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 .0045"/.005"

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.

△8 ALL THROUGH HOLE VIAS MAY BE PLATED SHUT.

9. SOLDERMASK - ORANGE COLOR BOTH SIDES.
   MODIFICATION OF SOLDERMASK IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM FREESCALE.

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. 2 SOLDER SAMPLES TO BE PROVIDED.

△16 BASIC GRID INCREMENT AT 1:1 IS .0001.

△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 (R6)

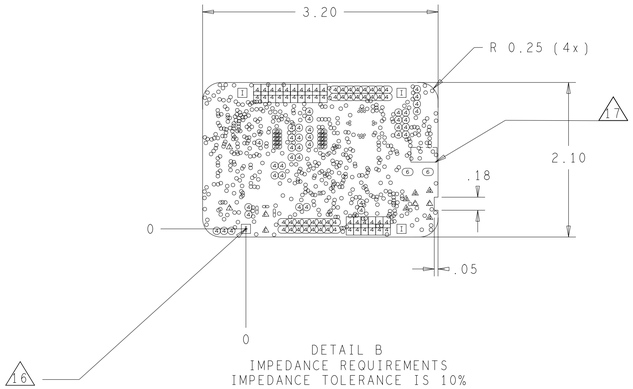
19. THE PWB WILL BE MARKED AS LEAD FREE PROCESS COMPATIBLE BY USE OF AN INK STAMP (260°C)

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.
    THE ADDITION OF RAILS AND .125" NON-PLATED TOOLING HOLES ARE AT THE DISCRETION OF
    CONTRACT MANUFACTURER.PANELIZATION MUST BE APPROVED BY CONTRACT MANUFACTURER.

22. .
    INTENTIONAL SHORT IN SH1 BETWEEN NETS P3V3 AND V_TGTMCU
    INTENTIONAL SHORT IN J4 BETWEEN SDA_RST_TGTMCU_J_B AND SDA_RST_TGTMCU_B
    INTENTIONAL SHORT IN J7 BETWEEN NETS K22F_SWD_CLK AND SWD_CLK_TGTMCU
    INTENTIONAL SHORT IN J14 BETWEEN NETS P3V3_SDA AND SDA_VOUT33
    INTENTIONAL SHORT IN J18 BETWEEN NETS P3V3 AND P3V3_VREG
    INTENTIONAL SHORT IN J19 BETWEEN P3V3_AUDIO AND P3V3
    INTENTIONAL SHORT IN J21 BETWEEN P3V3_VBAT AND P3V3_K22F
    INTENTIONAL SHORT IN SH507 BETWEEN AGND AND GND
    INTENTIONAL DANGLING VIAS IN U8 AREA.

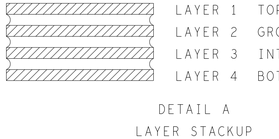
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	11-19-13	R.D.R
	B	RE-SPIN PER ECO50297	04-16-14	R.D.R
	C	CHANGE AUDIO JACK W/MIC	04-17-14	R.D.R
	C1	CORRECT ETCHED REVISION	04-25-14	R.D.R
	D	CHANGES PER ECO51255	06-03-14	R.D.R



PRIMARY DATUM
GRID ORIGIN

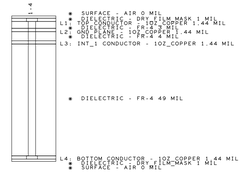
DETAIL B
IMPEDANCE REQUIREMENTS
IMPEDANCE TOLERANCE IS 10%

Layers	Single Ended		Differential		
	Trace Width (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing "Airgap" (Mils)	Impedance (Ohms)
L1_PS	4.50	50	4.50	6.30	90
L3_INT_1	5.10	50	4.70	7.00	90



FINISHED Cu WEIGHT
1 oz.
1 oz.
1 oz.
1 oz.

DETAIL A
LAYER STACKUP
SCALE: NONE



DRILL CHART: TOP to BOTTOM ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
△8 ○	10.0	+0.0/-10.0	PLATED	544
△8 ◦	12.0	+0.0/-12.0	PLATED	16
⊠	18.0	+2.0/-2.0	PLATED	1
⑫	28.0	+2.0/-2.0	PLATED	20
④	40.0	+2.0/-2.0	PLATED	4
④	40.0	+3.0/-3.0	PLATED	35
4	41.0	+3.0/-3.0	PLATED	32
△	43.0	+3.0/-3.0	PLATED	5
④	47.0	+3.0/-3.0	PLATED	32
⑥	67.0	+3.0/-3.0	PLATED	2
△	73.0	+3.0/-3.0	PLATED	2
△	43.0	+2.0/-2.0	NON-PLATED	2
△	63.0	+2.0/-2.0	NON-PLATED	2
1	125.0	+3.0/-3.0	NON-PLATED	4
∞	91.0x32.0	+3.0/-3.0	PLATED	1
8	111.0x32.0	+3.0/-3.0	PLATED	2

___ PUBI (PUBLIC INFORMATION)
_X_ FIUO (FREESCALE INTERNAL USE ONLY)
___ FCP (FREESCALE CONFIDENTIAL PROPRIETARY)

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

APPROVALS	DATE
DRAWN M. VELASCO	06-03-14
CHECKED R. VILLARREAL	06-03-14
DESIGN ENGINEER RAFAEL DEL REY	06-03-14

PART NO. 170-28164

FREESCALE
6501 WILLIAM CANNON DRIVE WEST AUSTIN, TEXAS 78735 USA

TITLE: PRINTED WIRING BOARD
FRDM-K22F

SIZE	CAD FILE NAME	DWG. NO.	REV
D	LAY-28164	FAB-28164	D

SCALE 1/1 DO NOT SCALE DRAWING SHEET 1 OF 1