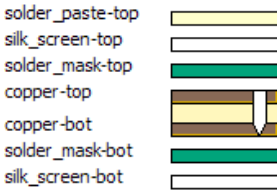
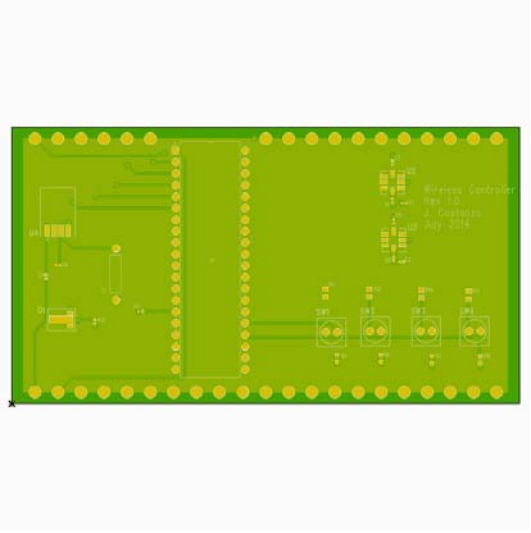
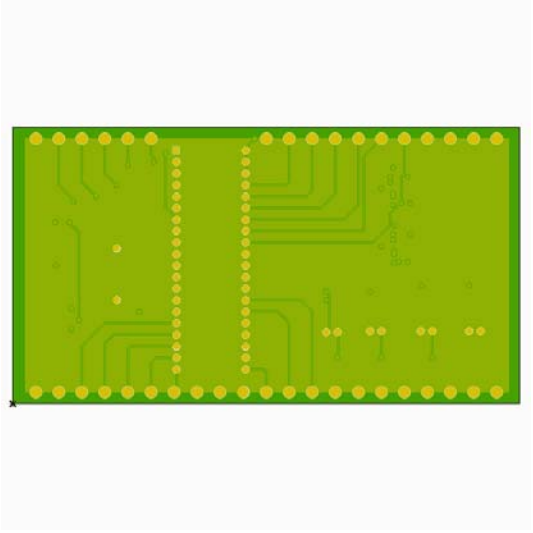
Sunstone Circuits
DFMplus Summary Report

Job Name	Creation Time	New/Repeat Order
DFM081-wireless_controller_v0	2014-08-14 15:55:31	New Job
Part Number	**Revision**	
Wireless_Controller	V0	
Customer Name	Operator Name	
	lyndap	
Contact Name	**Contact Email**	
Job Class		
IPC Class 2		

Job View

Buildup	Top View	Bottom View
		

Comments

Validation between gerber data and IPC-D-356 net list found discrepancies. Unable to verify findings. Discrepancies may delay order processing.
Bottom side silkscreen file is empty. Submitting an empty file may cause delay in order processing. Please confirm.

DFM findings.
4.311mil space top and bottom layers (1 place) at R5. PCB designs with spaces < 5mil require a custom quote. This will add to the cost of manufacturing the PCB. If the
PCB design can be adjusted in this one location to a 6mil space, your PCB can be quoted/ manfuctured using Sunstone's PCBExpress Quickturn or PCBpro Full Feature services.

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Validation Status: Validation Errors
Validation Report: 2 Shorts 5 Brokens 0 Possible Short 0 Possible Broken 0 Missings 0 Extras

Job Info

Part Size (X,Y) inch 4.4 x 2.4	Thickness 62 mil	I/L Weight 0 Oz	O/L Weight 1 Oz
Copper Layers 2	Drill Layer 1	Rout Length 13.6 inch	
Soldermask Side Both	Soldermask Color Green	Soldermask Type Undefined	
Silkscreen Side Top	Silkscreen Color White	Impedance Tolerance 0%	Board Bow And Twist Percentage 0%
Gold Thickness 0 mil	Material FR4	Finish Type HAL	

NC Layer Info

Drill Type	Number Of Bits	Number Of Holes	Min Hole Size (mil)	Max Hole Size (mil)
PTH	5	171	25	65
NPTH	0	0	N/A	N/A
Via	0	0	N/A	N/A
Laser	0	0	N/A	N/A
Total:	**5**	**171**		

Total stacked holes count: **0**

Outer Layer Info

Top SMD Pads 61	Top SMD Min Pitch 5.4 mil	Bottom SMD Pads 1	Bottom SMD Min Pitch 0 mil
Top BGA Pads 1	Top BGA Min Pitch 5.4 mil	Bottom BGA Pads 0	Bottom BGA Min Pitch N/A
Top SMD Min Width 5.4 mil	Top BGA Min Width 5.4 mil	Bottom SMD Min Width 60 mil	Bottom BGA Min Width N/A
Has Top Drilled SMD/BGA Yes	Top Test Point Count 181	Has Bottom Drilled SMD/BGA Yes	Bottom Test Point Count 88
Gold Area Top 0 inch²	Expose Area Top 0.542 inch²	Gold Area Bottom 0 inch²	Expose Area Bottom 0.444 inch²
Gold Finger Count Top 1		Gold Finger Count Bottom 0	
Top Gold Fingers Typ Width 5.4 mil	Top Gold Fingers Typ Length 5.4 mil	Bottom Gold Fingers Typ Width N/A	Bottom Gold Fingers Typ Length N/A
Top Line to BGA Spacing 5.4 mil		Bot Line to BGA Spacing N/A	

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DFM Analysis

Layer	Minimal Spacing (mil)	Typical Spacing (mil)	Minimal AR (mil)	Typical AR (mil)	Minimal Line Width (mil)	Typical Line Width (mil)
copper-top	4.3 (# 1)	6 (# 259)	5.4 (# 46)	5.5 (# 46)	5.4 (# 1)	8 (# 53)
copper-bot	4.3 (# 1)	6 (# 298)	5.5 (# 42)	5.5 (# 42)	8 (# 80)	8 (# 80)
Summary	4.3		5.4		5.4	

Layer	Min PTH To Cu (mil)	Typ PTH To Cu (mil)
copper-top	5.4 (# 1)	17.5 (# 40)
copper-bot	9.8 (# 2)	11.5 (# 42)

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Copper Layer Info

Layer	Copper Area (inch²)	Copper Usage (%)	Copper Weight [Base]	Copper Thickness [Final]
copper-top	9.07	86	0 Oz	0 mil
copper-bot	9.04	86	0 Oz	0 mil

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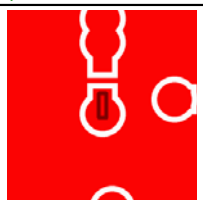
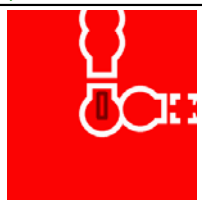
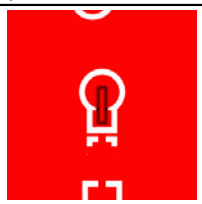
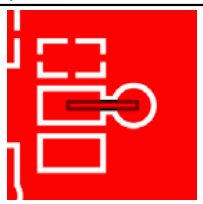
DFM Report

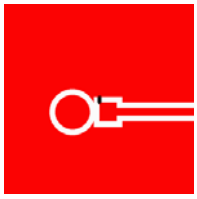
Legend: Below standard processing | Slight Modification necessary | Meets standard processing

copper-top

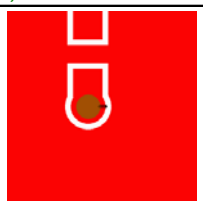
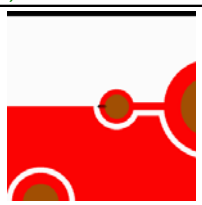
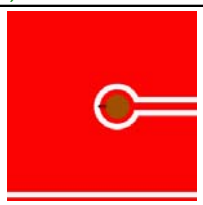
Lines

1) 8 mil	2) 8 mil	3) 8 mil	4) 8 mil	5) 8 mil
				
(3.3 ,1.734) inch	(3.31 ,1.234) inch	(3.31 ,1.234) inch	(3.31 ,1.611) inch	(3.418 ,1.42) inch

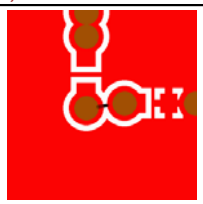
Spacing

1) 4.311 mil	2) 6 mil	3) 6 mil	4) 6 mil	5) 6 mil
				
(3.33 ,1.228) inch	(0.214 ,0.649) inch	(0.195 ,0.63) inch	(0.191 ,0.152) inch	(1.128 ,0.813) inch

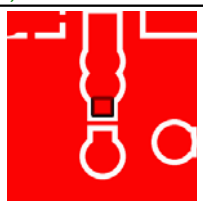
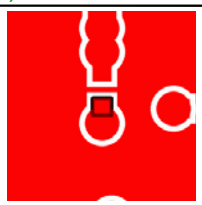
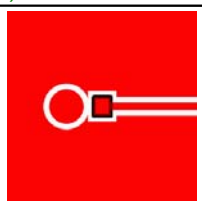
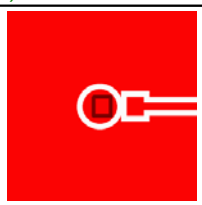
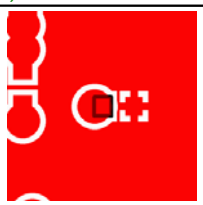
Annular Ring

1) 5.4 mil	2) 5.5 mil	3) 5.5 mil	4) 5.5 mil	5) 5.5 mil
				
(4.075 ,0.325) inch	(2.085 ,2.3) inch	(1.21 ,2.1) inch	(0.985 ,2.075) inch	(0.885 ,1.9) inch

PTH To Copper

1) 9.811 mil	N/A	N/A	N/A	N/A
				
(3.327 ,1.227) inch				

SMD Pads

1) 18 x 20 mil	2) 18 x 20 mil	3) 18 x 20 mil	4) 18 x 20 mil	5) 18 x 20 mil
				
(3.3 ,1.778) inch	(3.3 ,1.742) inch	(1.138 ,0.8) inch	(1.102 ,0.8) inch	(3.384 ,1.74) inch

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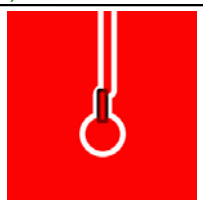
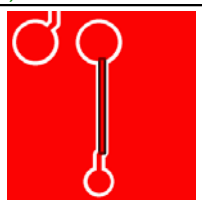
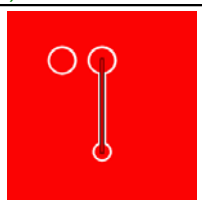
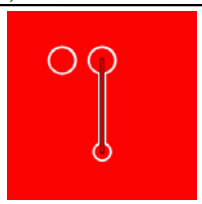
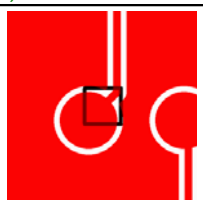
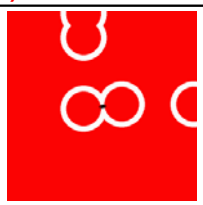
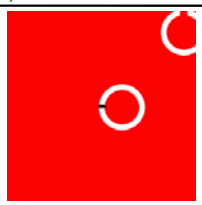
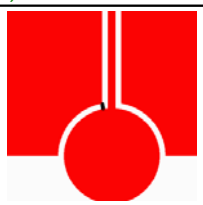
copper-bot

Lines

1) 8 mil	2) 8 mil	3) 8 mil	4) 8 mil	5) 8 mil
				
(2.82 ,0.43) inch	(2.825 ,0.519) inch	(3.2 ,0.515) inch	(3.64 ,0.515) inch	(2.735 ,0.635) inch

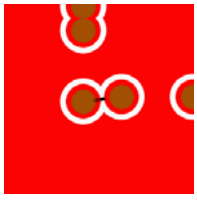
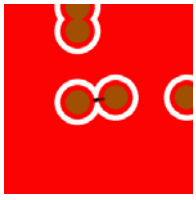
Spacing

1) 4.311 mil	2) 6 mil	3) 6 mil	4) 6 mil	5) 6 mil
				
(3.33 ,1.228) inch	(0.489 ,0.651) inch	(0.253 ,0.1) inch	(0.453 ,0.1) inch	(0.591 ,0.152) inch

Annular Ring

1) 5.5 mil	2) 5.5 mil	3) 5.5 mil	4) 5.5 mil	5) 5.5 mil
				
(2.087 ,2.292) inch	(1.21 ,2.1) inch	(0.985 ,2.075) inch	(0.892 ,1.913) inch	(0.717 ,1.813) inch

PTH To Copper

1) 9.811 mil	2) 9.811 mil	3) 11.5 mil	4) 11.5 mil	5) 11.5 mil
				
(3.327 ,1.227) inch	(3.333 ,1.228) inch	(2.082 ,2.3) inch	(1.217 ,2.117) inch	(0.992 ,2.092) inch

SMD Pads

1) 60 x 60 mil	N/A	N/A	N/A	N/A
				
(1.42 ,2.2) inch				

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Attachments

Attached files: 1

Layer	Type	Polarity	Input File Name
solder_paste-top	solder_paste	Positive	wireless controller v0.TopPaste
silk_screen-top	silk_screen	Positive	wireless controller v0.slk
solder_mask-top	solder_mask	Positive	wireless controller v0.smt
copper-top	power_ground	Positive	wireless controller v0.top
copper-bot	power_ground	Positive	wireless controller v0.bot
solder_mask-bot	solder_mask	Positive	wireless controller v0.smb
silk_screen-bot	silk_screen	Positive	wireless controller v0.bsk
plated01-02	drill	Positive	wireless controller v0.dri
oln	document	Positive	wireless controller v0.oln
top_asb	document	Positive	wireless controller v0.TopAssembly