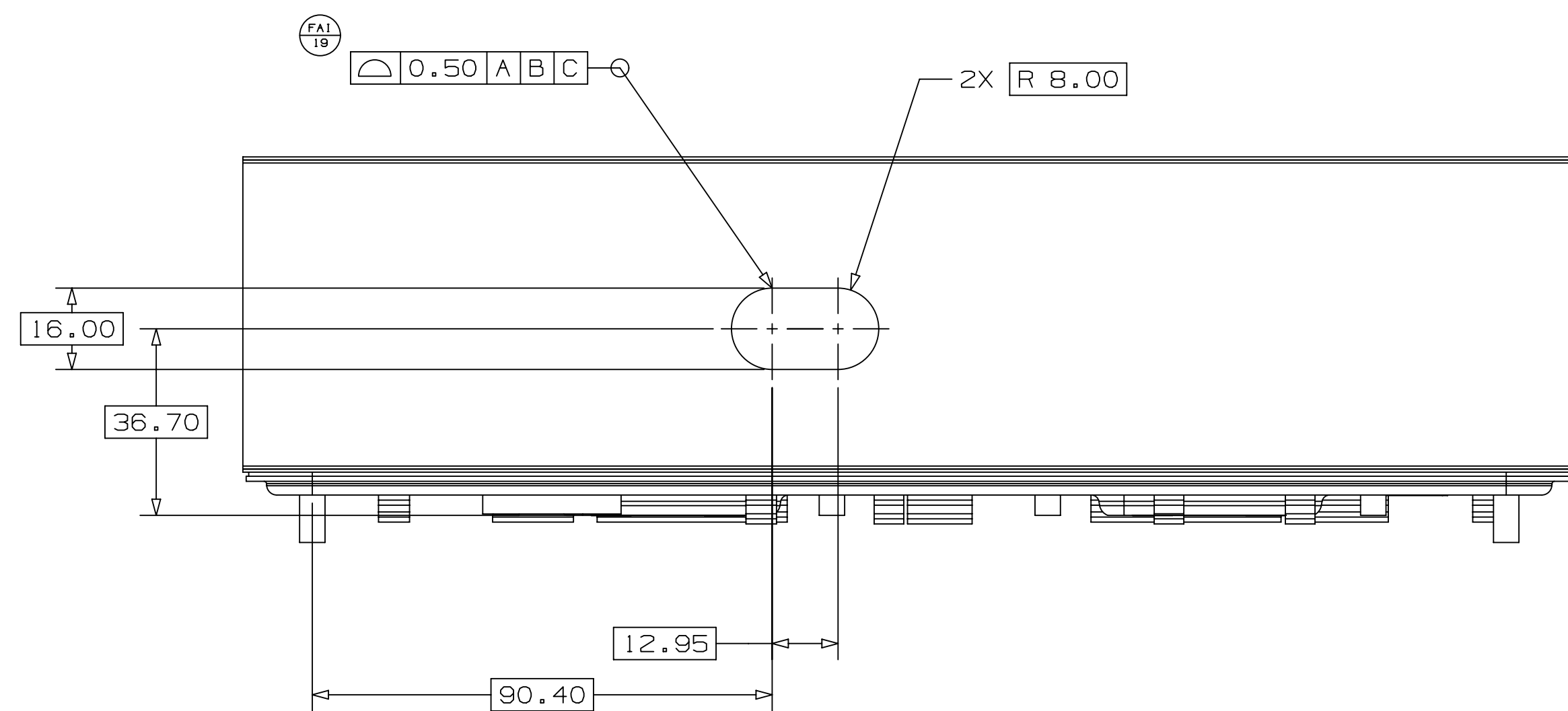
METRIC		Apple Inc.	
DRAFTER APPLE PD	DATE 04/24/18	NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: (i) TO MAINTAIN THIS DOCUMENT IN CONFIDENCE (ii) NOT TO REPRODUCE OR COPY IT (iii) NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART (iv) ALL RIGHTS RESERVED	
DESIGNER APPLE PD	DATE 04/24/18	TITLE THERMAL MODULE, GPU, A147	
DIMENSIONS ARE IN MILLIMETERS TOLERANCES X.X ±0.2 X.XX ±0.10 X.XXX ±0.050 ANGLES ±0.5° DO NOT SCALE DRAWINGS		DRAWING NUMBER 730-00129	REV. 05
THIRD ANGLE PROJECTION		SCALE NONE	SHT 1 OF 3

PRESSED INSERTS & LABEL

HEAT SOURCES & 2D BARCODE



2D BARCODE TO FOLLOW J90



DETAIL C
SCALE 2:1

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SIZE	DRAWING NUMBER	REV.
D	730-00129	05
SCALE	NONE	SHT 2 OF 3

CNC PROCESS - FOR MOCKUP ONLY

REFER TO TOOLED PROCESS DIMENSIONS ON SHEETS 1 AND 2 IF NOT SPECIFIED FOR MOCKUP

