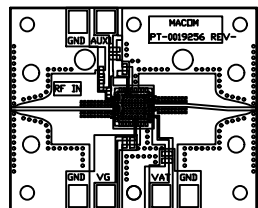


4

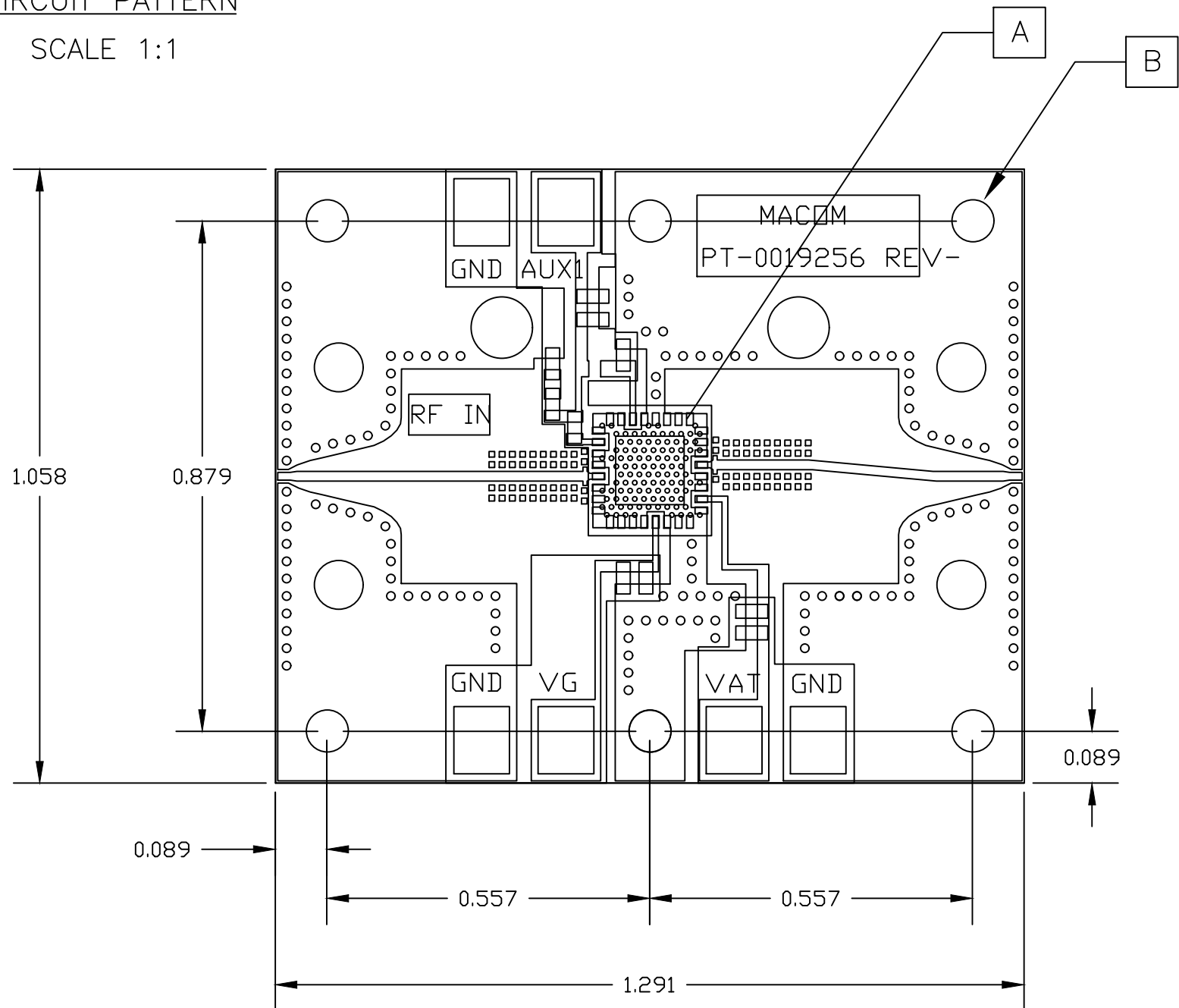
3

2

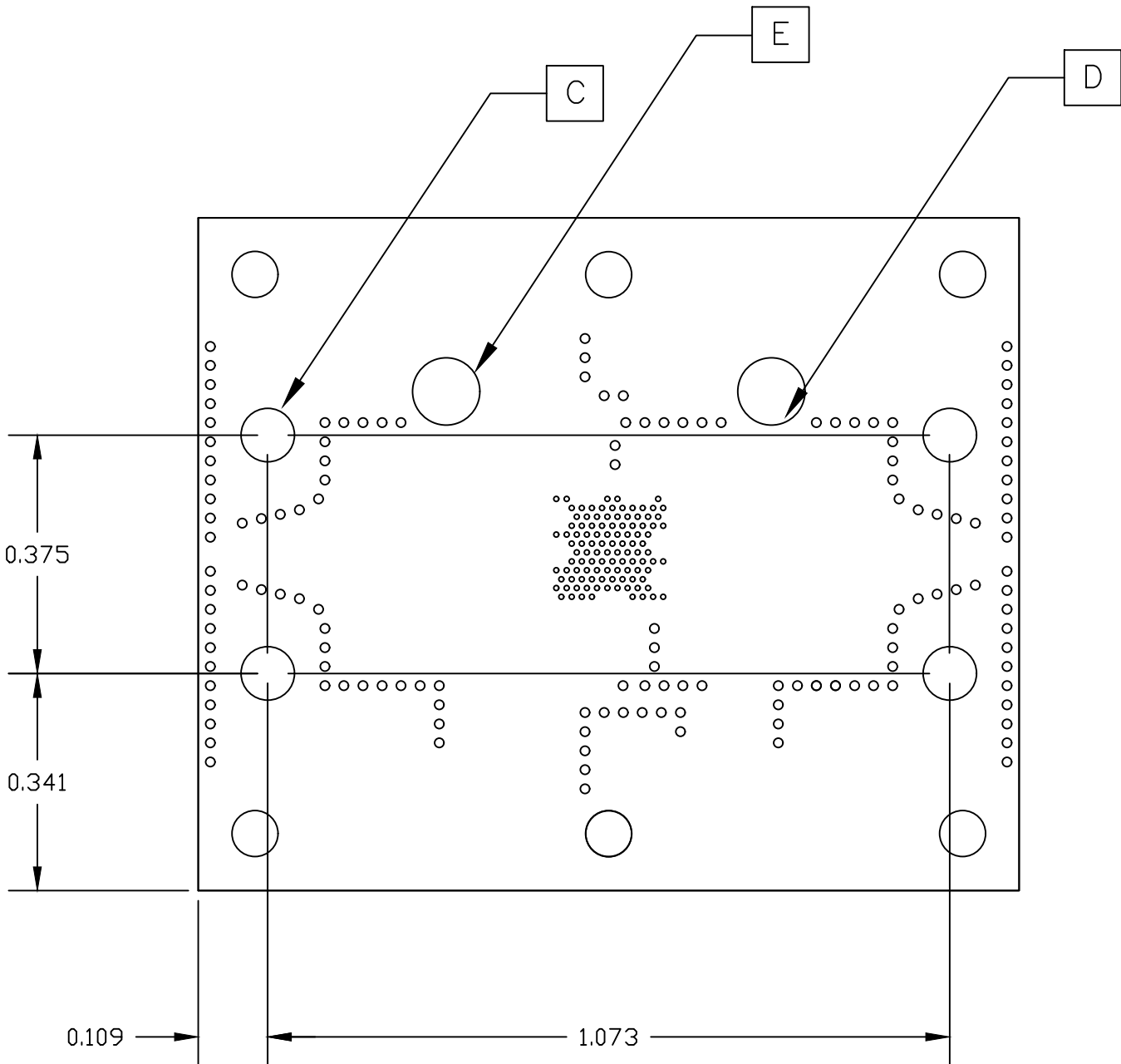
1



CIRCUIT PATTERN
SCALE 1:1



TOP SIDE



BOTTOM SIDE
(AS SEEN FROM THE TOP)

NOTES:

- FABRICATE SUBSTRATES IN ACCORDANCE WITH IPC-6018, CLASS 2, FINISHED SUBSTRATE MUST MEET QUALITY CONFORMANCE TESTING AND INSPECTION IN ACCORDANCE WITH IPC-6018, CLASS 2, TYPE 2.
- INTERPRET DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ANSI Y14.5. 1982. UNLESS OTHERWISE SPECIFIED, INCHES ARE THE CONTROLLING DIMENSIONS. ANY UNDIMENSIONED FEATURE SHALL DIMENSIONALLY MEET THE COMPUTER GENERATED GRAPHICS OF MACOM FILE. TOLERANCES:
X.XXX = ± 0.002 INCHES
ARTWORK REGISTRATION TO THE TOOLING HOLE SHALL BE ± 0.076 MILLIMETERS [± 0.003 INCHES].
- ALL MATERIALS DESCRIBED IN THIS DOCUMENT SHALL BE IN COMPLIANCE WITH AND CONTAIN NO SUBSTANCES RESTRICTED OR REQUIRING SPECIAL RECLAMATION UNDER THE LATEST RoHS, WEEE OR ELV DIRECTIVES.
- STARTING MATERIAL:
.008 \pm .001" THICK ROGERS 4003C LoPro, ER=3.38 \pm .05.
1/2 OZ ELECTRO-DEPOSITED COPPER BOTH SIDES.
- TOLERANCES ON CONDUCTOR ETCH SHALL BE ± 0.01 ".
- GROUP [A] HOLES SHALL BE MECHANICALLY DRILLED USING A 0.0079" DRILL BIT, AND PLATED SHUT (SOLID COPPER FILLED).
- GROUP [B], [C], [D], [E] HOLES SHALL BE MECHANICALLY DRILLED AND PLATED THROUGH. HOLE SIZE APPLIES AFTER PLATING.
- THERE SHALL BE NO FOREIGN MARKING OR IDENTIFIERS OF ANY KIND ON PRIMARY OR SECONDARY SIDE OF THE SUBSTRATE UNLESS OTHERWISE SPECIFIED.
- SOLDER MASK SHALL BE GREEN LIQUID PHOTOIMAGABLE SOLDERMASK IN ACCORDANCE WITH IPC-SM-840. CLASS H. THICKNESS SHALL BE 0.0254 \pm 0.0102 MILLIMETERS [0.001 \pm 0.0004 INCHES]. PRIMARY SIDE SOLDERMASK REGISTRATION SHALL NOT EXCEED 0.0508 MILLIMETERS [± 0.002 INCHES].
- SOLDER MASK SHALL BE APPLIED OVER BARE COPPER.
- FINAL COPPER THICKNESS: 1 OZ, BOTH SIDES.
- FINISH: ELECTROLESS NICKEL/ELECTROLESS PALLADIUM/IMMERSION GOLD (ENEPIG) IN ACCORDANCE WITH IPC-4556. APPLY ONLY ON SOLDER MASK OPENINGS, BOTH SIDES.
IMMERSION GOLD: 0.03-0.127 MICRONS [1.2-5 MICROINCHES]
ELECTROLESS PALLADIUM: 0.100-0.508 MICRONS [4-20 MICROINCHES]
ELECTROLESS NICKEL: 3-6 MICRONS [118-236 MICROINCHES]
- FINAL LAMINATE THICKNESS: .012 \pm .001", INCLUDING SOLDER MASK.
- SURFACE FINISH: Ra 1 \pm 0.2 UM.
- THERE SHALL BE NO PITS, PIN HOLES, SCRATCHES, OR NODULES WITHIN EXPOSED METAL AREAS.
- ALL ARTWORK MAY BE ADJUSTED BY THE SUBSTRATE FABRICATOR TO COMPENSATE FOR MANUFACTURING PROCESS TOLERANCES. SUBSTRATE FABRICATOR SHALL GET WRITTEN APPROVAL PRIOR TO MAKING ANY ADJUSTMENTS.
- MASK LAYERS:
 - BOARD OUTLINE
 - LAYER 1 (TOP SIDE METAL)
 - LAYER 1 SOLDER MASK
 - LAYER 1 SOLDER MASK SCRATCH
 - LAYER 2 (BACK SIDE METAL)
 - VIAS
 - SILK SCREEN

D R I L L T A B L E				
TYPE	DIAMETER	MIN/MAX	QTY	PLATING
[A]	0.008"	.007"/-	107	[A]
[B]	0.072"	.069"/.075"	6	[A]
[C]	0.084"	.081"/.087"	4	[A]
[D]	0.015"	.014"/.016"	132	[A]
[E]	0.106"	.103"/.109"	2	[A]

UNLESS OTHERWISE SPECIFIED
INTERPRET DRAWING PER ASME Y14.5
DO NOT SCALE THIS DRAWING

NOTE: THIS DRAWING INCORPORATES
THIRD ANGLE PROJECTION

MACOM Technology Solutions, Inc.
CONFIDENTIAL INFORMATION SUBJECT TO NDA
The information contained in this document or material is the sole and confidential property of MACOM Technology Solutions Holdings, Inc. and/or its subsidiaries or affiliates (collectively "MACOM") and is provided to you subject to a non-disclosure agreement between you and MACOM. This information shall be used solely for the purpose specified and shall not be reproduced, modified, disclosed to others, or used for any purpose except as set forth in the written agreement. If you are a government entity, this information shall be controlled under the provisions of the Export Administration Regulations (EAR) and shall be controlled under the provisions of the Export Administration Regulations (EAR) and shall be controlled under the provisions of the Export Administration Regulations (EAR). This document or material shall be promptly returned to MACOM or destroyed upon request, completion of the use for which it was made, or upon termination of the MACOM relationship with you, without prejudice to the rights of MACOM.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES UNLESS OTHERWISE SPECIFIED

DECIMALS	ANGLES
X \pm .1 .XX \pm .02 .XXX \pm .005 .XXXX \pm .0005	$\pm 0.5^\circ$

UNLESS OTHERWISE SPECIFIED
ALL OVER

MATERIAL NOTE 4

FINISH X

MACOM
100 Chelmsford Street
Lowell, MA 01851

TITLE
FABRICATION, TEST BOARD,
MAAL-011141

SIZE C

CAGE CODE 55NN2

DRAWING NO. PT-0019256

SCALE: 4/1

PACKAGE TYPE: AQFN

SHEET 1 OF 1