REVISIONS		
REV #	DESCRIPTION	DATE
REV E2	VSYS_A3V3 to VSYSC_3V3	020623

FABRICATION NOTES:

1- FABRICATE PCB IN ACCORDANCE WITH IPC-4012D, CLASS 2; PER IPC-4011. PCB SHALL BE MANUFACTURED USING ITEQ IT 180A OR EQUIVALENT

2. MATERIALS:
   1. LAMINATE AND PREPREG (B-STAGE) TO BE IN ACCORDANCE WITH IPC-4101/126. (MIN.TG 170)
   2. COPPER FOIL TO BE IN ACCORDANCE WITH IPC-MF-150. UNLESS OTHERWISE SPECIFIED, ALL COPPER WEIGHT FOR INNER SIGNAL LAYERS AND INNER PLANE LAYERS TO BE 35UM (1 OZ.). FOR OUTER LAYERS 35UM (1 OZ). COPPER WEIGHT IS TO BE CONSIDERED "FINISHED". THE COPPER FOIL THICKNESS TOLERANCES SHALL BE AS PER IPC 4012B TABLE NO.3-7 AND 3-8.

3. ALL HOLES SHALL BE LOCATED WITHIN 0.13MM DIAMETER OF TRUE POSITION. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.125MM.

4. NOK AND TWIST SHALL NOT EXCEED MORE THAN 0.75% OF THE DESIGN LENGTH.

5. CONDUCTOR WIDTH SHALL NOT BE LESS THAN 20% FROM ITS ORIGINAL DATA. INCASE FOR MATCHING IMPEDANCE NISTRAL SHALL APPROVE THE MODIFIED WIDTHS AND SPACING. TRACE WIDTH SHALL BE MEASURED IN THE SURFACE IN CONTACT WITH THE LAMINATE.

6- BOARD FINISHED SHALL BE ACCORDING TO IPC-4012D CLASS 2.

7. AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.

8. FINISH:
   1. ALL EXPOSED CONDUCTIVE PATTERN AREAS NOT COVERED WITH SOLDER MASK OR OTHER PLATING SHALL BE ENIG, ELECTROLESS NICKEL/IMMERSION GOLD, ELECTROLESS NICKEL SHALL BE 3-6 MICRONS, TYPICAL IMMERSION GOLD THICKNESS SHALL BE 0.04-0.06 MICRONS OF SOLDERABLE IMMERSION GOLD SURFACE.
   2. APPLY LIQUID PHOTO IMAGEABLE SOLDER MASK PER IPC-SM-840, CLASS H, TO BOTH SIDES OF THE BOARD OVER BARE COPPER. VIA HOLES SHALL BE RESIN FILLED AND COVERED WITH SOLDER MASK. ONLY SOLDER MASK UNDER THAT ARE 0.080(0.003") PER SIDE SHALL BE REDUCED IF REQUIRED. ALL OTHER SOLDER MASK UNDERS SHALL NOT BE ENLARGED. DEFAULT COLOUR OF SOLDER MASK SHALL BE GREEN.
   3. SILKSCREEN SHALL BE WHITE, PERMANENT, ORGANIC, NON-CONDUCTIVE INK. THERE SHALL BE NO SILKSCREEN ON ANY SOLDERABLE COMPONENT PAD. CLIPPING OF SILK SCREEN SHALL BE ALLOWED IF THE SILK SCREEN FALLS ON SOLDERABLE AREAS.
   4. SURFACE AND VIA HOLES FINISH SHALL NOT BE LESS THAN 20UM (0.0007"), INCASE OF LASER VIA'S, BLIND VIA'S SHALL NOT BE LESS THAN 12UM (0.0004") AND BURIED VIA'S SHALL NOT BE LESS THAN 15UM (0.0004").
   5. ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLIANCE TO IPC4012, CLASS 2.

9. MARKING:
   1. BOARD SHALL MEET THE REQUIREMENTS OF UL-796 WITH FLAMMABILITY RATING OF MINIMUM 94V-0. UL LOGO, MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE REFERRED IN SILKSCREEN.

10 TEST REQUIREMENTS:
   1. 100% NET LIST ELECTRICAL VERIFICATION USING NISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.

11. THIEVING IS ALLOWED ONLY IN THE PANEL FRAME, NOT IN THE CIRCUIT AREA.

12. TEAR DROPS SHALL BE ADDED ON VIA'S AND THROUGH HOLE PADS IN ALL INTERNAL AND OUTER LAYERS.

13. ALL UNCONNECTED VIA'S SHALL BE SUPPRESSED IF REQUIRED.

14. FINISHED PCB THICKNESS SHALL BE 0.065" +/-10%.

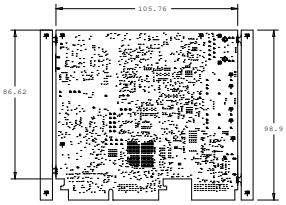
15. MIN TRACE WIDTH/SPACING ON BOARD IS 0.0032"/0.0027".

16. ENSURE UL REGISTERED E-FILE NUMBER SHALL BE PRINTED ON THE PCB SILKSCREEN.

17. VIA ON PAD SHALL BE RESIN FILLED AND CAP-PLATED.

18. EDGE FINGERS SHALL HAVE HARD GOLD FINISH.

NOTE : THIS not for FAB ONLY TO TAKE BACK UP



IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01	EDGE COUPLED MICROSTRIP	TOP,L10	4.25	7.15	100	L2,L9
02	EDGE COUPLED MICROSTRIP	L1,L8	5.0	14	100	L2
03	SHIELDING	TOP,L8	5.0	NA	50	L2,L4,L7,L8
04	MICROSTRIP	L3,L10	5.8	NA	50	L2,L9

LAYER STACKUP

	LAYER NAME	FINISHED Cu	X-SECTION	DIELECTRIC THICKNESS [INCHES]
	PRIMARY SIDE SILKSCREEN			
	PRIMARY SIDE SOLDERMASK			
L01	PRIMARY SIDE	1oz.		0.0037
L02	GROUND-PLANE-1	1oz.		0.004
L03	INNER-SIGNAL-1	1oz.		0.0066
L04	GROUND-PLANE-2	1oz.		0.005
L05	POWER-PLANE-1	1oz.		0.009
L06	POWER-PLANE-2	1oz.		0.005
L07	GROUND-PLANE-3	1oz.		0.0066
L08	INNER-SIGNAL-2	1oz.		0.004
L09	GROUND-PLANE-4	1oz.		0.0037
L10	SECONDARY SIDE	1oz.		
	SECONDARY SIDE SOLDERMASK			
	SECONDARY SIDE SILKSCREEN			

DRILL CHART: TOP to BOTTOM					
ALL UNITS ARE IN MILS					
FIGURE	FINISHED SIZE	TOLERANCE DRILL	TOLERANCE TRAVEL	PLATED	QTY
•	8.0	+3.0/-3.0	-	PLATED	2287
•	36.0	+3.0/-3.0	-	PLATED	10
•	40.0	+2.0/-2.0	-	PLATED	32
•	40.0	+3.0/-3.0	-	PLATED	12
•	44.0	+2.0/-2.0	-	PLATED	16
●	66.0	+3.0/-3.0	-	PLATED	2
•	32.0	+3.0/-3.0	-	NON-PLATED	12
✚	88.0	+3.0/-3.0	-	NON-PLATED	4
✱	108.0	+3.0/-3.0	-	NON-PLATED	8
✥	126.0	+3.0/-3.0	-	NON-PLATED	2
▬	62.0x24.0	+2.0/-2.0	+2.0/-2.0	PLATED	2
▬	76.0x28.0	+2.0/-2.0	+2.0/-2.0	PLATED	2
▬	82.0x24.0	+2.0/-2.0	+2.0/-2.0	PLATED	2

SIGNATURES	DATE
LAYOUT BY KNK	040723
REVIEWED BY ZA	040723
APPROVED BY AMS	040723

TEXAS INSTRUMENTS

PROC153E2

AM263CC AUTO

SIZE D | Rev E2

SCALE:NONE | SHEET 1 OF 17