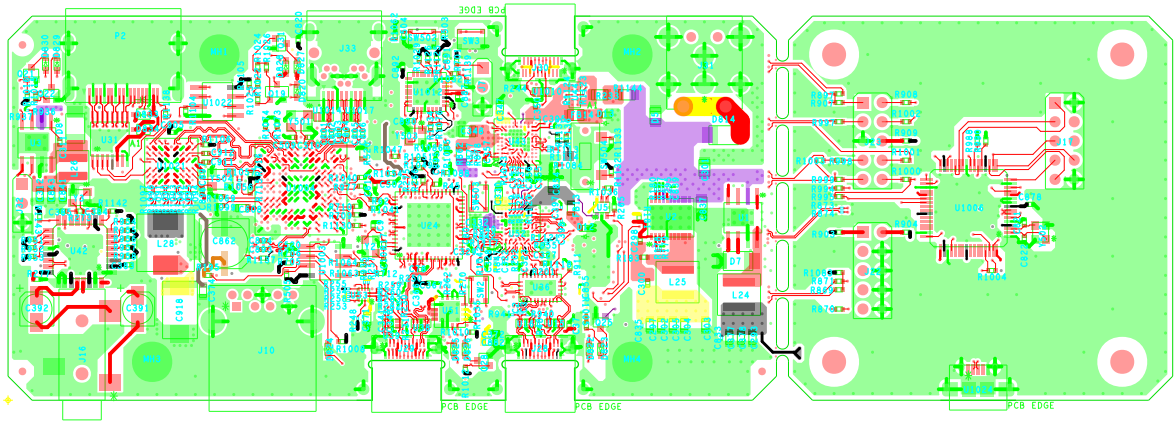
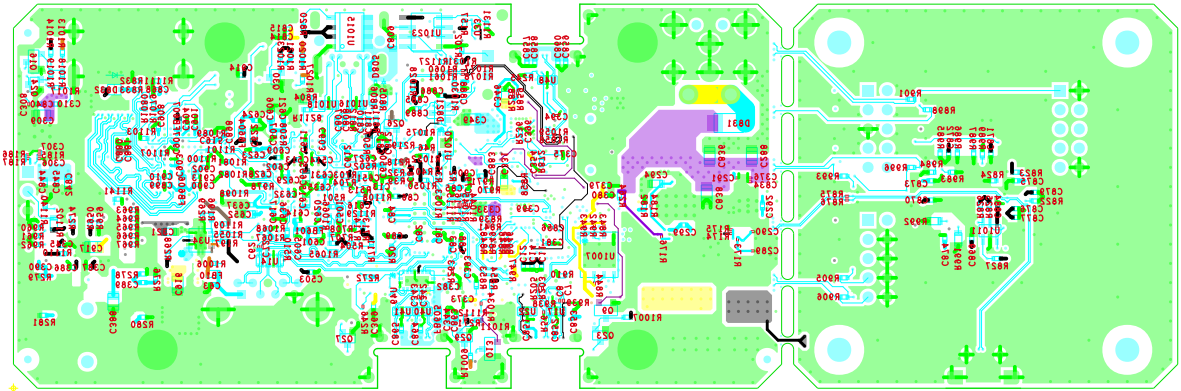
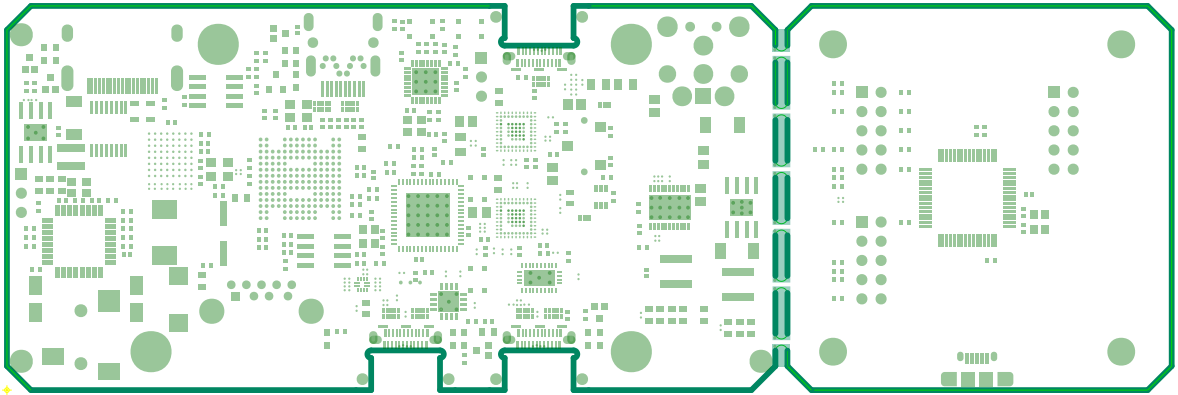


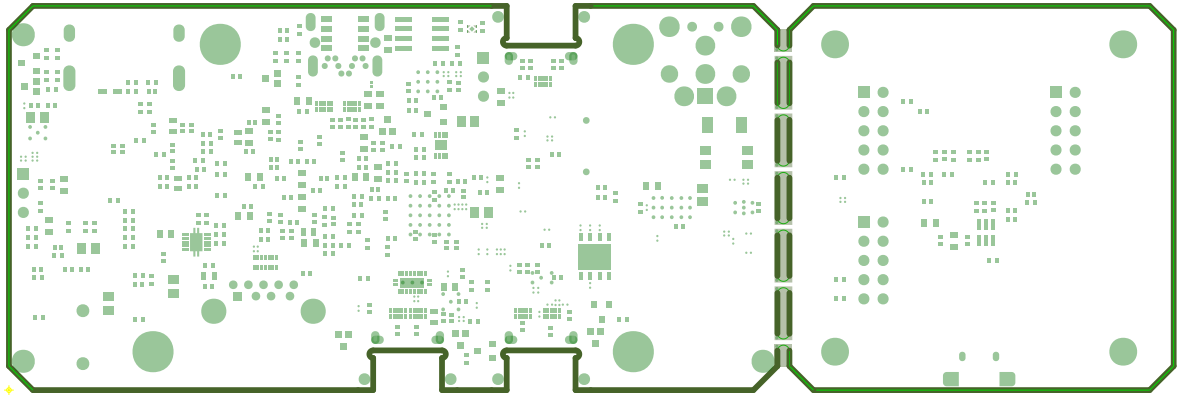
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 1 - TOP SIDE		



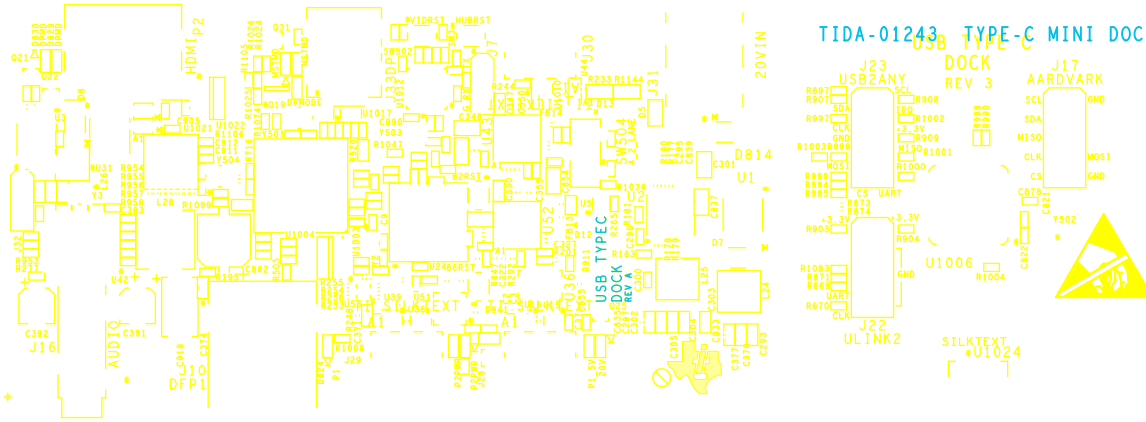
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 10 - BOTTOM SIDE		



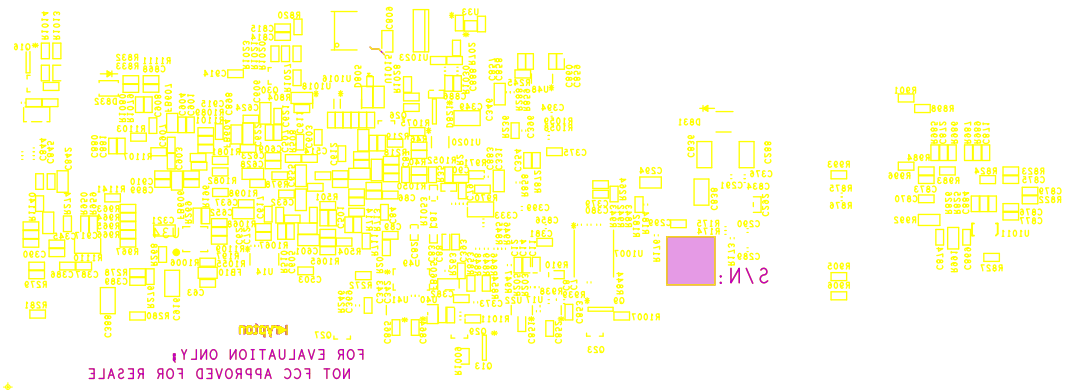
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: SOLDERMASK TOP		



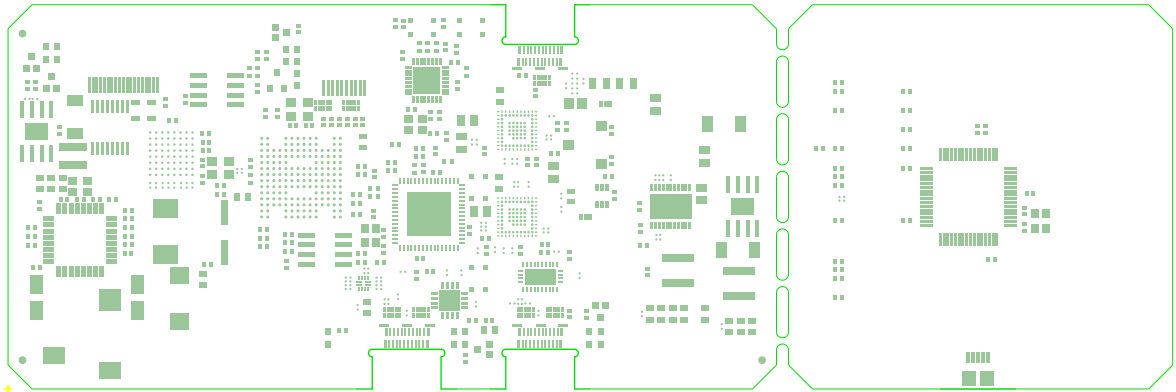
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: SOLDERMASK BOTTOM		



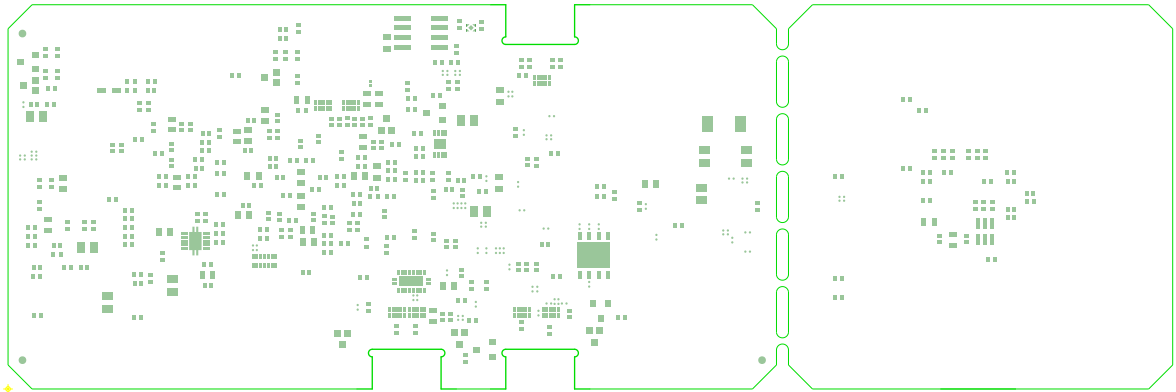
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: SILKSCREEN TOP		



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: SILKSCREEN BOTTOM		



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: PASTEMASK TOP		



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: PASTEMASK BOTTOM		

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THIRD ANGLE PROJECTION

TOLERANCES
UNLESS OTHERWISE SPECIFIED
UNITS IN (MM)
IN (.XX)+/-0.01 (.XXX)+/-0.003
MM (.XX)+/-0.01 (.XXX)+/-0.003
FRACTION +/- 1/32
ANGLE +/- 1.0 DEGREE

APPROVALS		DATE
DRAWN:	MT	03-09-16
RELEASED:	JO	03-09-16

DO NOT SCALE DRAWING

CUSTOMER	ENGINEER
TEXAS INSTRUMENTS	J. ONTIVEROS

BOARD NAME : USB TYPE C DOCK

ASSEMBLY DRAWING (TOP SIDE)

SIZE	KSID NO.	JOB NO.	REV.
D	16871	129072	3.0

SCALE NONE

SHEET 1 OF 2

KRYPTON SOLUTIONS CONFIDENTIAL

THIRD ANGLE PROJECTION

TOLERANCES
UNLESS OTHERWISE SPECIFIED
UNITS IN (MM)
IN (.XX)+/-0.01 (.XXX)+/-0.003
MM (.XX)+/-0.01 (.XXX)+/-0.003
FRACTION +/- 1/32
ANGLE +/- 1.0 DEGREE

APPROVALS		DATE
DRAWN:	MT	03-09-16
RELEASED:	JO	03-09-16

DO NOT SCALE DRAWING

CUSTOMER: TEXAS INSTRUMENTS

ENGINEER: J. ONTIVEROS

BOARD NAME : USB TYPE C DOCK

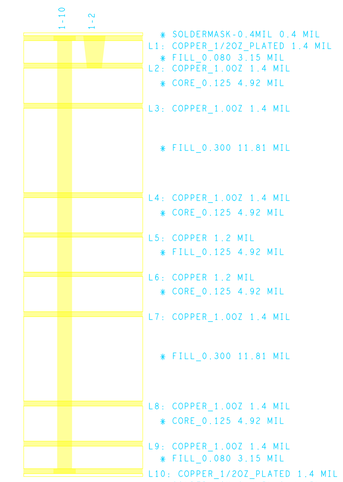
ASSEMBLY DRAWING (BOTTOM SIDE)

SIZE	KSID NO.	JOB NO.	REV.
D	16871	129072	3.0

SCALE NONE

SHEET 2 OF 2

ART FILM - FABRICATION



DESIGN CROSS SECTION CHART
TOTAL THICKNESS 68.92 MIL

TABLE 1:

LAYER NO.	LAYER NAME	DIFFERENTIAL PAIR IMPEDANCE (OHMS)	DIFF TRACE WIDTH	DIFF TRACE SPACING	SINGLE ENDED IMPEDANCE (OHMS)	SINGLE ENDED TRACE WIDTH	REFERENCE LAYER
LAYER 1	TOP	100 +/- 10% 85 +/- 10%	0.006" 0.004"	0.0050" 0.0050""	50 +/- 10%	0.0045"	LAYER 3 LAYER 2
LAYER 2	L2_GND						
LAYER 3	L3_SIG	85 +/- 10%	0.0045"	0.005"	50 +/- 10%	0.005"	LAYER 2
LAYER 4	L4_3P3V						
LAYER 5	L5_VBUS_GND						
LAYER 6	L6_1P2V_GND						
LAYER 7	L7_5V						
LAYER 6	L8_SIG	85 +/- 10%	0.0045"	0.005"	50 +/- 10%	0.005"	LAYER 9
LAYER 9	L9_GND						
LAYER 10	BOTTOM	100 +/- 10% 85 +/- 10%	0.006" 0.004"	0.0050" 0.0050"	50 +/- 10%	0.0045"	LAYER 8 LAYER 9

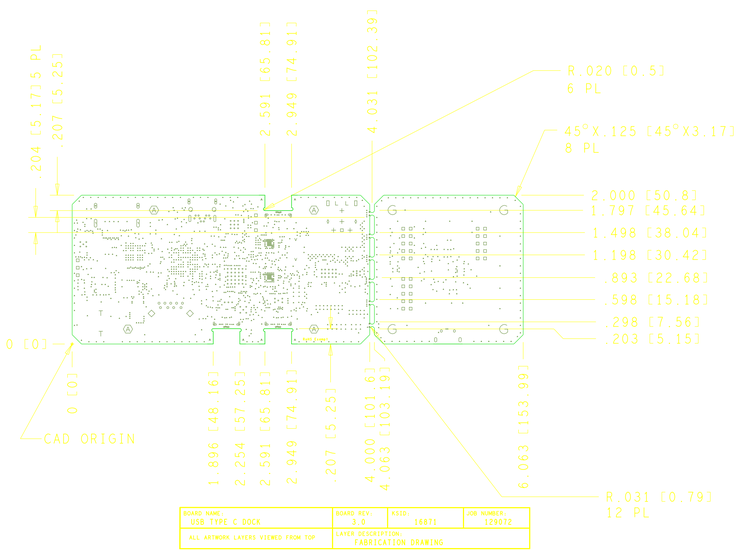
SPECIAL FAB NOTES:

2: ALL 6.01 MIL VIAS NEED TO BE FILLED USING NON-CONDUCTIVE EPOXY AND PLATED SMOOTH (TOP SIDE ONLY).

3: ALL 8 MIL VIAS TO BE TENTED ON BOTH SIDES.

DRILL CHART: TOP to L2				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
·	6.01	+3.0/-6.0	PLATED	46

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
·	8.0	+3.0/-8.0	PLATED	1507
·	10.0	+3.0/-10.0	PLATED	74
·	19.69	+3.0/-3.0	PLATED	10
·	25.59	+1.97/-1.97	PLATED	6
+	28.0	+3.0/-3.0	PLATED	9
□	38.0	+3.0/-3.0	PLATED	37
◊	51.0	+3.0/-3.0	PLATED	2
+	63.0	+3.0/-3.0	PLATED	4
□	67.0	+3.0/-3.0	PLATED	2
◇	91.0	+3.0/-3.0	PLATED	2
Ⓐ	125.0	+2.0/-2.0	PLATED	4
·	12.0	+2.0/-2.0	NON-PLATED	12
˅	35.0	+2.0/-2.0	NON-PLATED	2
L	51.0	+2.0/-2.0	NON-PLATED	2
○	55.0	+2.0/-2.0	NON-PLATED	2
T	67.0	+2.0/-2.0	NON-PLATED	2
G	125.0	+2.0/-2.0	NON-PLATED	4
▫	33.46x25.59	+3.15/-3.15	PLATED	2
▭	43.11x19.69	+1.97/-1.97	PLATED	6
▯	43.31x19.69	+1.97/-1.97	PLATED	6
▯	59.06x32.48	+3.15/-3.15	PLATED	2
▯	66.93x35.43	+3.15/-3.15	PLATED	2
▯	70.87x27.56	+3.15/-314.96	PLATED	2
▯	86.61x27.56	+3.94/-3.94	PLATED	2
▯	106.3x35.43	+1.97/-1.97	PLATED	2



BOARD NAME: USB TYPE C DOCK	BOARD REV: 3.0	KSID: 16871	JOB NUMBER: 129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: FABRICATION DRAWING		

DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
NUMBER OF LAYERS: 10
MIN. TRACK WIDTH: 4.0 MIL
MIN. CLEARANCE : 3.9 MIL
MIN. VIA PAD/DRILL: 12.0/6.0 MIL (BLIND)

MIN. ANNULAR RING 2 MIL EXTERNAL PER IPC-6012C CLASS 2
REGISTRATION TOLERANCES: METAL +/- X MIL, HOLES +/- X MIL
IMPEDANCE CONTROL: [ ] NONE [X] YES - SEE TABLE 1
MIXED DIELECTRIC: [X] NO [ ] YES
LAMINATE MATERIAL:
[X] FR-4 HIGH Tg [ ] ROGERS 4350B [ ] OTHER: _____
THICKNESS:
[X] 0.069" +/-10% [ ] 0.093" +/-10% [ ] OTHER: _____
TOLERANCE:
[X] IPC-6012C TYPE 3 CLASS 2
[ ] OTHER +/-
BOW & TWIST:
[X] IPC-6012C TYPE 3 CLASS 2
[ ] OTHER +/-
COPPER THICKNESS (FINISHED):
OUTER: [ ] 1/4 OZ. [ ] 1/2 OZ. [X] 1.0 OZ. [ ] 2.0 OZ.
INNER SIGNAL: [ ] 1/4 OZ. [ ] 1/2 OZ. [X] 1.0 OZ. [ ] 2.0 OZ.
INNER PLANE: [ ] 1/4 OZ. [ ] 1/2 OZ. [X] 1.0 OZ. [ ] 2.0 OZ.
OTHER: _____
BOARD FINISH:
SILKSCREEN: [X] TOP [X] BOTTOM
SILKSCREEN COLOR: [X] WHITE [ ] OTHER _____
SOLDERMASK: (PER IPC-6011,6012)
[X] TOP [X] BOTTOM
SOLDERMASK COLOR: [ ] GREEN [ ] BLUE [X] OTHER: BLACK
THROUGH-HOLE VIA TREATMENT:
[ ] OPEN [X] TENTED IDENTIFIER: ALL 8 MIL VIAS
VIA FILL USING NON-CONDUCTIVE EPOXY:
[ ] NO [X] YES IDENTIFIER: ALL 6.01 MIL VIAS
THIEVING ALLOWED: [ ] YES [X] NO
BOARD SURFACE TREATMENT:
[X] NICKEL/GOLD (ENIG) [ ] ORGANIC (OSP) [ ] HASL [ ] ENEPIG
[ ] IMMERSION TIN [ ] OTHER _____
FOR WIRE BONDING:
[ ] HARD GOLD [ ] SOFT GOLD [ ] PER SUPPLIED ARTWORK
ADDITIONAL REQUIREMENTS:
[X] MICRO-SECTION [X] TDR REPORTS/COUPONS [X] ELECTRICAL TEST
[X] CERTIFICATES OF COMPLIANCE [X] RoHS [X] UL 94V-0
VENDOR MARKING:
VENDOR DATE CODE,UL,LOGO: [ ] ETCH [X] SILKSCREEN [ ] BREAK-AWAY
[X] IN AN OPEN AREA [ ] WHERE INDICATED (SEE DRAWING)

THIRD ANGLE PROJECTION

TOLERANCES
UNLESS OTHERWISE SPECIFIED
UNITS IN (MM)
IN (.XX)+/-0.01 (.XXX)+/-0.003
MM (.XX)+/-0.01 (.XXX)+/-0.003
FRACTION +/- 1/32
ANGLE +/- 1.0 DEGREE

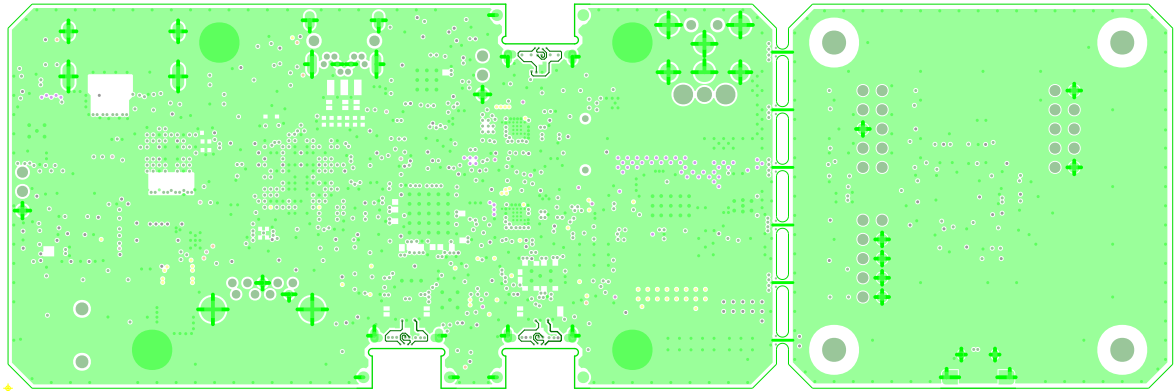
APPROVALS	DATE
DRAWN: MT	03-09-16
RELEASED: JO	03-09-16
DO NOT SCALE DRAWING	

CUSTOMER: TEXAS INSTRUMENTS
ENGINEER: J. ONTIVEROS
BOARD NAME : USB TYPE C DOCK
FABRICATION DRAWING

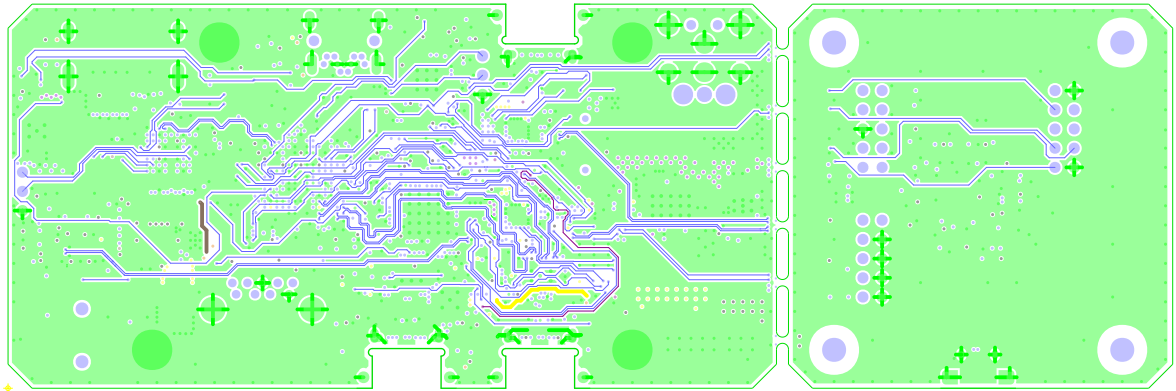
SIZE	KSID NO.	JOB NO.	REV.
D	16871	129072	3.0

SCALE NONE
SHEET 1 OF 1

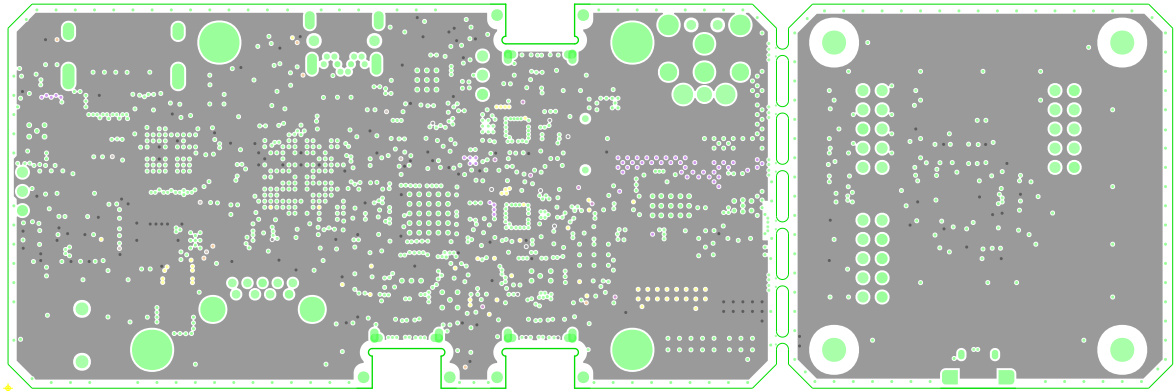
ART FILM - FABRICATION



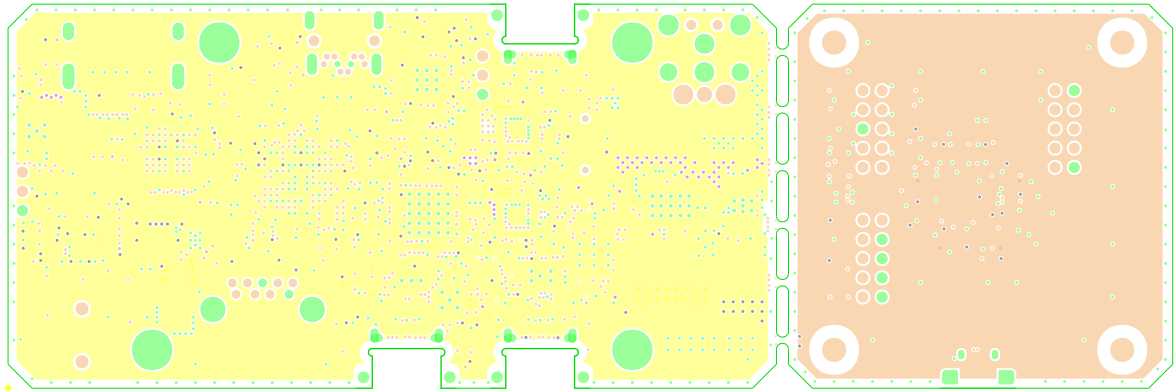
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 2 - GND PLANE		



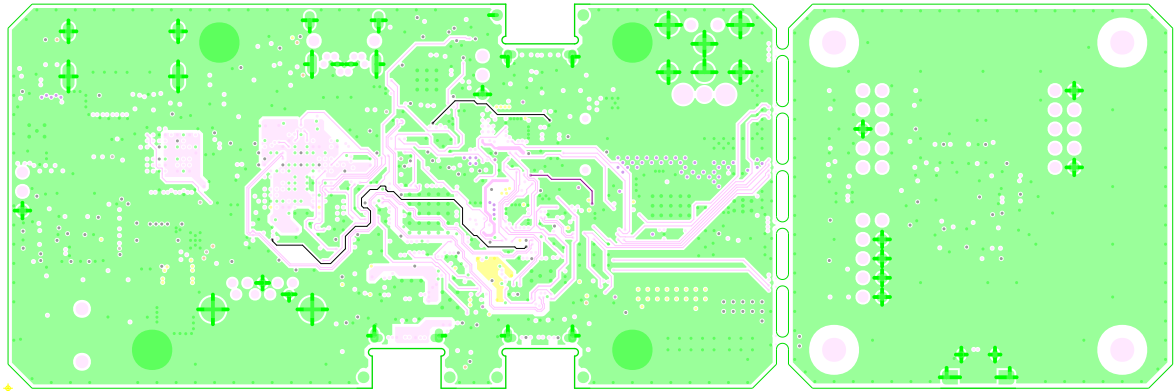
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 3 - SIG		



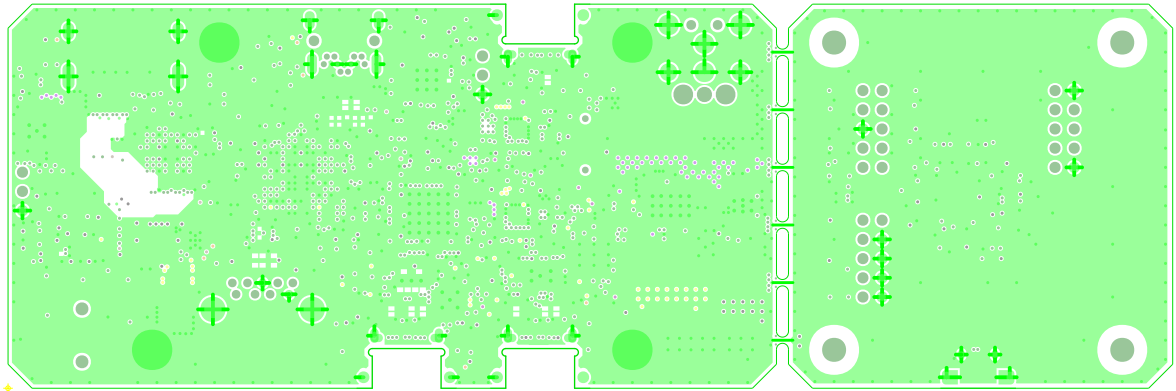
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 4 - 3P3V		



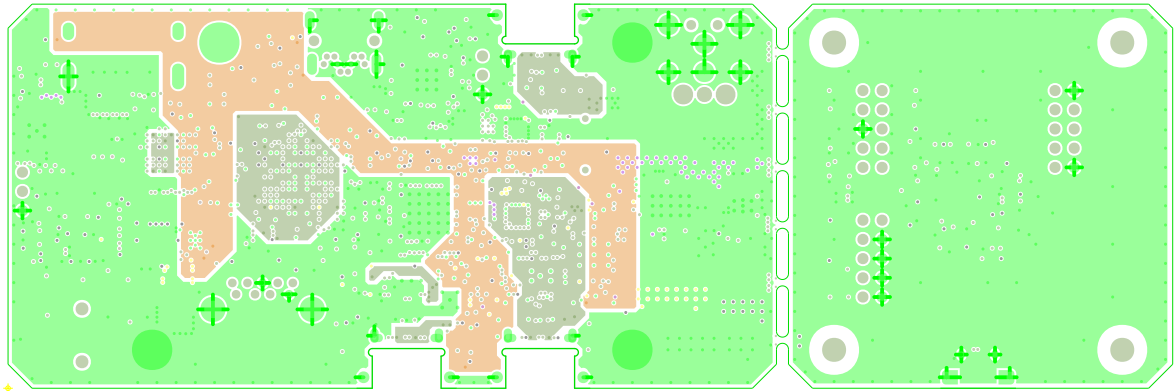
BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 5 - PWR		



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 8 - SIG		

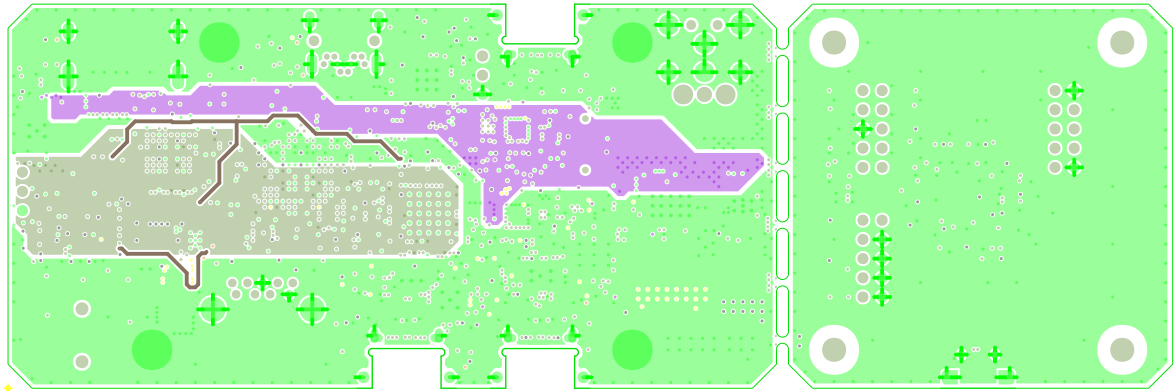


BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION: LAYER 9 - GND PLANE		



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION:		

ART FILM - L6_1P2V_GND



BOARD NAME:	BOARD REV:	KSID:	JOB NUMBER:
USB TYPE C DOCK	3.0	16871	129072
ALL ARTWORK LAYERS VIEWED FROM TOP	LAYER DESCRIPTION:		

ART FILM - L6_1P2V_GND

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