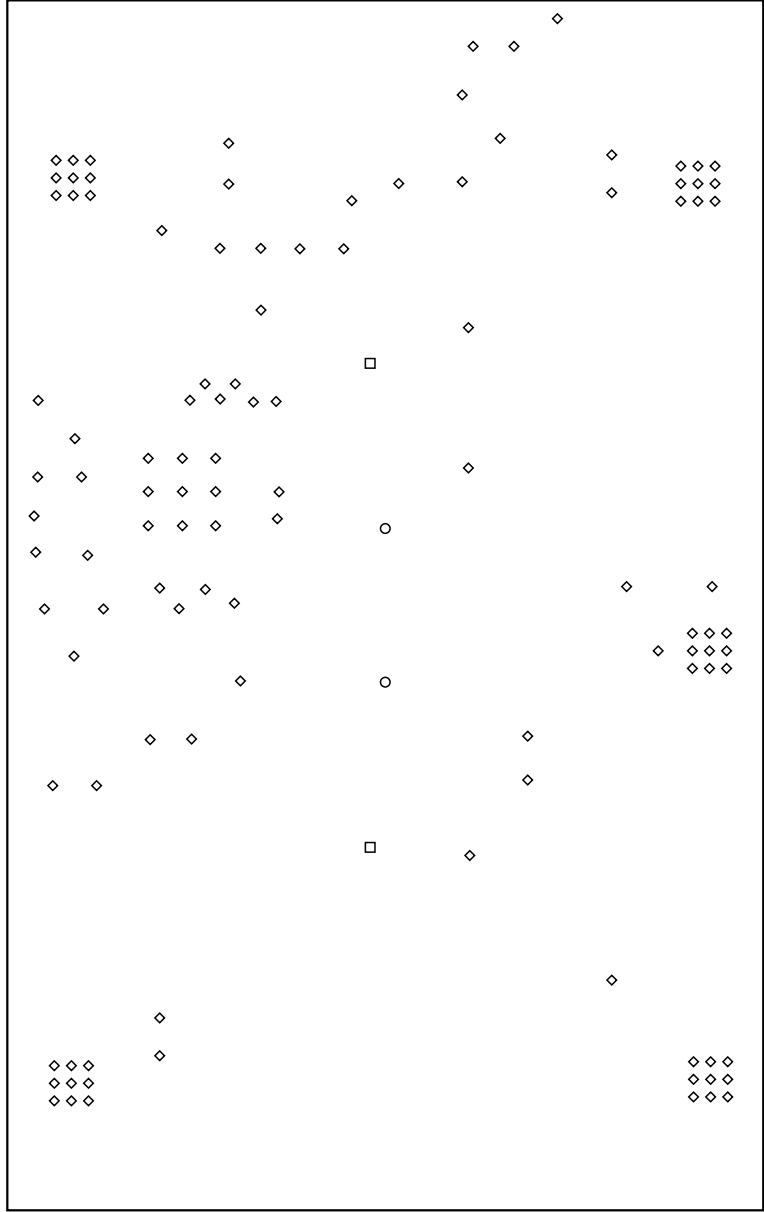


Drill Drawing View



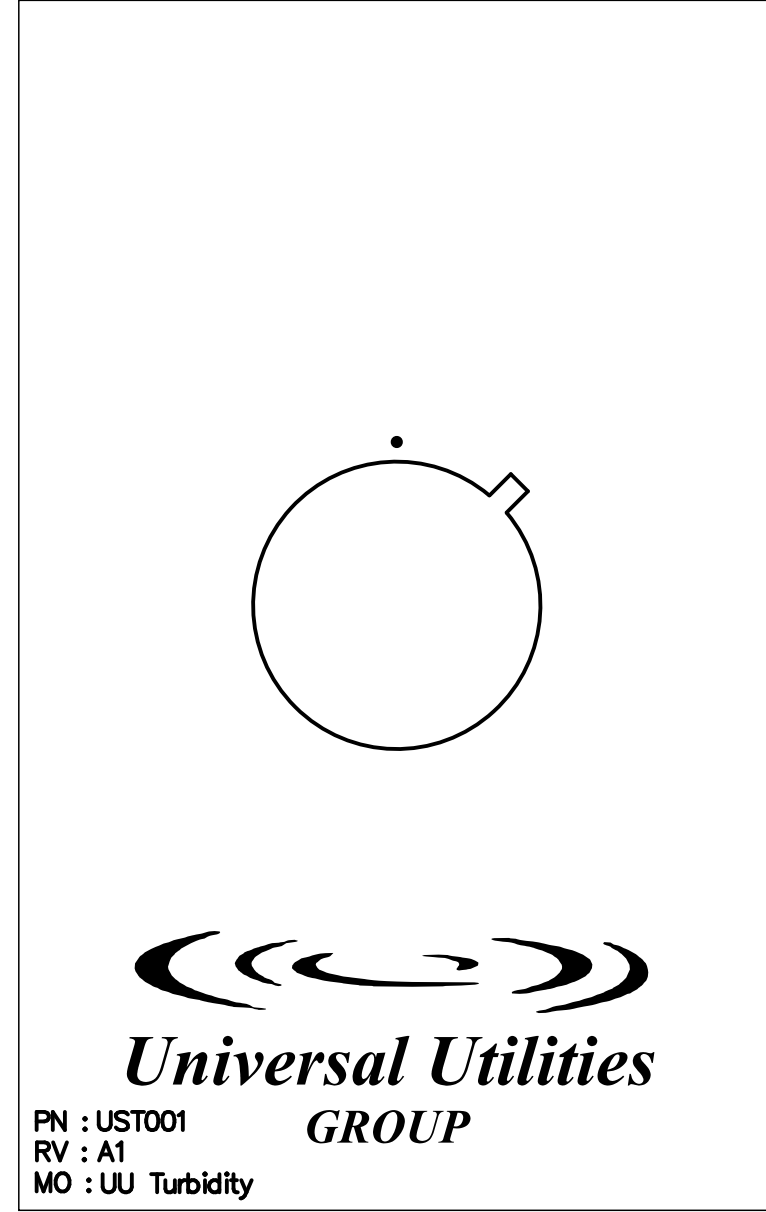
Drill Table (Top - Bottom)

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Via / Pad	Hole Tolerance
□	2	3.00mm(118.11mil)	Plated	Round	Top Layer - Bottom Layer	Pad	
○	2	0.65mm(25.59mil)	Plated	Round	Top Layer - Bottom Layer	Pad	
◇	110	0.25mm(10.00mil)	Plated	Round	Top Layer - Bottom Layer	Via	

Top Overlay (Scale 4:1)



Bottom Overlay (Scale 4:1)



## DESIGN INFORMATION

### BOARD SIZE :

(REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

40 mm(D) X 25 mm(L)

Number of Layers : 4 Layer  
MIN. TRACK WIDTH : 0.127 mm(MIL)  
MIN. CLEARANCE : 0.127 mm(MIL)  
MIN. VIA PAD SIZE : 0.2 mm(MIL)  
MINIMUM ANNULAR RING : 0.254  
EXTERNAL PER IPC-D-275 CLASS 2 LEVEL C  
REGISTRATION TOLERANCES:  
METAL 0.127 mm (MIL),  
HOLES 0.127 mm (MIL)

### BOARD MATERIAL :

MATERIAL :  
FR-408, FR-4 High Tg.  
OTHER : Provide by MFG

#### THICKNESS:

0.8mm ( 32 MIL ) +/-10%  
1.6 mm ( 63 MIL ) +/-10%  
2.0 mm ( 79 MIL ) +/-10%  
OTHER :

#### TOLERANCE:

ANSI IPC-6012 TYPE 3 CLASS 2  
OTHER :

#### BOW & TWIST:

ANSI IPC-6012 TYPE 3 CLASS 2  
OTHER :

#### COPPER THICKNESS (FINISHED):

##### OUTER SIGNAL:

18 um ( 0.07 MIL )  
35 um ( 1.38 MIL )  
70 um ( 2.76 MIL )  
OTHER :

##### INNER PLANE:

18 um ( 0.07 MIL )  
35 um ( 1.38 MIL )  
70 um ( 2.76 MIL )  
OTHER :

#### DRILLING:

##### REFERENCE:

AS SHOWN, NC DRILL FILES

##### PTH MIN COPPER THICKNESS:

25.4um, OTHER

#### BOARD FINISH :

SILKSCREEN : TOP, BOTTOM  
SILKSCREEN COLOR : WHITE, BLACK

SOLDER RESIST COLOR : GREEN, BLACK,  
BLUE, OTHER :

#### SURFACE FINISH :

OSP, HARD GOLD  
HASL WITH LEAD, HASL LEAD FREE  
IMMERSION GOLD ( ENIG ), ENEPIG,  
IMM. TN OR EQUIV, IMM. SILVER (Ag)  
OTHER

ARRAY/PANEL: CUT AND TRIM PER MECH LAYER 1,  
N.C. ROUTE, V. SCORE

#### CERTIFICATION:

MATERIALS AND WORKMANSHIP FOR ALL PCBs  
TO MEET OR EXCEED THE REQUIREMENTS OF:

ANSI IPC-A-600F CLASS -> 1, 2, 3  
UL 94V-0, RoHS, OTHER

#### ADDITIONAL REQUIREMENTS :

MICROSECTION : YES, NO

VIA TENTING : YES, NO

#### BARE BOARD ELEC. TEST:

NONE,  
REQUIRED,  
PER ORDER  
OTHER :

MANUFACTURER'S UL : RAIL, METAL, SILK



Head Office Universal Utilities Public Company Limited  
No. 1 Eastwater Building, 18th Floor, Vibhavadi road, Jomphon, Jatujak, Bangkok 10900, Tel : +662-272-1688, Fax : +662-2721690-1

#### TITLE:

## FABICATION

PROJECT: UST001\_UUTurbidityControl.PrjPcb SIZE: A3

FINISH: 12/02/2022 02:30

MFG

DRAWN: EAKAWIT K.

CHK'D: KACHAKORN

APPV'D: CHERDCHAI P.

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REVISION: =PCBRev

SCALE 1:1

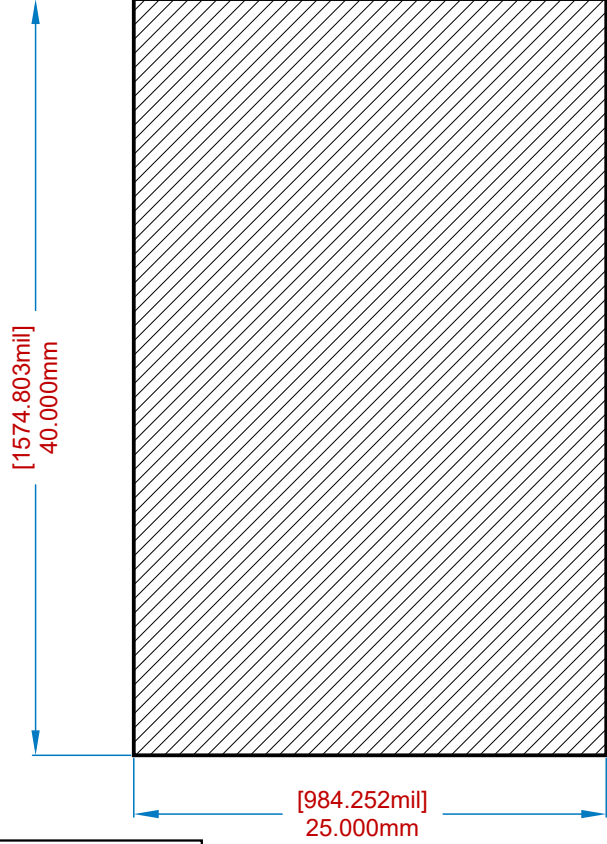
DWG NO.

SHEET 1 OF 2

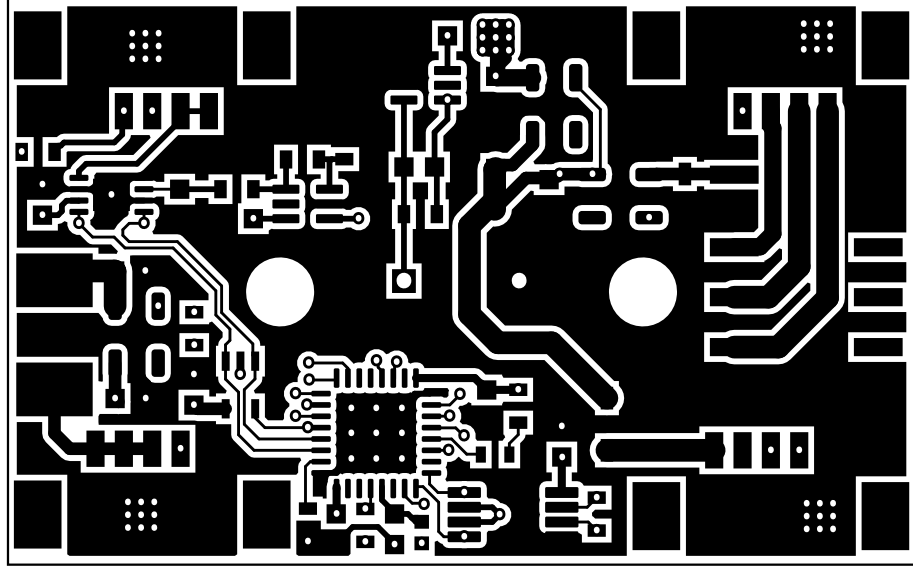
Layer Stack Legend

	Material	Layer	Thickness	Dielectric Material	Type	Gerber
		Top Overlay			Legend	GTO
	Surface Material	Top Solder	0.025mm(1.000mil)	Solder Resist	Solder Mask	GTS
	Copper	Top Layer	0.036mm(1.400mil)		Signal	GTL
	Prepreg		0.071mm(2.800mil)	PP-006	Dielectric	
	Copper	PWR	0.018mm(0.700mil)		Signal	G1
	Core		1.200mm(47.244mil)	FR-4	Dielectric	
	Copper	GND	0.018mm(0.700mil)		Signal	G2
	Prepreg		0.071mm(2.800mil)	PP-006	Dielectric	
	Copper	Bottom Layer	0.036mm(1.400mil)		Signal	GBL
	Surface Material	Bottom Solder	0.025mm(1.000mil)	Solder Resist	Solder Mask	GBS
		Bottom Overlay			Legend	GBO
Total thickness: 1.500mm(59.044mil)						

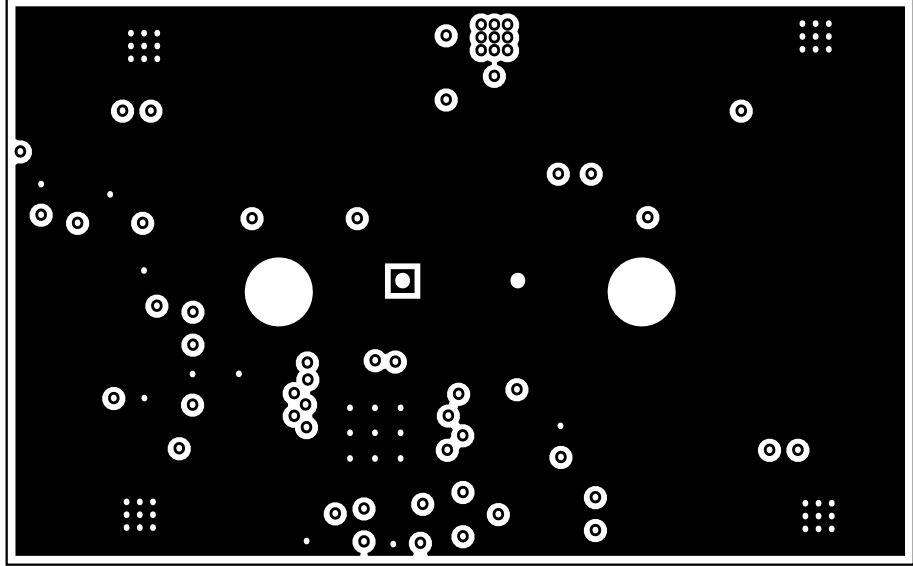
Region View (Scale 2.5:1)



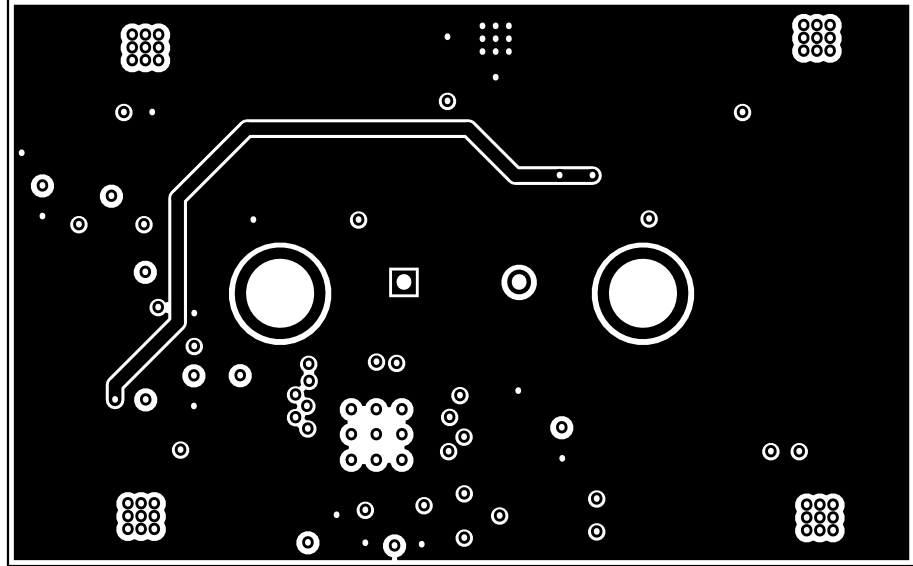
Top Layer (Scale: 3:1)



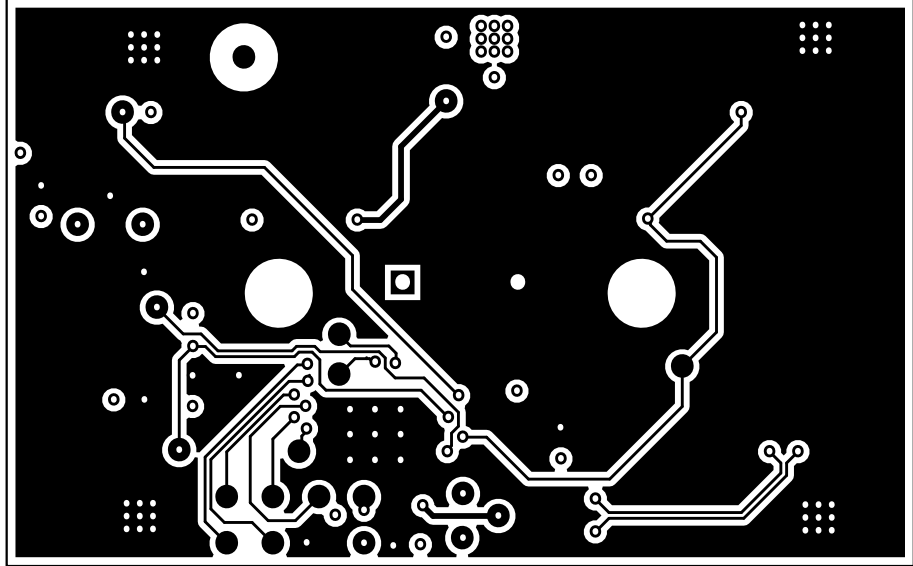
GND (Scale: 3:1)



PWR (Scale: 3:1)



Bottom Layer (Scale: 3:1)



DESIGN INFORMATION

BOARD SIZE :

(REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

40 mm(D) X 25 mm(L)

Number of Layers : 4 Layer  
MIN. TRACK WIDTH : 0.127 mm(MIL)  
MIN. CLEARANCE : 0.127 mm(MIL)  
MIN. VIA PAD SIZE : 0.2 mm(MIL)  
MINIMUM ANNULAR RING : 0.254  
EXTERNAL PER IPC-D-275 CLASS 2 LEVEL C  
REGISTRATION TOLERANCES:  
METAL 0.127 mm (MIL),  
HOLES 0.127 mm (MIL)

BOARD MATERIAL :

MATERIAL :  
FR-408, FR-4 High Tg.  
OTHER : Provide by MFG

THICKNESS:  
0.8mm ( 32 MIL ) +/-10%  
1.6 mm ( 63 MIL ) +/-10%  
2.0 mm ( 79 MIL ) +/-10%  
OTHER :

TOLERANCE:  
ANSI IPC-6012 TYPE 3 CLASS 2  
OTHER :

BOW & TWIST:  
ANSI IPC-6012 TYPE 3 CLASS 2  
OTHER :

COPPER THICKNESS (FINISHED):

OUTER SIGNAL:  
18 um ( 0.07 MIL )  
35 um ( 1.38 MIL )  
70 um ( 2.76 MIL )  
OTHER :

INNER PLANE:  
18 um ( 0.07 MIL )  
35 um ( 1.38 MIL )  
70 um ( 2.76 MIL )  
OTHER :

DRILLING:  
REFERENCE:  
AS SHOWN, NC DRILL FILES  
PTH MIN COPPER THICKNESS:  
25.4um, OTHER

BOARD FINISH :  
SILKSCREEN : TOP, BOTTOM  
SILKSCREEN COLOR : WHITE, BLACK  
SOLDER RESIST COLOR : GREEN, BLACK,  
BLUE, OTHER :  
SURFACE FINISH : OSP, HARD GOLD  
HASL WITH LEAD, HASL LEAD FREE  
IMMERSION GOLD ( ENIG ), ENEPIG,  
IMM. TN OR EQUIV, IMM. SILVER (Ag)  
OTHER

ARRAY/PANEL: CUT AND TRIM PER MECH LAYER 1,  
N.C. ROUTE, V. SCORE

CERTIFICATION:  
MATERIALS AND WORKMANSHIP FOR ALL PCBs  
TO MEET OR EXCEED THE REQUIREMENTS OF:  
ANSI IPC-A-600F CLASS -> 1, 2, 3  
UL 94V-0, RoHS, OTHER

ADDITIONAL REQUIREMENTS :  
MICROSECTION : YES, NO  
VIA TENTING : YES, NO  
BARE BOARD ELEC. TEST:  
NONE,  
REQUIRED,  
PER ORDER  
OTHER :  
MANUFACTURER'S UL : RAIL, METAL, SILK



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FABICATION

PROJECT: UST001\_UUTurbidityControl.PrjPcb

SIZE: A3

FINISH: 12/02/2022 02:30 MFG  
DRAWN: EAKAWIT K. CHK'D:KACHAKORN APPVD:CHERDCHAI P.

REVISION: =PCBRev SCALE 1:1 DWG NO. SHEET 2 OF 2

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