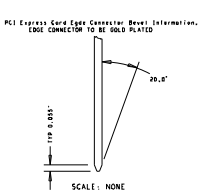
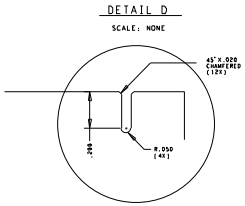
NOTES (UNLESS OTHERWISE SPECIFIED):

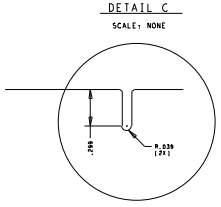
1. THIS DRAWING SPECIFIES THE REQUIREMENTS FOR A PRINTED WIRING BOARD IN ACCORDANCE WITH SPECIFICATION IPC-A-600 CLASS 2 (LATEST REVISION).
2. THE PWB MUST BE LEAD FREE ASSEMBLY PROCESS COMPATIBLE AND MUST BE ABLE TO HANDLE A MINIMUM OF 5 CYCLES AT 260 DEGREES CELSIUS FOR 10 SECONDS.
3. BASE MATERIAL - LAMINATE AND PREPREG SHALL MEET IPC-4101B-26, 83 or 98
   Tg - MUST BE GREATER THAN OR EQUAL TO 150 DEGREES CELSIUS.
   Td - MUST BE GREATER THAN OR EQUAL TO 330 DEGREES CELSIUS.
4. COPPER FOIL WEIGHT - SEE STACKUP DETAIL 'A'
5. CHARACTERISTIC IMPEDANCE - SEE DETAIL 'B'
6. MINIMUM CONDUCTIVE WIDTH/SPACING TO BE .0037"/.0039"
7. PLATING FINISH - BOTH SIDES ENIG (ELECTROLESS NICKEL IMMERSION GOLD):
   .05080-.232 MICRON (2-8 MICROINCH) OF GOLD OVER
   2.540-6.350 MICRON (100-250 MICROINCH) OF NICKEL.
   (b) THE PCI CARD EDGE CONNECTOR GOLD FINGERS, PLATING REQUIREMENTS:
   30U OVER HARD GOLD OVER 100~200U NICKEL BOTH SIDES OF THE BOARD.
8. (8) ALL THROUGH HOLE VIAS MAY BE PLATED SHUT.
9. SOLDERMASK - RED COLOR (TAIYO OR EQUIVALENT), BOTH SIDES.
   MODIFICATION OF SOLDERMASK IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM FREESCALE.
   RECOMMEND TO USE LDI SOLDER MASK.
10. SILKSCREEN - WHITE EPOXY INK, BOTH SIDES. NO SILK ON PADS.
11. ELECTRICAL TEST - 100% IPCD356.
12. PRINTED WIRING BOARD IS TO BE INDIVIDUALLY BAGGED.
13. DRC'S MUST BE RUN ON THE GERBER BEFORE BUILDING BOARDS,
    UNLESS PRIOR APPROVAL IS GIVEN IN WRITING BY FREESCALE.
14. TEARDROPS MAYBE ADDED AT THE FAB HOUSE TO ALL SIGNAL LAYERS.
15. TWO SOLDER SAMPLES TO BE PROVIDED.
16. (16) BASIC GRID INCREMENT AT 1:1 IS .0001.
17. (17) SUPPLIER MARKINGS - ON SOLDER SIDE ONLY, WHERE SHOWN.
    - MUST BE UL RECOGNIZED AND MUST HAVE AN ID THAT CONFORMS TO UL94V-0
18. THE PWB WILL BE MARKED AS LEAD FREE BY USE OF AN INK STAMP (p6)
19. THE PWB WILL BE MARKED AS LEAD FREE PROCESS COMPATIBLE BY USE OF AN INK STAMP (260°C)
20. ALL PLATED AND NON-PLATED THROUGH HOLES ARE TO BE DRILLED AT PRIMARY DRILL STEP.
    ALL HOLE LOCATION TOLERANCES ARE TO BE +/-.002 IN REFERENCE TO THE PRIMARY DATUM.
21. FINISHED PCB MUST BE PANELIZED FOR ASSEMBLY ACCORDING TO CONTRACT MANUFACTURERS REQUIREMENTS.
22. (22) THIS BOARD USES VIA-IN-PAD:
    A. VIA-IN-PAD TO BE FILLED WITH NON-CONDUCTIVE VIA FILL.
       LACKWERKE-PETERS PP2795 OR EQUIVALENT AND MADE PLANAR TO THE PADS.
    B. OVERPLATE THE FILLED VIA AND APPLY FINISH METAL TREATMENT.
23. THE MANUFACTURE HAS THE OPTION TO ADD COPPER THIEVING ON OUTER AND INNER LAYERS.
    KEEP A MINIMUM DISTANCE OF .100" FROM ANY BOARD FEATURES.

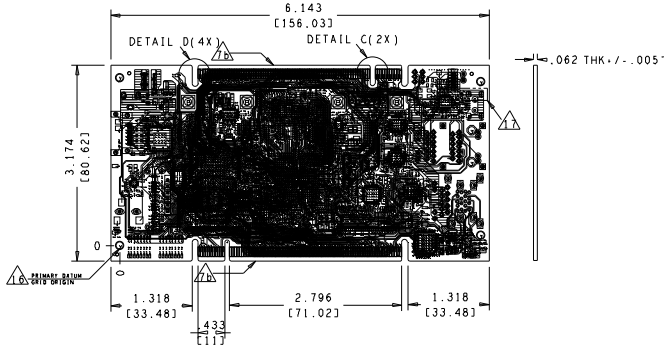
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	01-16-14	P.G.
	B	RESPIN	03-25-14	P.G.
	C	RESPIN PER ECO51062	05-22-14	P.G.
	C1	RE-LOCATATION F1	05-23-14	P.G.









VIEW FROM PRIMARY SIDE

DRILL CHART: TOP to BOTTOM
ALL UNITS ARE IN MILS

FIGURE	SIZE	TOLERANCE	PLATED	QTY
(22,8) ·	8.0	+0.0/-8.0	PLATED	659
(22,8) *	10.0	+0.0/-10.0	PLATED	1525
*	10.0	+2.0/-2.0	PLATED	5
(22,8)	10.1	+0.0/-10.0	PLATED	152
○	18.0	+2.0/-2.0	PLATED	1
○	20.0	+2.0/-2.0	PLATED	8
◔	30.0	+2.0/-2.0	PLATED	7
◘	31.0	+2.0/-2.0	PLATED	10
◆	35.0	+2.0/-2.0	PLATED	54
○	36.0	+3.0/-3.0	PLATED	18
◉	40.0	+3.0/-3.0	PLATED	10
◘	41.0	+3.0/-3.0	PLATED	6
◙	52.0	+2.0/-2.0	PLATED	4
◘	54.0	+2.0/-2.0	PLATED	2
◙	64.0	+3.0/-3.0	PLATED	4
◉	67.0	+3.0/-3.0	PLATED	2
◘	91.0	+3.0/-3.0	PLATED	8
B	134.0	+3.0/-3.0	PLATED	4
©	40.0	+2.0/-2.0	NON-PLATED	2
◙	44.0	+2.0/-2.0	NON-PLATED	2
◉	56.0	+2.0/-2.0	NON-PLATED	2
▲	63.0	+2.0/-2.0	NON-PLATED	2
Ⓨ	120.0	+3.0/-3.0	NON-PLATED	4
Ⓨ	128.0	+2.0/-2.0	NON-PLATED	2
▫	63.0x52.0	+3.0/-3.0	PLATED	2
▫	63.0x52.0	+3.0/-3.0	PLATED	1

FINISHED Cu WEIGHT

LAYER 1	COMPONENT SIDE	1/2 to 1 oz.
LAYER 2	GROUND PLANE	1 oz.
LAYER 3	INTERNAL 1	1/2 oz.
LAYER 4	INTERNAL 2	1/2 oz.
LAYER 5	POWER PLANE	1 oz.
LAYER 6	SOLDER SIDE	1/2 to 1 oz.

DETAIL A
LAYER STACKUP
SCALE: NONE

DETAIL B
IMPEDANCE REQUIREMENTS
IMPEDANCE TOLERANCE IS 10%

Layers	Single Ended		Differential				
	Trace Width (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing Airgap (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing Airgap (Mils)	Impedance (Ohms)
L1_PS	5.00	50	4.50	5.50	90	3.70	6.30	100
L3_INT1	5.60	50	5.50	7.50	90	4.50	8.50	100
L4_INT2	5.60	50	5.50	7.50	90	4.50	8.50	100
L6_SS	5.00	50	4.50	5.50	90	3.70	6.30	100

--- PUBLIC (PUBLIC INFORMATION)
X FIUO (FREESCALE INTERNAL USE ONLY)
--- FCP (FREESCALE CONFIDENTIAL PROPRIETARY)

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES [MM]
TOLERANCES ARE:
DECIMALS ANGLES
.XX .01 .0-30'
.XXX .005
✓ RMS ALL MACHINED SURFACES
BREAK ALL SHARP EDGES AND CORNERS, REMOVE BURRS.
UNDIMLINED DIM. NOT TO SCALE.
THIRD ANGLE ORTHOGRAPHIC PROJECTION IS USED.

APPROVALS	DATE
DRAWN CLARA LI	05-23-14
CHECKED PAN LEO	05-23-14
DESIGN ENGINEER PAUL GAN	05-23-14

PART NO. 170-28040

FREESCALE
6501 WILLIAM CANNON DRIVE WEST AUSTIN, TEXAS 78735 USA

TITLE: PRINTED WIRING BOARD
TWR-LS1021A

SIZE	CAD FILE NAME	DWG. NO.	REV
D	LAY-28040	FAB-28040	C1

SCALE: DO NOT SCALE DRAWING SHEET 1 OF 1