

## NOTES:

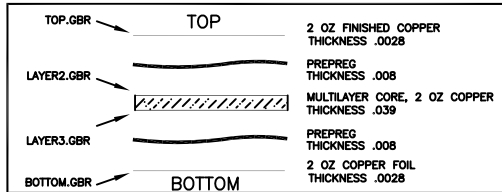
1. ALL DIMENSIONS ARE IN INCHES WITH [MM SHOWN IN BRACKETS].

### 2. STANDARDS:

MUST BE ROHS COMPLIANT.  
UNLESS OTHERWISE SPECIFIED, PRINTED CIRCUIT BOARD IS TO BE FABRICATED PER IPC-6012, CLASS 2, AND SHALL MEET IPC-A-600 CRITERIA FOR ACCEPTABILITY.

### 3. BOARD CONSTRUCTION:

FABRICATE BOARD USING UL APPROVED, NEMA GRADE FR-4 OR BETTER.  
LAMINATES AND PREPREG MATERIALS MUST COMPLY WITH IPC-4101.  
FOUR LAYER BOARD, FINISHED PCB THICKNESS IS .062 ±.006.  
FABRICATE BOARD AS SHOWN BELOW.



### 4. HOLE SIZES:

HOLE SIZES APPLY TO FINISHED HOLES, AFTER PLATING AND SOLDER COATING.  
HOLE SIZE TOLERANCES ARE AS FOLLOWS:

PLATED THROUGH HOLES +.004/- .002  
NON-PLATED HOLES +.002/- .002

### 5. HOLE LOCATIONS:

HOLES ARE TO BE LOCATED ACCORDING TO X,Y DATA PROVIDED IN THE FOLLOWING ELECTRONIC DRILL FILE: TTF0108-04.DRL  
ALL HOLES SHALL BE LOCATED WITHIN A .006 DIAMETER TOLERANCE ZONE SURROUNDING THE TRUE POSITION OF HOLE CENTER.  $\oplus \phi .006$

### 6. ARTWORK REGISTRATION:

REGISTRATION OF COMPONENT SIDE ARTWORK TO DRILL PATTERN SHALL BE ±.003.  
REGISTRATION OF SOLDER SIDE ARTWORK TO COMPONENT SIDE ARTWORK SHALL BE ±.003.

### 7. SOLDER MASK:

BOTH SIDES OF THE PCB ARE TO BE COATED WITH A THERMAL CURED, LIQUID PHOTO-IMAGEABLE, SOLDER RESIST COATING IN ACCORDANCE WITH IPC-SM-840. SOLDERMASK COLOR = GREEN

### 8. BOARD FINISH:

BOARD FINISH IS ELECTROLESS NICKEL IMMERSION GOLD (ENIG).  
ENIG PLATING SHALL BE IN ACCORDANCE WITH IPC-4552.

### 9. BOW AND TWIST:

THE MAXIMUM ALLOWABLE BOW AND TWIST SHALL BE .75% AS MEASURED PER IPC-TM-650, METHOD 2.4.22.

### 10. BOARD CLEANLINESS:

THE MAXIMUM CONTAMINATION ON THE COMPLETED BOARD SHALL NOT EXCEED 6uG/INCH AS MEASURED WITH AN IONOGRAPH.

### 11. SILKSCREEN:

SILKSCREEN LEGEND IS TO BE APPLIED TO BOTH SIDES OF THE PCB, USING APPROPRIATE NON-CONDUCTIVE, WHITE INK COMPATIBLE WITH SOLDERMASK MATERIAL PER IPC-SM-840. NO MARKINGS ALLOWED ON PADS.

### 12. MARKINGS:

PCB SUPPLIER IDENTIFICATION AND DATE CODE, IF REQUIRED, SHALL BE MARKED IN WHITE INK. NO ADDITIONAL COPPER MARKINGS OF ANY KIND SHALL BE ADDED TO BOARDS.

### 13. PCB PART NUMBER:

REFER TO CHART FOR PCB PART NUMBER.

### 14. PANELIZATION:

FABRICATOR SHALL STEP AND REPEAT PCB ARTWORK AND DRILL INFORMATION TO FABRICATE BOARD IN A 2-UP ARRAY AS DIAGRAMMED.

### 14. PANELIZATION:

FABRICATOR SHALL STEP AND REPEAT PCB ARTWORK AND DRILL INFORMATION TO FABRICATE BOARD IN A 2-UP ARRAY AS DIAGRAMMED.

### 15. TOOLING HOLES:

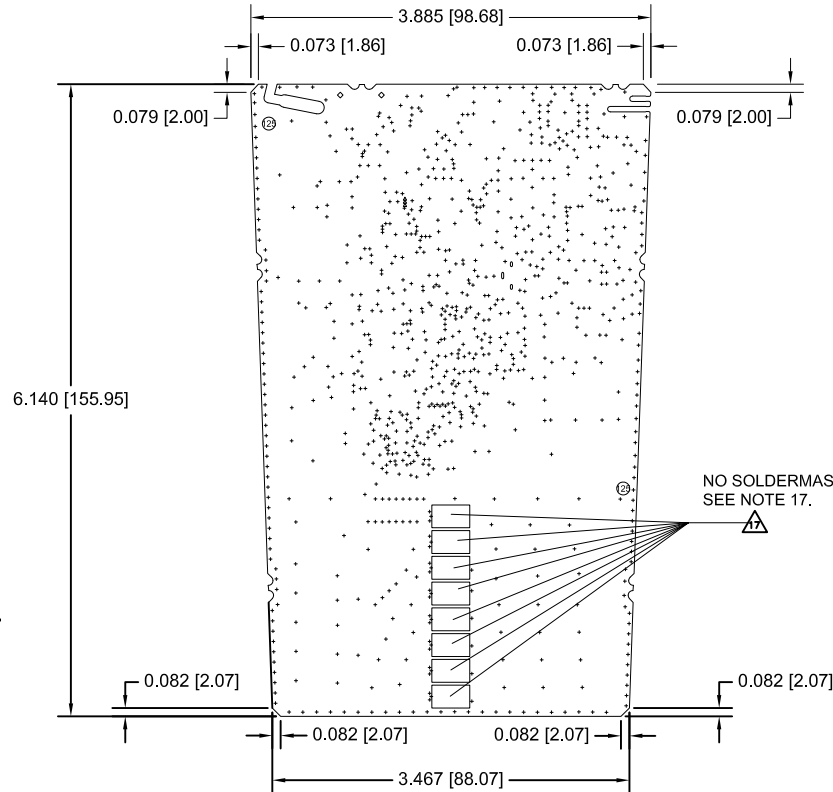
FOUR #125 NON-PLATED TOOLING HOLES TO BE ADDED TO ARRAY AS SHOWN.  
THESE FOUR #.125 HOLES ARE NOT INCLUDED IN DRILL FILES AND MUST BE ACCOMPLISHED BY FABRICATOR.

### 16. OUTLINE:

WHERE COMPLETE DIMENSIONAL INFORMATION IS NOT SHOWN, REFERENCE GERBER FILES [ARRAY.GBR] AND [OUTLINE.GBR] FOR BOARD OUTLINE AND ARRAY OUTLINES.

### 17. SENSING PADS:

DO NOT COVER THESE 8 LARGE, "SENSING PADS" WITH SOLDERMASK. THEY ARE TO BE ENIG FINISH LIKE ALL COMPONENT PADS.



NO SOLDERMASK HERE.  
SEE NOTE 17.

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN INCHES

FIGURE	FINISHED SIZE	PLATED	QTY
▲	0.008	PLATED	3
+	0.012	PLATED	935
◇	0.058	PLATED	2
⊕	0.125	NON-PLATED	2
0	0.047x0.02	PLATED	2
0	0.063x0.02	PLATED	1

13 PART NUMBER

OBSOLETE TTF0108-01

OBSOLETE TTF0108-02

OBSOLETE TTF0108-03

TTF0108-04

twistthink  
DESIGN TECHNOLOGY STRATEGY

130 Central Ave., Suite 400  
Holland, Michigan 49423

CONFIDENTIAL

DO NOT SCALE DRAWING  
DIMENSIONS ARE IN INCHES  
DIMENSIONING & TOLERANCING  
PER: ASME Y14.5M-1994  
TOLERANCES: .XX = ±.015  
.XXX = ±.01  
ANGLES: ± 0.5°

TITLE: PCB FABRICATION

CUSTOMER: CHARITY WATER

PROJECT: REMOTE MONITORING, INDIA MARK II

CODE:

PROJECT LEADER: KD

IND. DESIGNER: XX

ELECT. ENGINEER: DM

MECH. ENGINEER: RW

DRAWN BY: RW

TTF0108

4

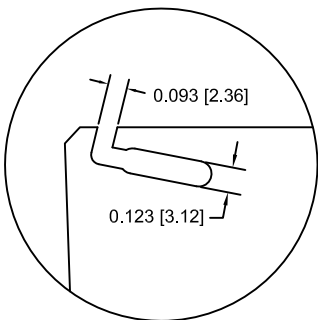
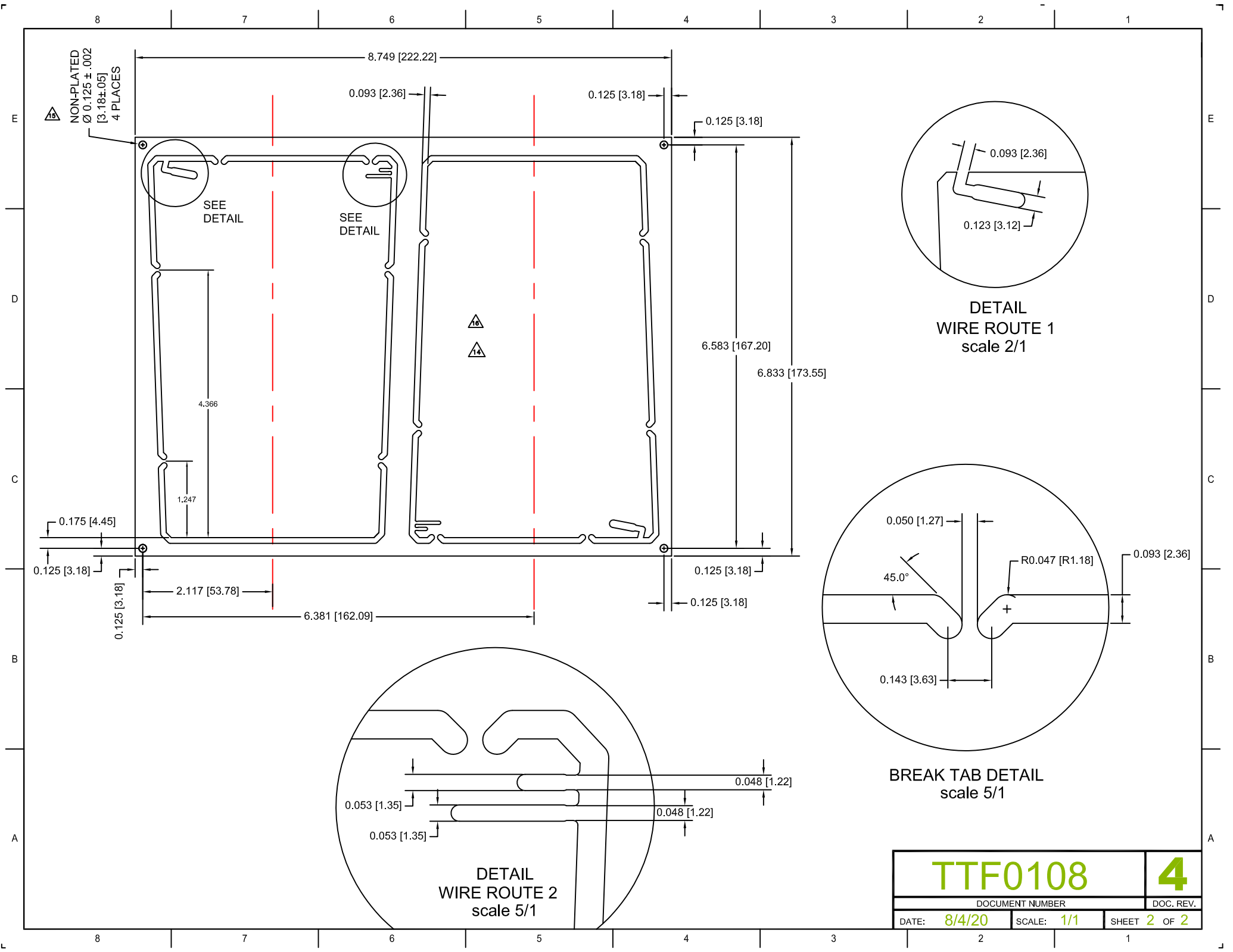
DOCUMENT NUMBER

DOC. REV.

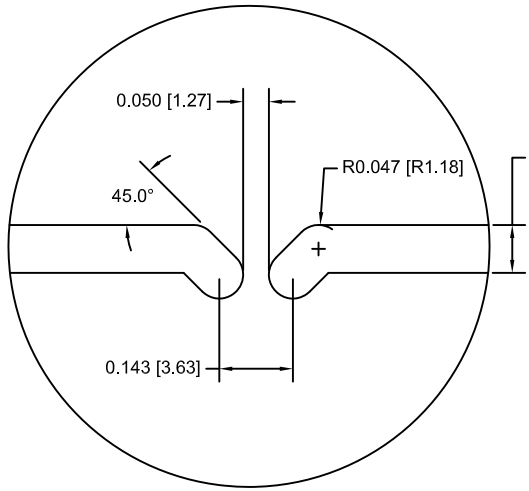
DATE: 8/4/20

SCALE: 1/1

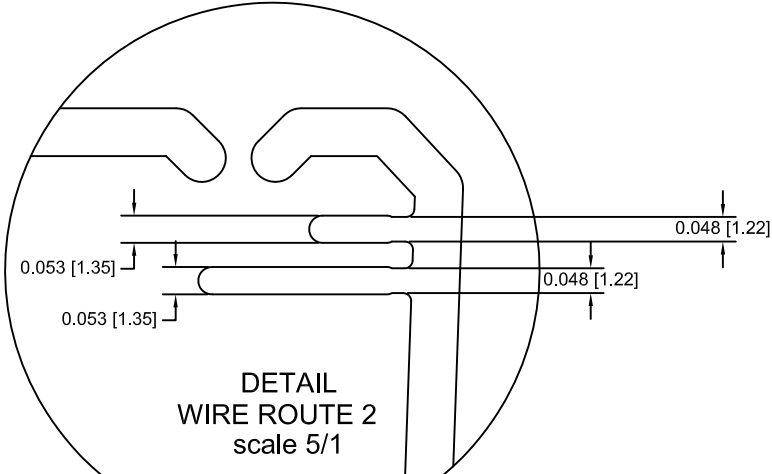
SHEET 1 OF 2



DETAIL  
WIRE ROUTE 1  
scale 2/1



BREAK TAB DETAIL  
scale 5/1



DETAIL  
WIRE ROUTE 2  
scale 5/1

TTF0108			4
DOCUMENT NUMBER			DOC. REV.
DATE: 8/4/20	SCALE: 1/1	SHEET 2 OF 2	