

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS

980600409-100 Rev A M5pAAssembly Top

ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	M5pAAssembly Top
PLOT NAME	Top Assembly Drawing
PRINT DATE	11/17/2009 1:43:37 PM



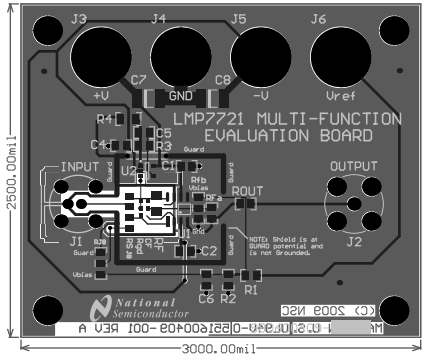
ALL ARTWORK VIEWED FROM TOP SIDE

BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Assembly Drawing
PLOT NAME	Bottom Assembly Drawing
PRINT DATE	11/17/2009 1:43:37 PM

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS  
980600409-100 Rev A Bottom Assembly Drawing

Layer Stack Up Detail for: Ref_Design.PcbDoc						
Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.BTS)		0.4mil	Solder Resist	3.90	
Top Layer	(.GTL)	2mil	58mil	SEE ORDER	4.80	Core
Bottom Layer	(.GBL)	2mil				
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	3.90	

FAB NOTES:  
3.00 in x 2.50 in board size  
2 layer, double sided  
0.062 Board Thickness  
Green LPI mask, two sides  
Immersion gold  
1 oz copper  
Silkscreen, top only, white  
10 mil min trace  
6 mil min spacing/clearance  
16mil min hole  
25I mil max hole  
33 holes, 7 sizes  
All holes plated  
No internal slots, 4 board corners, no fingers  
  
Must be RoHS and UL94V-0 compliant  
Vendor Marks on bottom layer copper or mask (NOT Silk)



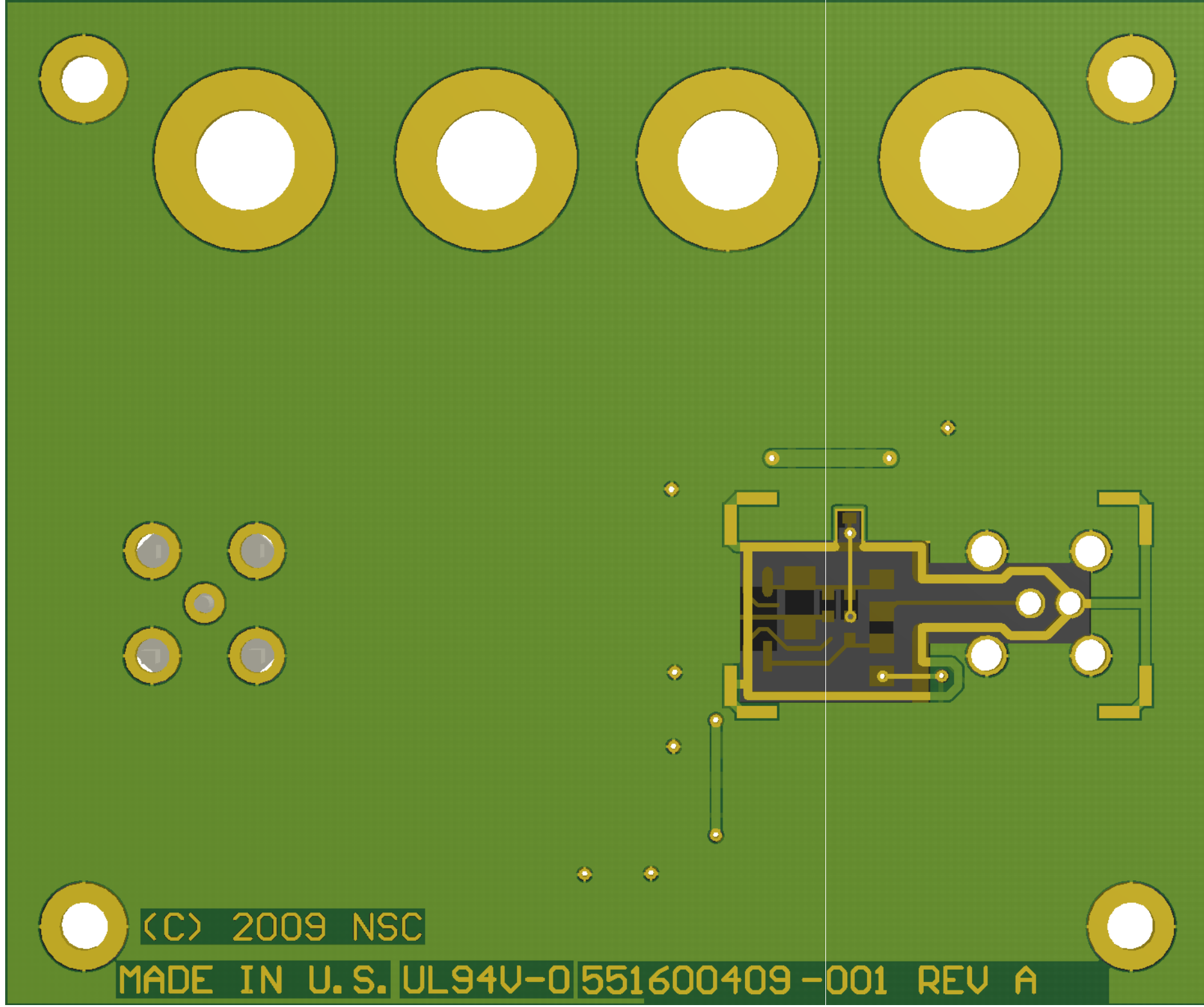
1000 (mil)  
980600409-100 Rev A

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National Semiconductor	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	802 PCB TOP
PLOT NAME	Multilayer Composite Print
PRINT DATE	11/17/2009 1:43:38 PM

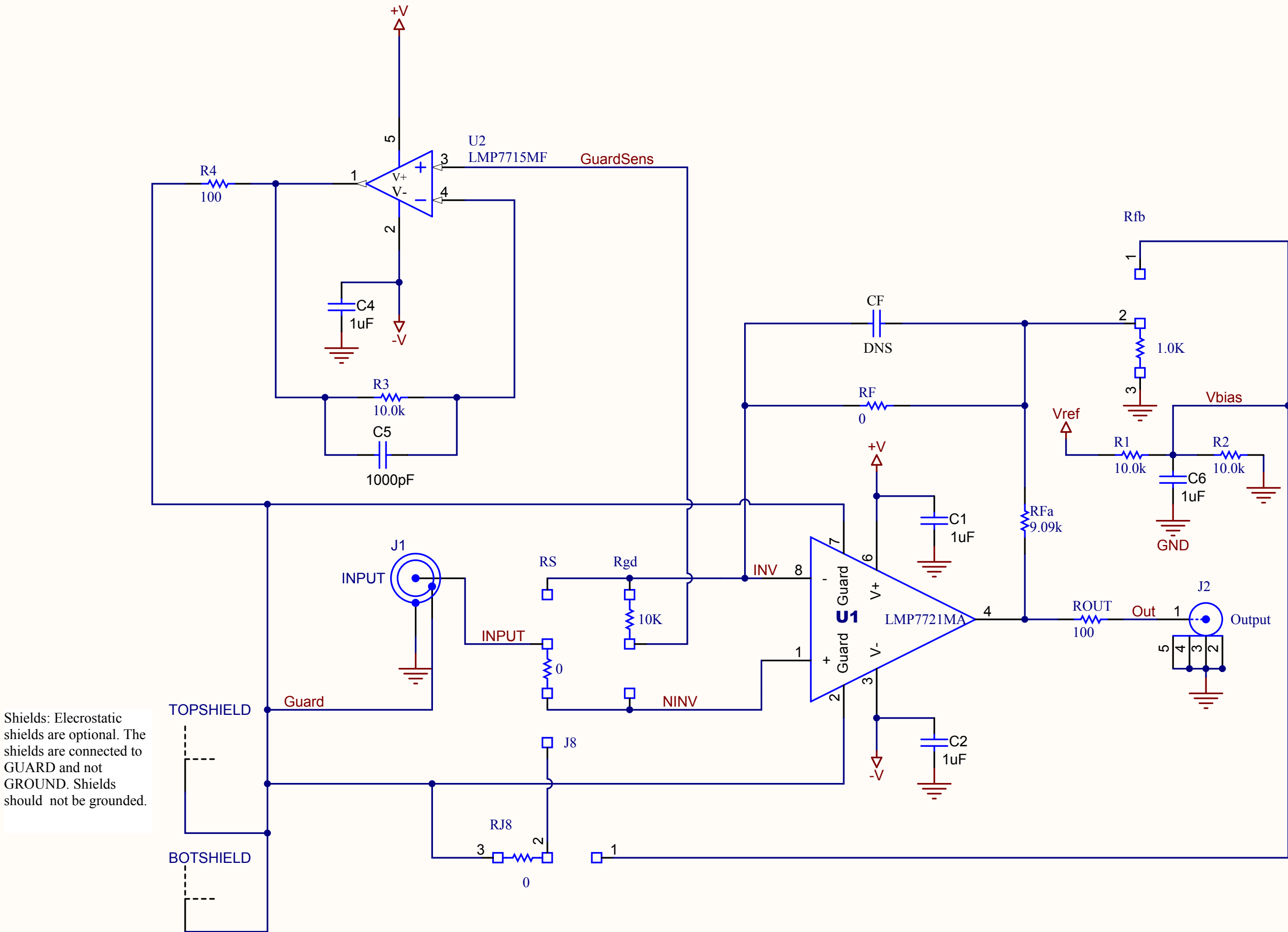
PROJECT TITLE:	Change me in menu Project\Project Options\Parameters
DESIGNED FOR:	Public Release

REV: -001 REV A	PRINT DATE: 11/17/2009	PADC NUMBER:	FAB DRAWING NUMBER: 551600409
FILE NAME: LMP7721_Multi-DemoBd_REVA.PcbDoc	SCALE: 0.70	ALTIM DESIGNER VERSION: 8.3.0.16776	



(C) 2009 NSC

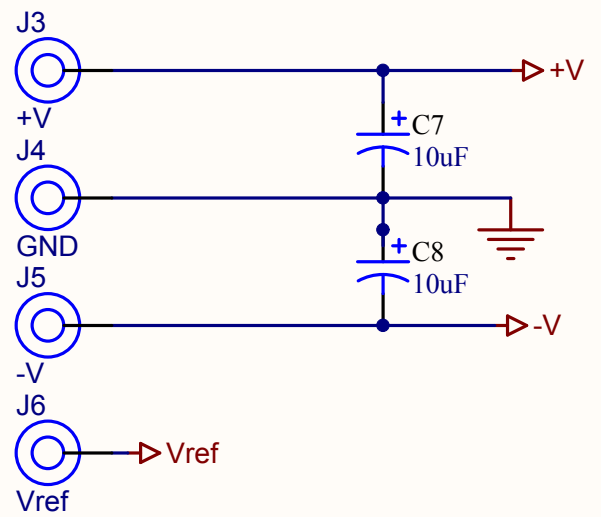
MADE IN U.S. UL94V-0 551600409-001 REV A



Shields: Electrostatic shields are optional. The shields are connected to GUARD and not GROUND. Shields should not be grounded.

Triple Feedback Resistor Examples				
Amps per Volt	RF	RFa	RFb	Noise Gain
10nA	1MEG	100K	1K	100
10nA	10MEG	9K	1K	10
10nA	100MEG	0	-	1
1nA	10MEG	100K	1K	100
1nA	100MEG	9K	1K	10
1nA	1G	0	-	1
100pA*	10MEG	100K	100.09	1000
100pA	100MEG	100K	1K	100
100pA	1G	9K	1K	10
100pA	10G	0	-	1
10pA*	100MEG	100K	100.09	1000
10pA	1G	100K	1.01099K	100
10pA	10G	9K	1K	10
10pA	100G	0	-	1
1pA*	1G	100K	100.09	1000
1pA	10G	100K	1.01099K	100
1pA	100G	9K	1K	10
1pA	1T	0	-	1
100fA*	10G	100K	100.09	1000
100fA	100G	100K	1.01099K	100
100fA	10T	0	-	1
10fA*	100G	100K	100.09	1000
10fA	1T	100K	1.01099K	100
10fA	100T	0	-	1
1fA*#	100G	1MEG	99.09	10,000
1fA	1T	100K	100.09	1000
1fA	10T	100K	1.01099K	100
1fA	100T	1K	9K	10
* Vos Limited - may require Vref zeroing				
# Theoretical - Impractical unless offset zeroing/bucking is used				

Single Feedback Resistor	
A/V	RF
1mA	1K
100uA	10K
10uA	100K
1uA	1MEG
100nA	10MEG
10nA	100MEG
1nA	1Gig
100pA	10Gig
10pA	100Gig
1pA	1Tohm



J3

J4

J5

J6

+V

C7

GND

C8

-V

V<sub>ref</sub>

R4

# LMP7721 MULTI-FUNCTION EVALUATION BOARD

C5

C4

R3

Guard

INPUT

Guard

U2

C1

Guard

R<sub>fb</sub>  
U<sub>bias</sub>R<sub>Fa</sub>

ROUT

Gnd

Guard

OUTPUT

J2

J1

Guard

R<sub>J8</sub>U<sub>bias</sub>R<sub>S18</sub>R<sub>g1</sub>R<sub>F</sub>R<sub>g2</sub>R<sub>S18</sub>

Guard

U1

C2

C6

R2

R1

NOTE: Shield is at  
GUARD potential and  
is not Grounded.

 **National  
Semiconductor**

980600409-

Layer Stack Up Detail for: Ref\_Design.PcbDoc

Layer Name	Order Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	3.50	
Top Layer	(.GTL)	2mil	58mil	SEE ORDER	4.80	Core
Bottom Layer	(.GBL)	2mil				
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	3.50	

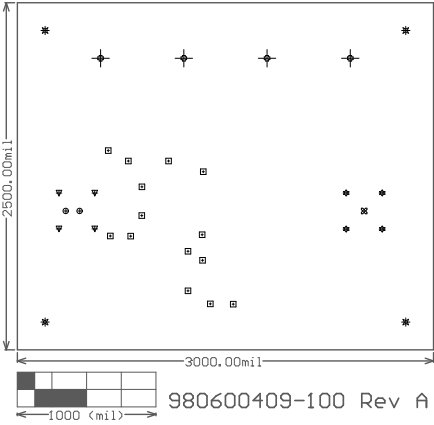
Symbol	Hit Count	Tool Size	Plated	Hole Type
□	14	16mil (0.4064mm)	PTH	Round
⊗	1	51.181mil (1.3mm)	PTH	Round
○	2	60mil (1.524mm)	PTH	Round
▽	4	80mil (2.032mm)	PTH	Round
✱	4	86.614mil (2.2mm)	PTH	Round
⊠	4	120mil (3.048mm)	PTH	Round
⊕	4	251mil (6.3754mm)	PTH	Round
33 Total				

Drill Table



ALL ARTWORK VIEWED FROM TOP SIDE

BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	Drill Table
PLOT NAME	Combination Drill Guide For (Top Layer)
PRINT DATE	11/17/2009 1:43:43 PM




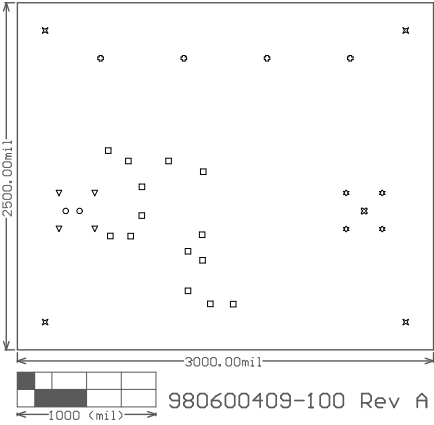
980600409-100 Rev A Drill Table

Layer Stack Up Detail for: Ref_Design.PcbDoc						
Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	3.50	
Top Layer	(.GTL)	2mil				
Bottom Layer	(.GBL)	2mil	58mil	SEE ORDER	4.80	Core
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	3.50	

Symbol	Hit Count	Tool Size	Plated	Hole Type
□	14	16mil (0.4064mm)	PTH	Round
⊗	1	51.181mil (1.3mm)	PTH	Round
○	2	60mil (1.524mm)	PTH	Round
▽	4	80mil (2.032mm)	PTH	Round
✱	4	86.614mil (2.2mm)	PTH	Round
⊠	4	120mil (3.048mm)	PTH	Round
⊕	4	251mil (6.3754mm)	PTH	Round
	33 Total			

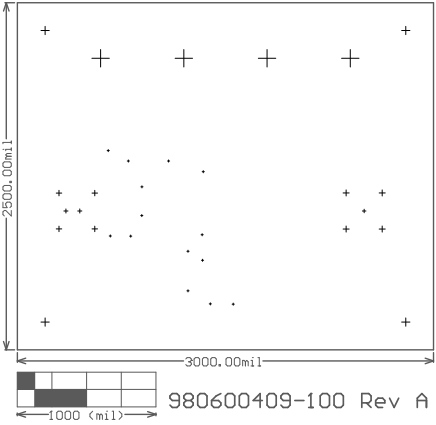
Drill Table

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	Drill Drawing
PLOT NAME	Drill Drawing For (Top Layer, Bottom Layer)
PRINT DATE	11/17/2009 1:43:43 PM




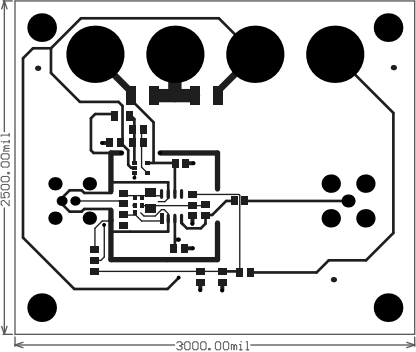


Layer Stack Up Detail for: Ref_Design.PcbDoc						
Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.GTS)		0.4mil	Solder Resist	3.50	
Top Layer	(.GTL)	2mil	58mil	SEE ORDER	4.80	Core
Bottom Layer	(.GBL)	2mil				
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	3.50	




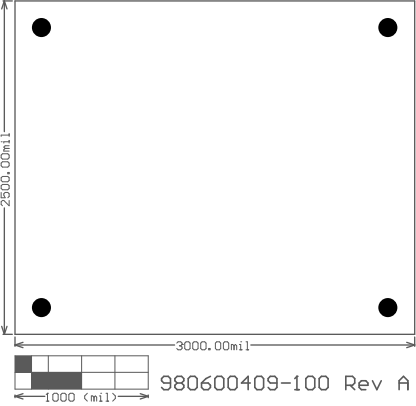
980600409-100 Rev A Drill Guide


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	<del>Drill Guide</del>
PLOT NAME	Drill Guide For (Top Layer,Bottom Layer)
PRINT DATE	11/17/2009 1:43:43 PM

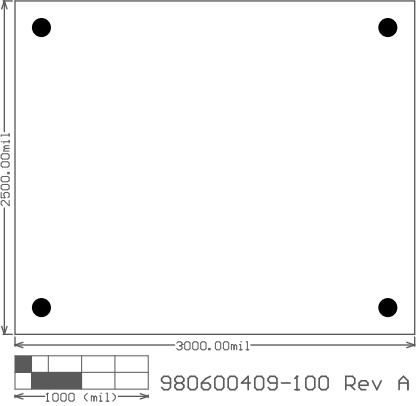



980600409-100 Rev A Top Layer

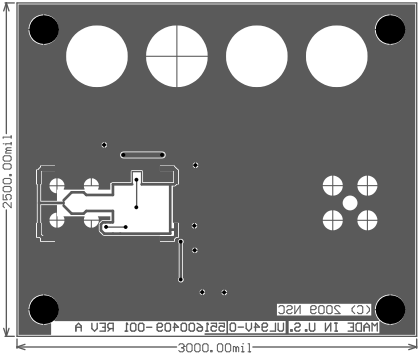
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Layer
PLOT NAME	Top Layer
PRINT DATE	11/17/2009 1:43:44 PM




	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	
PLOT NAME	Internal Plane 1 <<No Net>>
PRINT DATE	11/17/2009 1:43:44 PM

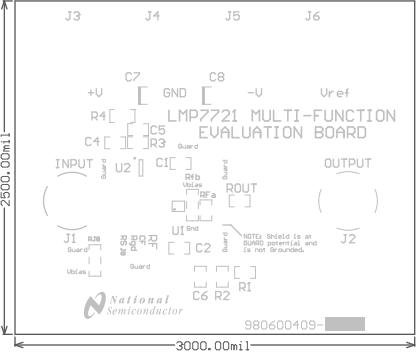


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	
PLOT NAME	Internal Plane 2 <<No Net>>
PRINT DATE	11/17/2009 1:43:44 PM




980600409-100 Rev A Bottom Layer

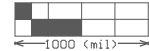
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Layer
PLOT NAME	Bottom Layer
PRINT DATE	11/17/2009 1:43:44 PM




1000 (mil)

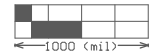
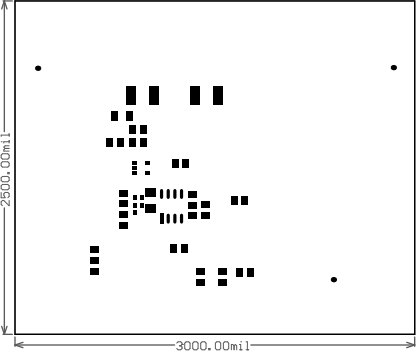
980600409-100 Rev A Top Overlay

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Overlay
PLOT NAME	Top Silkscreen Overlay
PRINT DATE	11/17/2009 1:43:45 PM




980600409-100 Rev A Bottom Overlay

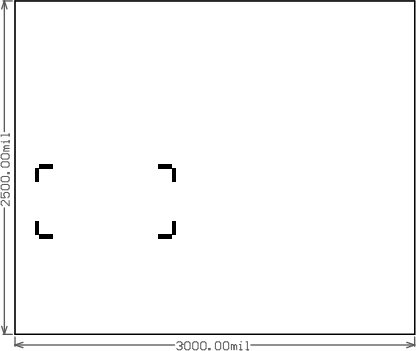
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Overlay
PLOT NAME	Bottom Silkscreen Overlay
PRINT DATE	11/17/2009 1:43:45 PM




980600409-100 Rev A Top Paste

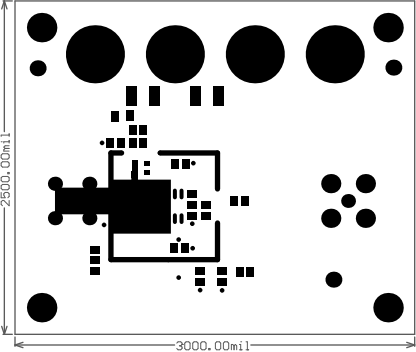
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Paste
PLOT NAME	Top Paste Mask Print
PRINT DATE	11/17/2009 1:43:45 PM






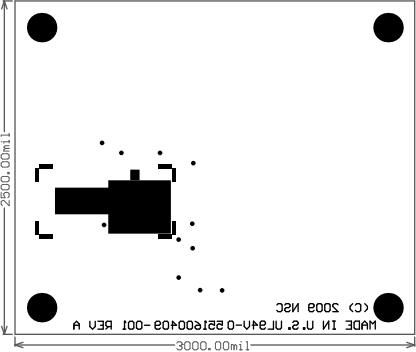
980600409-100 Rev A Bottom Paste


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Paste
PLOT NAME	Bottom Paste Mask Print
PRINT DATE	11/17/2009 1:43:45 PM



980600409-100 Rev A Top Solder


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Solder
PLOT NAME	Top Solder Mask Print
PRINT DATE	11/17/2009 1:43:46 PM

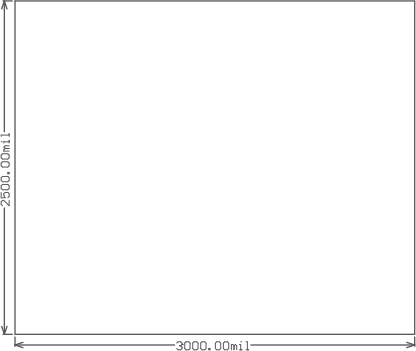


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Solder
PLOT NAME	Bottom Solder Mask Print
PRINT DATE	11/17/2009 1:43:46 PM




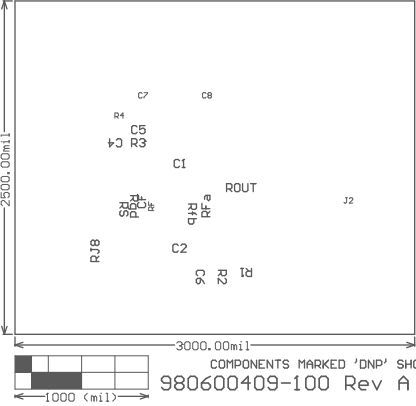
980600409-100 Rev A M3 3D STEP Top


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M3 3D STEP Top
PLOT NAME	M3 3D STEP Top
PRINT DATE	11/17/2009 1:43:46 PM

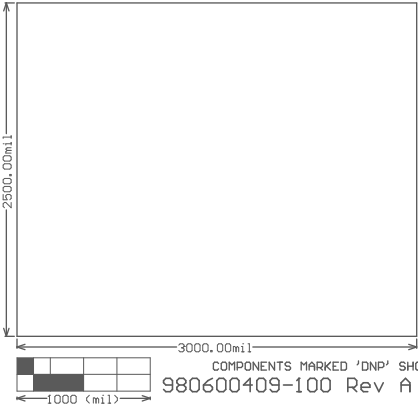


980600409-100 Rev A M4 3D STEP Bottom


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M4 3D STEP Bottom
PLOT NAME	M4 3D STEP Bottom
PRINT DATE	11/17/2009 1:43:46 PM



	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M5 Assembly Top
PLOT NAME	M5 Assembly Top
PRINT DATE	11/17/2009 1:43:46 PM




COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED, AND MAY NOT BE IN BILL OF MATERIALS  
980600409-100 Rev A M6 Assembly Bottom

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M6 Assembly Bottom
PLOT NAME	M6 Assembly Bottom
PRINT DATE	11/17/2009 1:43:46 PM

1	2	3	4	5	6
A					
B					
C					
D					
<div><div><div>2500.00mil</div><div>3000.00mil</div><div>1000 (mil)</div></div><div>980600409-100 Rev A M9 Title Sheet</div><div><div>National Semiconductor and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. National and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. National and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.</div></div></div>					
<div><div><div>REV: -001 REV A</div><div>PRINT DATE: 11/17/2009</div><div>FILE NAME: LMP7721_Multi_DemoBd_REVA.PcbDoc</div></div><div><div>PROJECT TITLE: Change me in menu Project Project Options Parameters Title Sheet</div><div>DESIGNED FOR: Public Release</div><div>SCALE: 0.70</div></div><div><div>PADC NUMBER: 551600409</div><div>FAB DRAWING NUMBER: 551600409</div><div>ALTUM DESIGNER VERSION: 8.3.0.16776</div></div></div>					
1	2	3	4	5	6




FAB NOTES:  
3.00 in x 2.50 in board size  
2 layer, double sided  
0.062 Board Thickness  
Green LPI mask, two sides  
Immersion gold  
1 oz copper  
Silkscreen, top only, white  
10 mil min trace  
6 mil min spacing/clearance  
16mil min hole  
25I mil max hole  
33 holes, 7 sizes  
All holes plated  
No internal slots, 4 board corners, no fingers  
  
Must be RoHS and UL94V-0 compliant  
Vendor Marks on bottom layer copper or mask (NOT Silk)

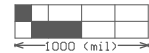
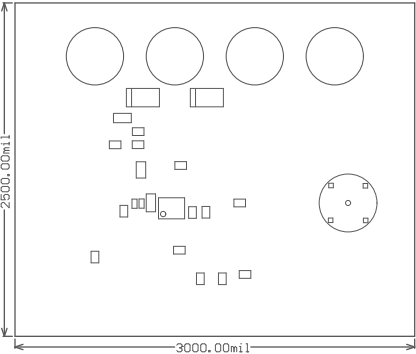
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	
PLOT NAME	M10 Fab Notes
PRINT DATE	11/17/2009 1:43:47 PM




980600409-100 Rev A M12 Stackup

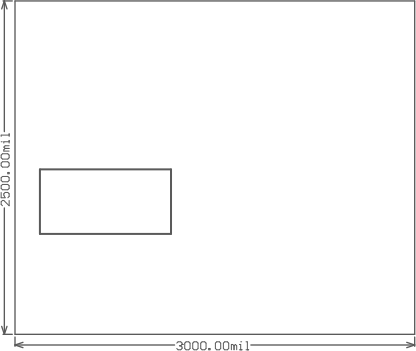
Layer Stack Up Detail for: Ref_Design.PcbDoc						
Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.BTS)		0.4mil	Solder Resist	3.50	
Top Layer	(.GTL)	2mil	58mil	SEE ORDER	4.80	Core
Bottom Layer	(.GBL)	2mil				
Bottom Solder Mask	(.GBS)		0.4mil	Solder Resist	3.50	

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M12 Stackup
PLOT NAME	M12 Stackup
PRINT DATE	11/17/2009 1:43:47 PM




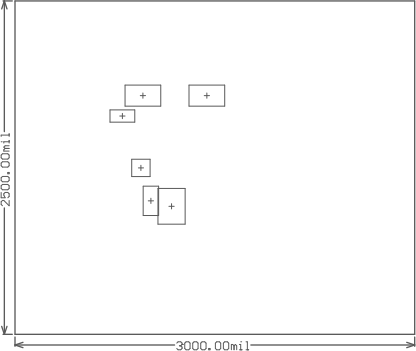
980600409-100 Rev A M13 Component Bodies Top

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M13 Component Bodies Top
PLOT NAME	M13 Component Bodies Top
PRINT DATE	11/17/2009 1:43:47 PM




980600409-100 Rev A M14 Component Bodies Bottom

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M14 Component Bodies Bottom
PLOT NAME	M14 Component Bodies Bottom
PRINT DATE	11/17/2009 1:43:47 PM




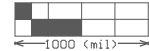
980600409-100 Rev A M15 Courtyards Top

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M15 Courtyards Top
PLOT NAME	M15 Courtyards Top
PRINT DATE	11/17/2009 1:43:48 PM




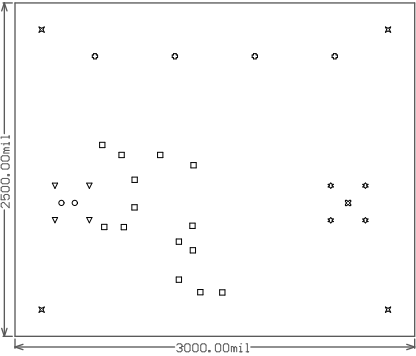
980600409-100 Rev A M16 Courtyards Bottom

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	M16 Courtyards Bottom
PLOT NAME	M16 Courtyards Bottom
PRINT DATE	11/17/2009 1:43:48 PM



980600409-100 Rev A Keep-Out Layer


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	Keep-Out Layer
PLOT NAME	Keep Out Layer
PRINT DATE	11/17/2009 1:43:48 PM



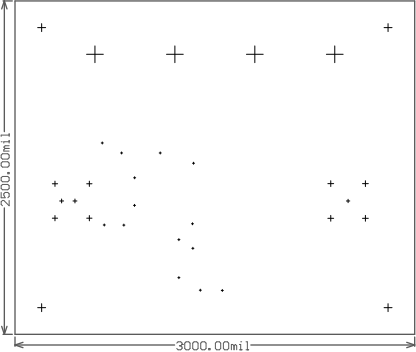
1000 (mil)  
980600409-100 Rev A Drill Drawing

Symbol	Hit Count	Tool Size	Plated	Hole Type
□	14	16mil (0.4064mm)	PTH	Round
⊗	1	51.181mil (1.3mm)	PTH	Round
○	2	60mil (1.524mm)	PTH	Round
▽	4	80mil (2.032mm)	PTH	Round
⊛	4	86.614mil (2.2mm)	PTH	Round
⊠	4	120mil (3.048mm)	PTH	Round
⊙	4	251mil (6.3754mm)	PTH	Round
33 Total				


Drill Table

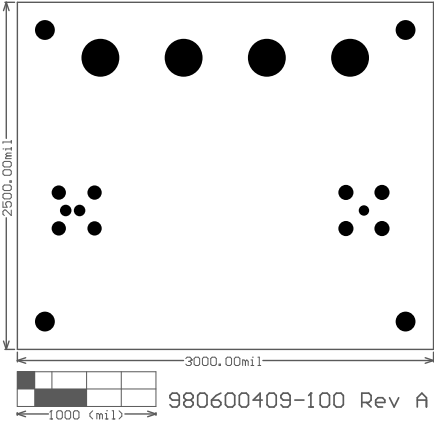
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	Drill Drawing
PLOT NAME	Drill Drawing For (Top Layer,Bottom Layer
PRINT DATE	11/17/2009 1:43:48 PM






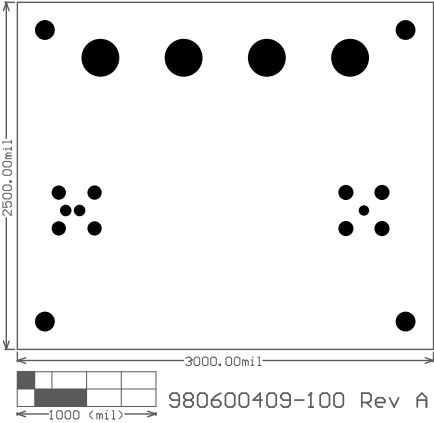
980600409-100 Rev A Drill Guide

	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	600409 -001 REV A
LAYER NAME	<b>Drill Guide</b>
PLOT NAME	Drill Guide For (Top Layer,Bottom Layer)
PRINT DATE	11/17/2009 1:43:48 PM




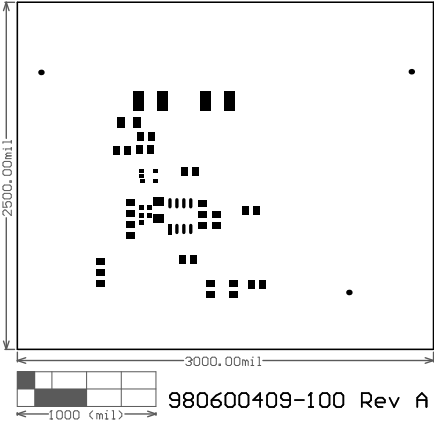
980600409-100 Rev A


	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu ProjectProject Options
ARTWORK #	600409 -001 REV A
LAYER NAME	
PLOT NAME	Internal Plane 1
PRINT DATE	11/17/2009 1:44:16 PM

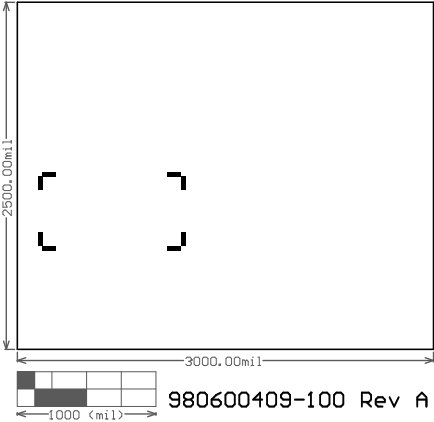



980600409-100 Rev A

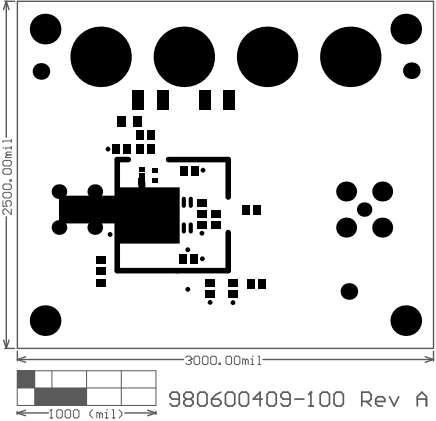
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project Project Options...
ARTWORK #	600409 -001 REV A
LAYER NAME	
PLOT NAME	Internal Plane 2
PRINT DATE	11/17/2009 1:44:17 PM




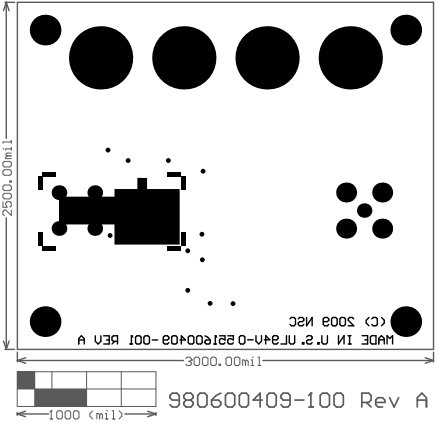
	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Paste
PLOT NAME	Top Paste Mask Print
PRINT DATE	11/17/2009 1:44:17 PM



	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Paste
PLOT NAME	Bottom Paste Mask Print
PRINT DATE	11/17/2009 1:44:17 PM



	
ALL ARTWORK VIEWED FROM TOP SIDE	
BOARD NAME	Change me in menu Project\Project Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Top Solder
PLOT NAME	Top Solder Mask Print
PRINT DATE	11/17/2009 1:44:17 PM



ALL ARTWORK VIEWED FROM TOP SIDE

BOARD NAME	Change me in menu ProjectProject Options
ARTWORK #	551600409 -001 REV A
LAYER NAME	Bottom Solder
PLOT NAME	Bottom Solder Mask Print
PRINT DATE	11/17/2009 1:44:18 PM

Digi-Key Part Number	Manufacturer	PartNumber	Designator	Quantity	Quantity1	Quantity2
655-1001-ND	Fotofab	0.5 X 1.0 X 0.25	BOTSHIELD	1	4000	10000
490-1700-1-ND	MuRata	GRM216R61E105KA12D	C1, C2, C4, C6	4	4000	10000
399-1149-1-ND	Kemet	C0805C102J5RACTU	C5	1	4000	10000
718-1044-1-ND	Vishay-Sprague	293D106X0025C2TE3	C7, C8	2	4000	10000
478-1167-1-ND	AVX	06035A220JAT2A	CF	1	4000	10000
	Trompeter-Emerson	CBJR70A	J1	1	4000	10000
ACX1051-ND	Amphenol Connex	112404	J2	1	4000	10000
J147-ND	Emerson	108-0740-001	J3, J4, J5, J6	4	4000	10000
541-10.0KCCT-ND	Vishay-Dale	CRCW080510K0FKEA	R1, R2, R3	3	4000	10000
541-100ECT-ND	Vishay-Dale	CRCW1206100RJNEA	R4	1	4000	10000
	Yageo America	RC1206JR-070RL	RF	1	4000	10000
311-9.09KCRCT-ND	Yageo America	RC0805FR-079K09L	RFa	1	4000	10000
			Rfb, Rgd, RJ8, RS	4	4000	10000
541-100CCT-ND	Vishay-Dale	CRCW0805100RFKEA	ROUT	1	4000	10000
655-1008-ND	Fotofab	0.75 X 0.75 X 0.25	TOPSHIELD	1	4000	10000
LMP7721MA-ND	National Semiconductor	LMP7721MA	U1	1	4000	10000
LMP7715MFCT-ND	National Semiconductor	LMP7715MF	U2	1	4000	10000

BuildQty= 1	DigiKeyPartNumber	DigiKey Order Qty	Supplier 1	Supplier Part Number	Supplier Order Qty 1	Quantity
	655-1001-ND	1				1
	490-1700-1-ND	4				4
	399-1149-1-ND	1				1
	718-1044-1-ND	2				2
	478-1167-1-ND	1				1
						1
	ACX1051-ND	1				1
	J147-ND	4				4
		Digi-Key		541-10.0KCCT-ND	3	3
	541-100ECT-ND	1				1
						1
		Digi-Key		311-9.09KCRCT-ND	1	1
						4
	541-100CCT-ND	1				1
	655-1008-ND	1				1
		Digi-Key		LMP7721MA-ND	1	1
		Digi-Key		LMP7715MFCT-ND	1	1

4000  
10000



# Engineering Bill of Materials

Project Name:	Change me in menu Project
Project File:	LMP7721_Multi_BD.PrjPcb
Base ID:	600409
PCB Revision:	-001 REV A
Assembly Variant:	-100A
Schematic Rev:	A
Build Quantity:	1
Generated:	11/17/2009 1:45:10 PM



Date opened:11/17/2009  
Time opened:1:45:14 PM

PCB Part Number: 551600409-001 REV A

Item	Designator	CompType	Value	PackageReference	Description	RoHS	Manufacturer	PartNumber	Library Name	LibRef
1	BOTSHIELD	Shield		SMT	Shield, RF, 0.5" x 1.0" x 0.25"	Y	Fotofab	0.5 X 1.0 X 0.25	mycustom.SchLib	Shield, 0.5"x1.0"x0.25"
2	C1	Capacitor	1uF	0805	Ceramic, X5R, 25V, 10%	Y	MuRata	GRM216R61E105KA12D	Capacitor_Ceramic.IntLib	GRM216R61E105KA12D
3	C2	Capacitor	1uF	0805	Ceramic, X5R, 25V, 10%	Y	MuRata	GRM216R61E105KA12D	Capacitor_Ceramic.IntLib	GRM216R61E105KA12D
4	C4	Capacitor	1uF	0805	Ceramic, X5R, 25V, 10%	Y	MuRata	GRM216R61E105KA12D	Capacitor_Ceramic.IntLib	GRM216R61E105KA12D
5	C5	Capacitor	1000pF	0805	Ceramic, X7R, 50V, 5%	Y	Kemet	C0805C102J5RACTU	Capacitor_Ceramic.IntLib	C0805C102J5RACTU
6	C6	Capacitor	1uF	0805	Ceramic, X5R, 25V, 10%	Y	MuRata	GRM216R61E105KA12D	Capacitor_Ceramic.IntLib	GRM216R61E105KA12D
7	C7	Capacitor	10uF	6032-28	TA, 25V, 20%, 1.5 Ohm ESR	Y	Vishay-Sprague	293D106X0025C2TE3	Capacitor_Tantalum.IntLib	293D106X0025C2TE3
8	C8	Capacitor	10uF	6032-28	TA, 25V, 20%, 1.5 Ohm ESR	Y	Vishay-Sprague	293D106X0025C2TE3	Capacitor_Tantalum.IntLib	293D106X0025C2TE3
9	CF	Capacitor	DNS	0603	Ceramic, COG/NP0, 50V, 5%	Y	AVX	06035A220JAT2A	Capacitor_Ceramic.IntLib	06035A220JAT2A
10	J1	Connector		Triax BNC	Triax BNC, Right Angle, 3 Lug, Trompeter 70 series	Y	Trompeter-Emerson	CBJR70A	mycustom.SchLib	TRIAx, BNC, RA, 3 Lug series
11	J2	Connector			Connector, TH, BNC	Y	Amphenol Connex	112404	Connectors.IntLib	112404
12	J3	Connector		Banana	Jack, Banana, Bare, Panel Mount	Y	Emerson	108-0740-001	mycustom.SchLib	Banana Jack Bare Emerson
13	J4	Connector		Banana	Jack, Banana, Bare, Panel Mount	Y	Emerson	108-0740-001	mycustom.SchLib	Banana Jack Bare Emerson
14	J5	Connector		Banana	Jack, Banana, Bare, Panel Mount	Y	Emerson	108-0740-001	mycustom.SchLib	Banana Jack Bare Emerson
15	J6	Connector		Banana	Jack, Banana, Bare, Panel Mount	Y	Emerson	108-0740-001	mycustom.SchLib	Banana Jack Bare Emerson
16	R1	Resistor	10.0k	0805	1%, 0.125W	Y	Vishay-Dale	CRCW080510K0FKEA	Resistor_0805.IntLib	CRCW080510K0FKEA
17	R2	Resistor	10.0k	0805	1%, 0.125W	Y	Vishay-Dale	CRCW080510K0FKEA	Resistor_0805.IntLib	CRCW080510K0FKEA
18	R3	Resistor	10.0k	0805	1%, 0.125W	Y	Vishay-Dale	CRCW080510K0FKEA	Resistor_0805.IntLib	CRCW080510K0FKEA
19	R4	Resistor	100	1206	5%, 0.25W	Y	Vishay-Dale	CRCW1206100RJNEA	Resistor_1206.IntLib	CRCW1206100RJNEA
20	RF	Resistor	0	1206	5%, 0.25W	Y	Yageo America	RC1206JR-070RL	Resistor_1206.IntLib	RC1206JR-070RL
21	RFa	Resistor	9.09k	0805	0.1%, 0.125W	Y	Yageo America	RC0805FR-079K09L	Resistor_0805.IntLib	RT0805BRD079K09L
22	Rfb		1.0K	SMT 0805	Jumper, Resistor, 2-3				mycustom.SchLib	Jumper, Resistor, 1-2_1
23	Rgd		10K	SMT 0603	Jumper, Resistor, 1-2				mycustom.SchLib	Jumper, Resistor, 1-2_1
24	RJ8		0	SMT 0805	Jumper, Resistor, 2-3				mycustom.SchLib	Jumper, Resistor, 1-2_1
25	ROUT	Resistor	100	0805	1%, 0.125W	Y	Vishay-Dale	CRCW0805100RFKEA	Resistor_0805.IntLib	CRCW0805100RFKEA
26	RS		0	SMT 0805	Jumper, Resistor, 2-3				mycustom.SchLib	Jumper, Resistor, 1-2_1
27	TOPSHIELD	Shield		SMT	Shield, RF, 0.75 x 0.75 x 0.25	Y	Fotofab	0.75 X 0.75 X 0.25	mycustom.SchLib	Shield, 0.75x0.75x0.25, Fotofab
28	U1		LMP7721MA			O	National Semiconductor	LMP7721MA		LMP7721
29	U2	OpAmp IC	LMP7715MF	MF05A_L	1.8V Precision, Single Low Noise CMOS Input Op Amp		National Semiconductor	LMP7715MF	NSC_Amplifiers.IntLib	LMP7715MF

Manually enter information below for items not included in schematics. i.e. shunts, sockets, screws, cables, etc.

Item	Designator	CompType	Value	PackageReference	Description	RoHS	Manufacturer	PartNumber
30								
31								
32								
33								
34								
35								

# Bill of Materials Report

**Document P/N: 980600409-100A-A**

For procurement use only	
Dept Charge #	
Assembly Site	
Build Date:	

Date opened: 11/17/2009  
Time opened: 1:45:29 PM

Project Name:	Change me in menu Project
Project File:	LMP7721_Multi_BD.PrjPcb
Base ID:	600409
PCB Revision:	-001 REV A
Assembly Variant:	-100A
Schematic Rev:	A
Build Quantity:	100
Generated:	11/17/2009 1:45:25 PM



PCB Part Number	551600409-001 REV A	29	2900
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Item	Designator	CompType	Value	PackageReference	Description	RoHS	Manufacturer	PartNumber	Quantity	Required
1	BOTSHIELD	Shield		SMT	Shield, RF, 0.5" x 1.0" x 0.25"	Y	Fotofab	0.5 X 1.0 X 0.25	1	100
2	C1, C2, C4, C6	Capacitor	1uF	0805	Ceramic, X5R, 25V, 10%	Y	MuRata	GRM216R61E105KA12D	4	400
3	C5	Capacitor	1000pF	0805	Ceramic, X7R, 50V, 5%	Y	Kemet	C0805C102J5RACTU	1	100
4	C7, C8	Capacitor	10uF	6032-28	TA, 25V, 20%, 1.5 Ohm ESR	Y	Vishay-Sprague	293D106X0025C2TE3	2	200
5	CF	Capacitor	DNS	0603	Ceramic, C0G/NP0, 50V, 5%	Y	AVX	06035A220JAT2A	1	100
6	J1	Connector		Triax BNC	Triax BNC, Right Angle, 3 Lug, Trompeter 70 series	Y	Trompeter-Emerson	CBJR70A	1	100
7	J2	Connector			Connector, TH, BNC	Y	Amphenol Connex	112404	1	100
8	J3, J4, J5, J6	Connector		Banana	Jack, Banana, Bare, Panel Mount	Y	Emerson	108-0740-001	4	400
9	R1, R2, R3	Resistor	10.0k	0805	1%, 0.125W	Y	Vishay-Dale	CRCW080510K0FKEA	3	300
10	R4	Resistor	100	1206	5%, 0.25W	Y	Vishay-Dale	CRCW1206100RJNEA	1	100
11	RF	Resistor	0	1206	5%, 0.25W	Y	Yageo America	RC1206JR-070RL	1	100
12	RFa	Resistor	9.09k	0805	0.1%, 0.125W	Y	Yageo America	RC0805FR-079K09L	1	100
13	Rfb, Rgd, RJ8, RS		0, 1.0K, 10K	SMT 0603, SMT 0805	Jumper, Resistor, 1-2, Jumper, Resistor,2-3				4	400
14	ROUT	Resistor	100	0805	1%, 0.125W	Y	Vishay-Dale	CRCW0805100RFKEA	1	100
15	TOPSHIELD	Shield		SMT	Shield, RF, 0.75 x 0.75 x 0.25	Y	Fotofab	0.75 X 0.75 X 0.25	1	100
16	U1		LMP7721MA				National Semiconductor	LMP7721MA	1	100
17	U2	OpAmp IC	LMP7715MF	MF05A_L	1.8V Precision, Single Low Noise CMOS Input Op Amp	O	National Semiconductor	LMP7715MF	1	100

Manually enter information below for items not included in schematics. i.e. shunts, sockets, screws, cables, etc.

[illegible]

Designator	Value	Package	Description	Manufacturer	Part Number	RoHS
BOTSHIELD		SMT	Shield, RF, 0.5" x 1.0" x 0.25"	Fotofab	0.5 X 1.0 X 0.25	Y
C1, C2, C4 C6	1uF	0805	Ceramic, X5R, 25V, 10%	MuRata	GRM216R61E105KA12D	Y
C5	1000pF	0805	Ceramic, X7R, 50V, 5%	Kemet	C0805C102J5RACTU	Y
C7, C8	10uF	6032-28	TA, 25V, 20%, 1.5 Ohm ESR	Vishay-Sprague	293D106X0025C2TE3	Y
CF	DNS	0603	Ceramic, C0G/NP0, 50V, 5%	AVX	06035A220JAT2A	Y
J1		Triax BNC	Triax BNC, Right Angle, 3 Lu Trompeter 70 series	Trompeter- Emerson	CBJR70A	Y
J2			Connector, TH, BNC	Amphenol Connex	112404	Y
J3, J4, J5, J6		Banana	Jack, Banana, Bare, Panel Mount	Emerson	108-0740-001	Y
R1, R2, R3	10.0k	0805	1%, 0.125W	Vishay-Dale	CRCW080510K0FKEA	Y
R4	100	1206	5%, 0.25W	Vishay-Dale	CRCW1206100RJNEA	Y
RF	0	1206	5%, 0.25W	Yageo America	RC1206JR-070RL	Y
RFa	9.09k	0805	0.1%, 0.125W	Yageo America	RC0805FR-079K09L	Y
Rfb, Rgd, RJ8, RS	0, 1.0K, 10K	SMT 0603, SMT 0805	Jumper, Resistor, 1-2, Jumper, Resistor, 2-3			
ROUT	100	0805	1%, 0.125W	Vishay-Dale	CRCW0805100RFKEA	Y
TOPSHIELD		SMT	Shield, RF, 0.75 x 0.75 x 0.25"	Fotofab	0.75 X 0.75 X 0.25	Y
U1	LMP772 1MA			National Semiconductor	LMP7721MA	
U2	LMP771 5MF	MF05A_L	1.8V Precison, Single Low Noise CMOS Input Op Amp	National Semiconductor	LMP7715MF	O

Stock and Price Check Report

Project Name:

Change me in menu Project

Project File:

LMP7721\_Multi\_BD.PrjPcb

Base ID:

600409

PCB Revision:

.001 REV A

Assembly Variant:

-.100A

Schematic Rev:

A

Build Quantity:

100

Generated:

11/17/2009 1:45:53 PM

Date opened:11/17/2009

Time opened:1:45:56 PM



Total																	\$584.76
Item	Designator	Quantity	Required	Manufacturer	PartNumber	DigiKeyPartNumber	DigiKey Stock	DigiKey Unit Price	DigiKey Subtotal	Supplier 1	Supplier Part Number	Supplier Stock	Supplier Unit Price	h Name Error	Name Error:Supplier P	(Name Error:Sup	Name Error:Supplier Unit Price
1	BOTSHIELD	1	100	Fotofab	0.5 X 1.0 X 0.25	655-1001-ND	164	\$1.1584	\$115.8504								
2	C1, C2, C4, C8	4	400	MuRata	GRM216R61E105KA12D	490-1700-1-ND	0	\$0.1892	\$75.6800								
3	C5	1	100	Kemet	C0805C102JSRACTU	399-1149-1-ND	26970	\$0.0488	\$4.8800								
4	C7, C8	2	200	Vishay-Sprague	293D106X0025C2TE3	718-1044-1-ND	10039	\$0.1720	\$34.4000								
5	C7	1	100	AVX	06035A220JAT2A	478-1167-1-ND	31256	\$0.0423	\$4.2300								
6	J1	1	100	Trompeter-Emerson	CBJR70A												
7	J2	1	100	Amphenol Connex	112404	ACX1051-ND	424	\$1.6500	\$165.0000								
8	J3, J4, J5, J6	4	400	Emerson	108-0740-001	J147-ND	6334	\$0.8752	\$350.0800								
9	R1, R2, R3	3	300	Vishay-Dale	CRCW080510K0FKEA					Digi-Key	541-10.0KCCT-ND	55440	\$0.0277				
10	R4	1	100	Vishay-Dale	CRCW1206100RJNEA	541-100ECT-ND	15580	\$0.0506	\$5.0600								
11	RF	1	100	Yageo America	RC1206JR-070RL												
12	RFa	1	100	Yageo America	RC0805FR-079K09L					Digi-Key	311-9.09KCRCCT-ND	8470	\$0.0400				
13	Rfb, Rgd, RJ8, RS	4	400														
14	ROUT	1	100	Vishay-Dale	CRCW0805100RFKEA	541-100CCT-ND	24520	\$0.0482	\$4.8200								
15	TOPSHIELD	1	100	Fotofab	0.75 X 0.75 X 0.25	655-1008-ND	2003	\$1.2476	\$124.7600								
16	U1	1	100	National Semiconductor	LMP7721MA					Digi-Key	LMP7721MA-ND	280	\$6.2510				
17	U2	1	100	National Semiconductor	LMP7715MF					Digi-Key	LMP7715MFCT-ND	2364	\$1.2929				