



Production documentation for:

name: RPEM_Template1

version: A

variant: Template

code: YourProjectCode

variant description: Template for Red Pitaya Extension Module

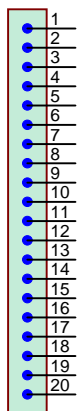
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Designer: RedPitaya	Project: RPEM_Template1	Sheet 1 of 2
Drawn By: RedPitaya	Variant: Variant_name	Version: A
Approved By: RedPitaya	Modif. Date: 25.7.2014	Print Date: 25.7.2014
		Size: A4 H

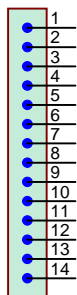
Red Pitaya Extension Module Template 1



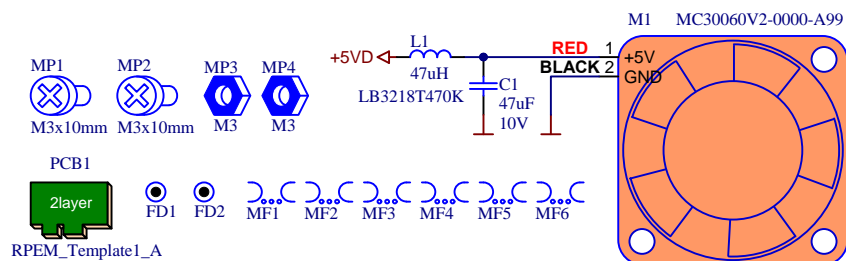
CN3
IDC20LPH



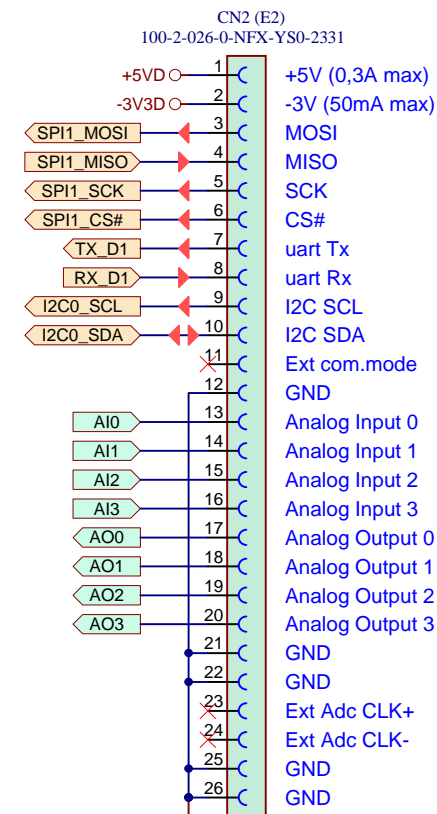
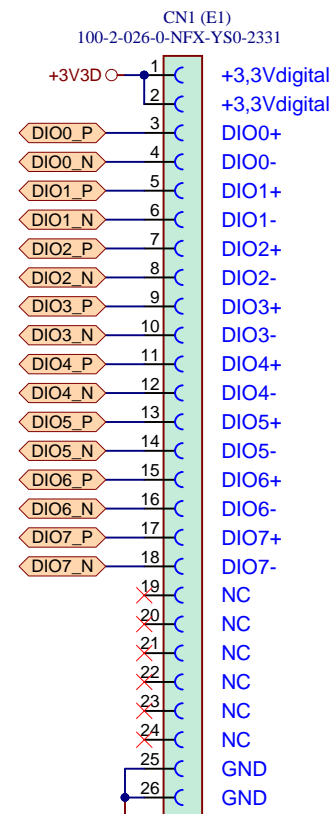
CN4
IDC14LPH



Connectors CN3 and CN4 are for demonstration only!



Do not connect extension module switching power supply to +3,3Vdigital rail !
Source for on extension module generated power supplies is +5V
Optional fan should be powered from +5V rail !
+5V rail current capability depends on power source (up to 1A trough pin1 of CN2) !



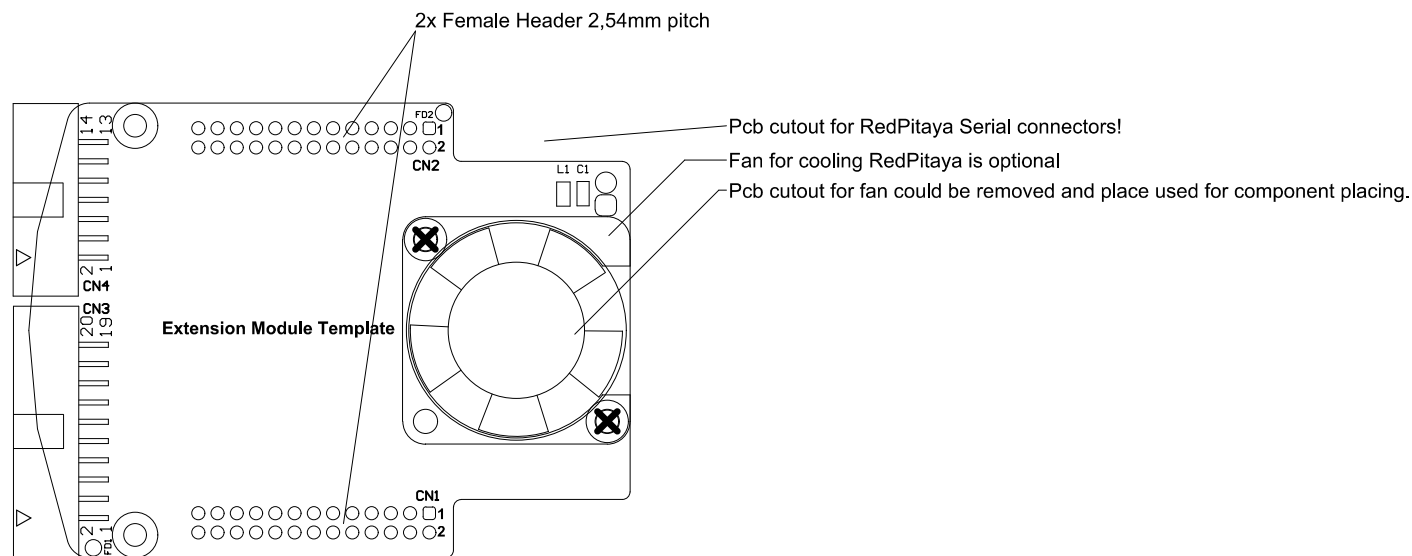
Ext Adc CLK signal on Red Pitaya is by default not connected.
Ext common mode for slow analog inputs is connected to GND on Red Pitaya
Signals for SPI, Uart and I2C can also be used as common IO signals

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Designer:	RedPitaya	Project:	RPEM_Template1	Sheet	2 of 2
Drawn By:	RedPitaya	Variant:	Template	Version:	A
Approved By:	RedPitaya	Modif. Date:	25.7.2014	Print Date:	25.7.2014
				Size:	A4 H

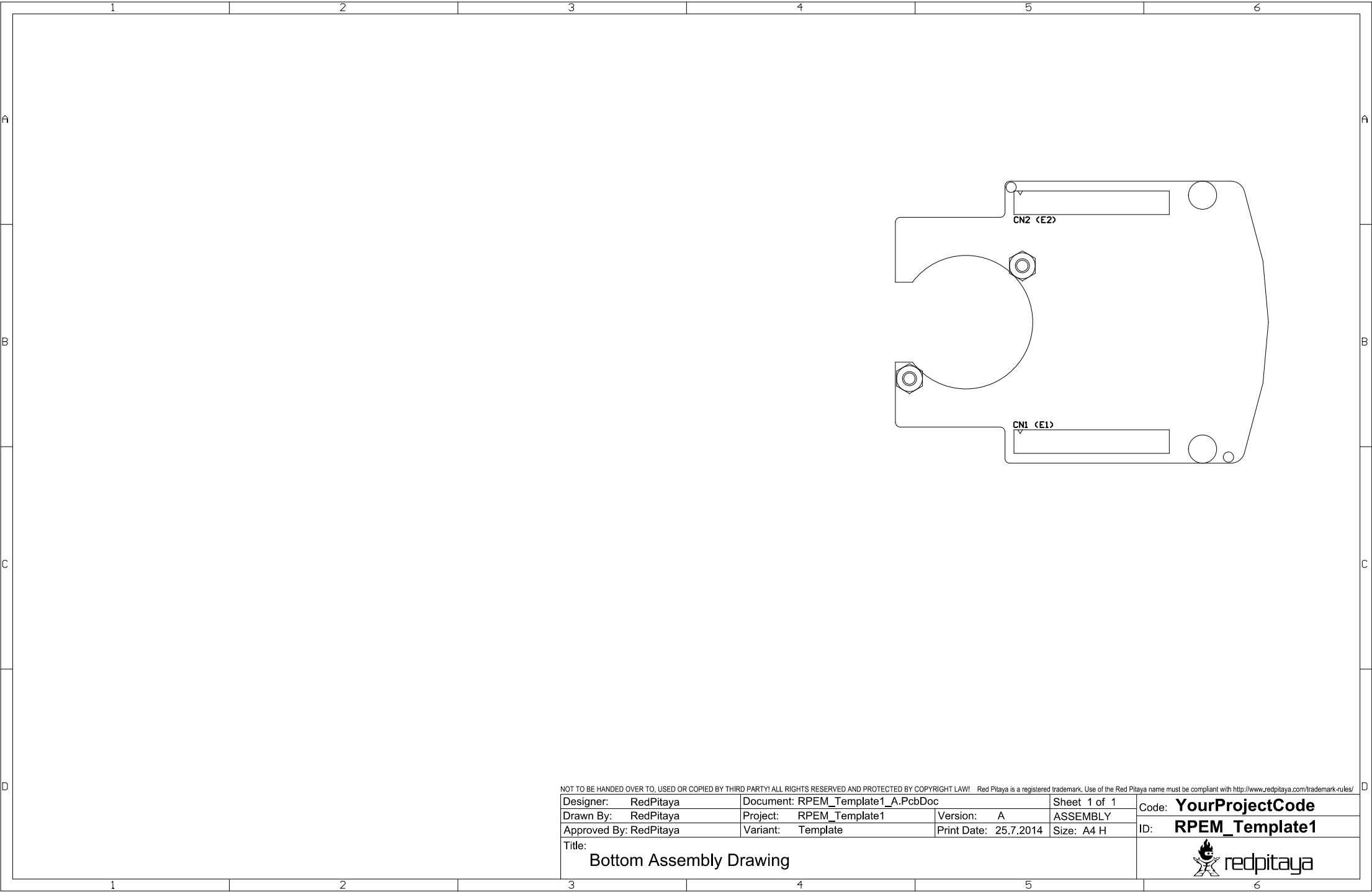
Red Pitaya Extension Module Template






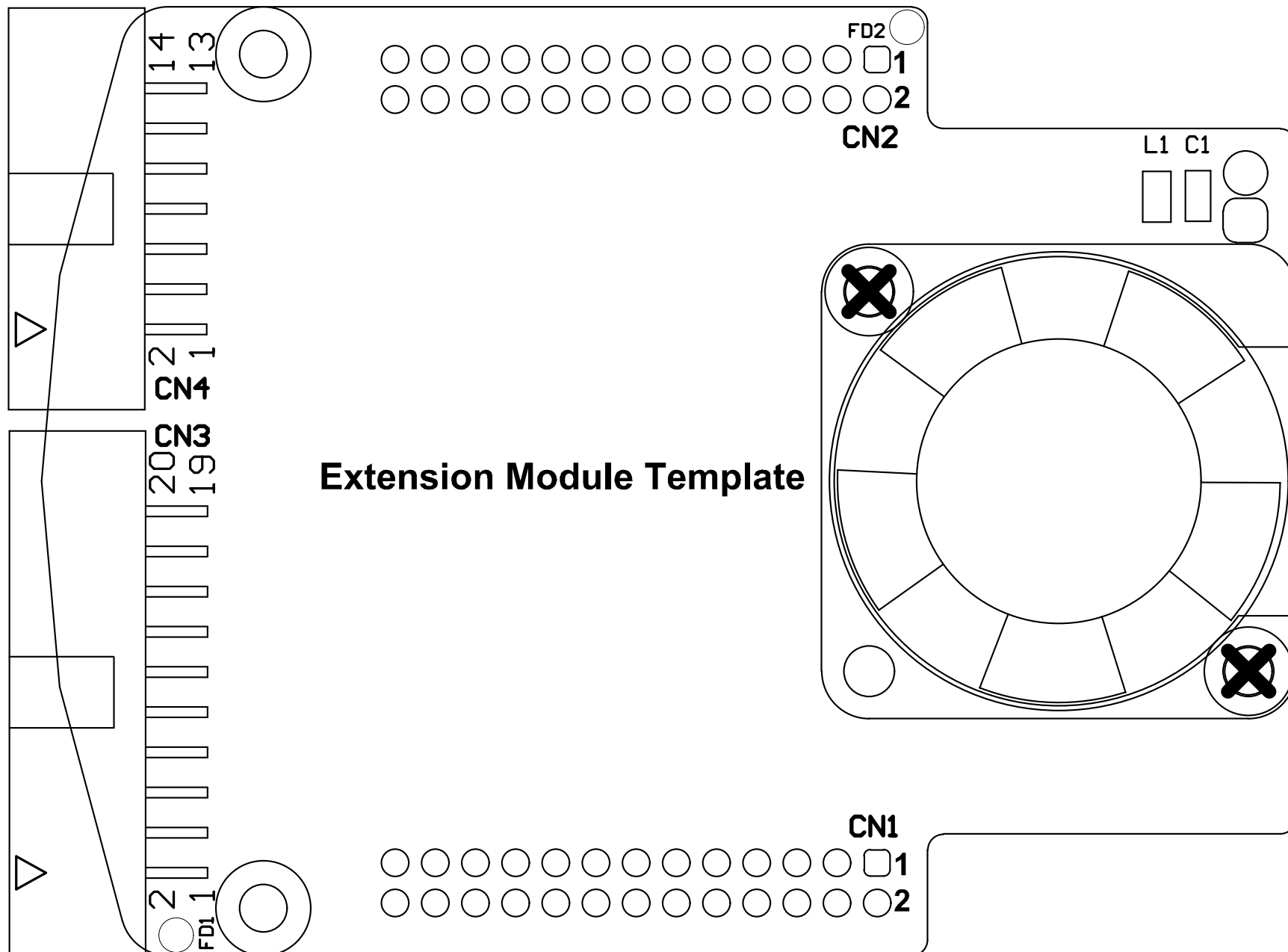
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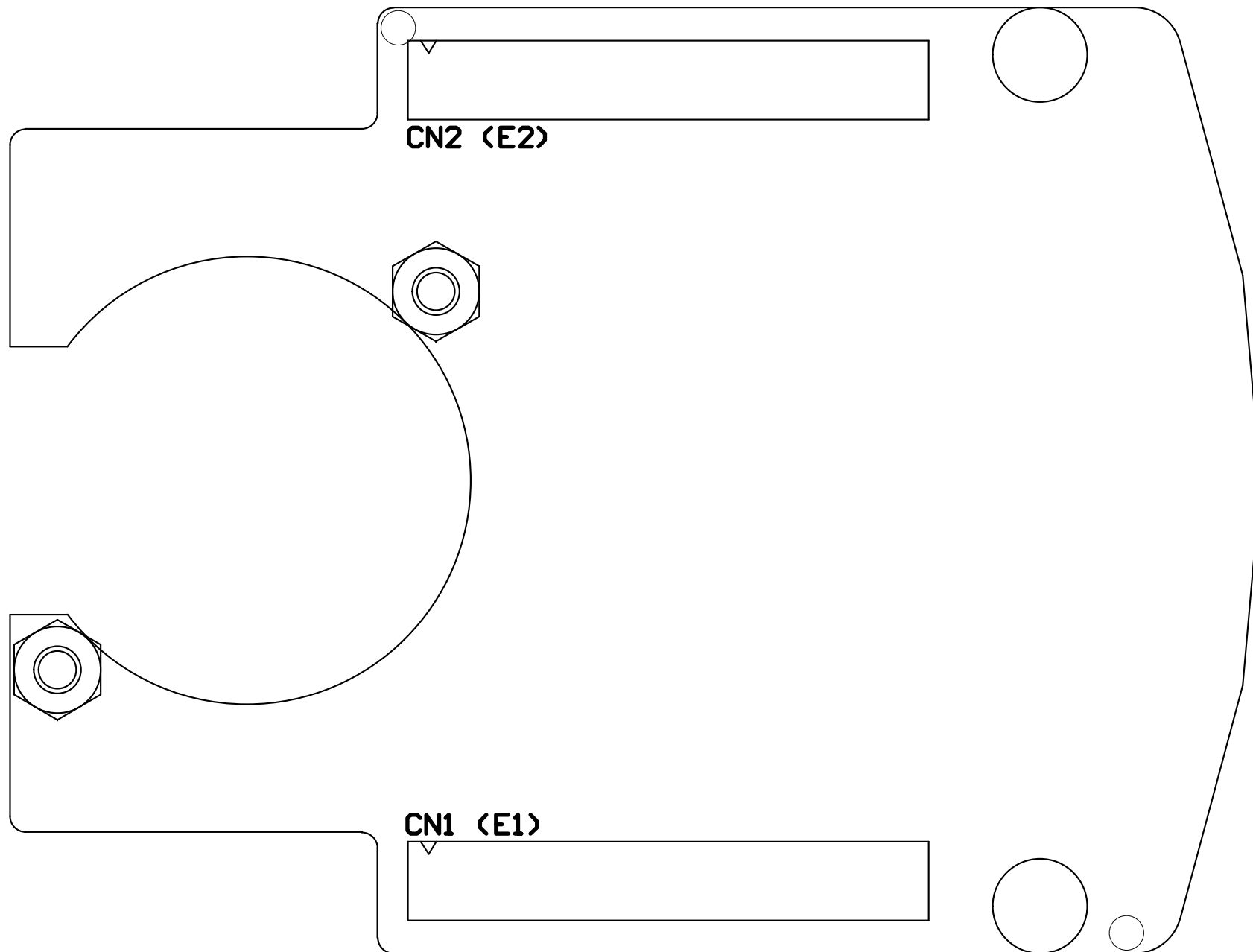
Designer: RedPitaya	Document: RPEM_Template1_A.PcbDoc	Sheet 1 of 1	Code: YourProjectCode
Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	ASSEMBLY
Approved By: RedPitaya	Variant: Template	Print Date: 25.7.2014	Size: A4 H
Title: Top Assembly Drawing			ID: RPEM_Template1
			 redpitaya

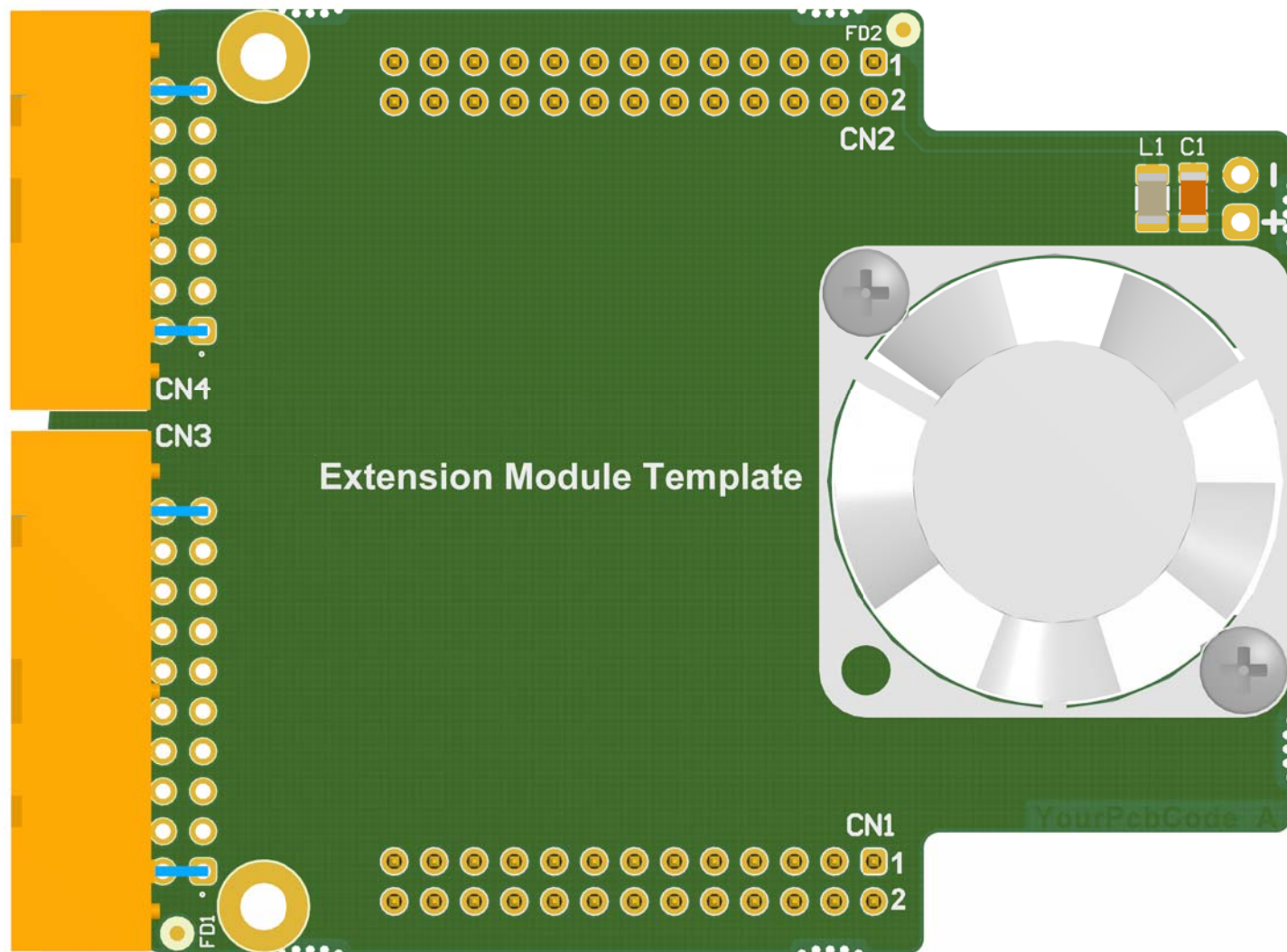


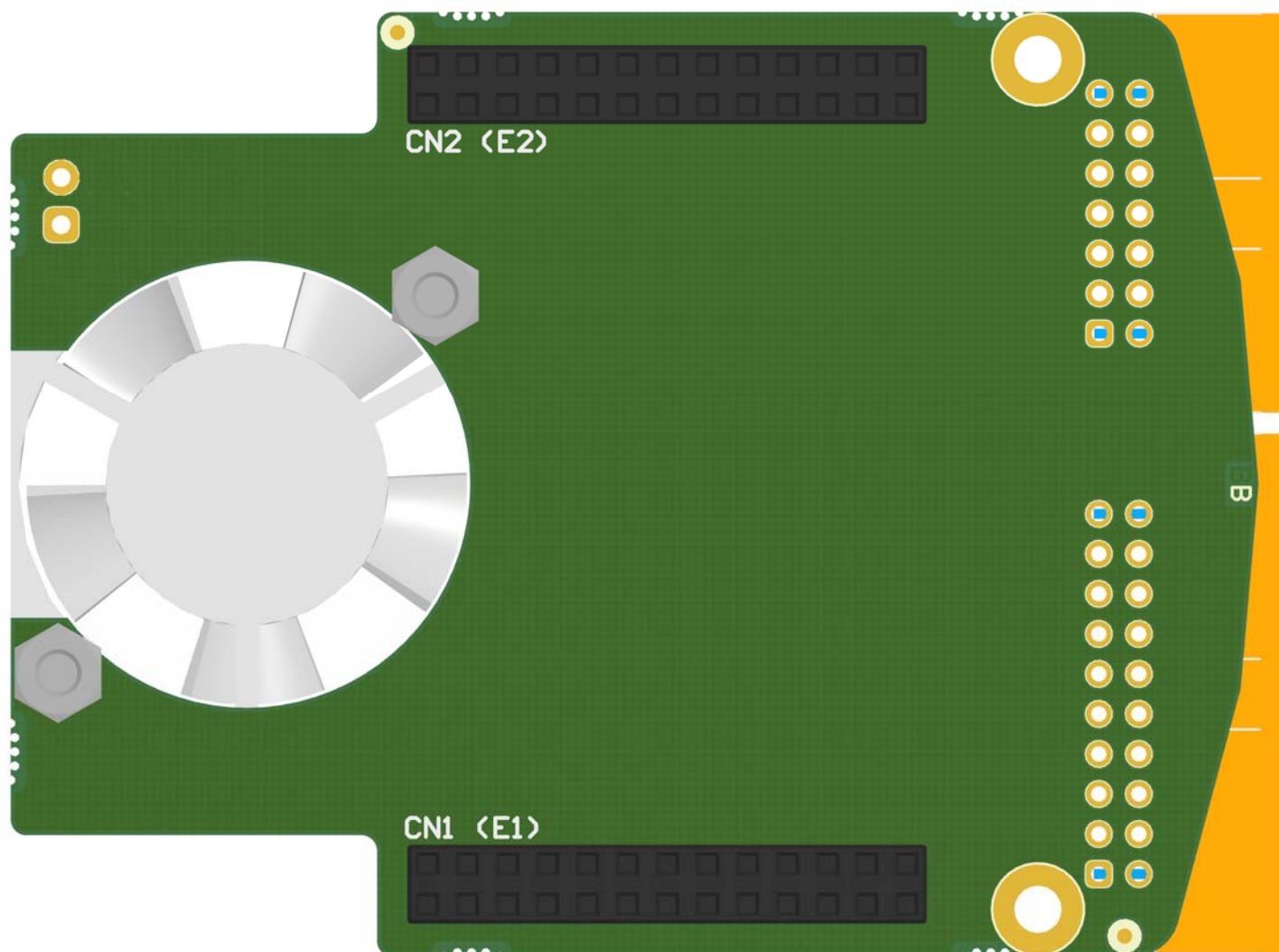
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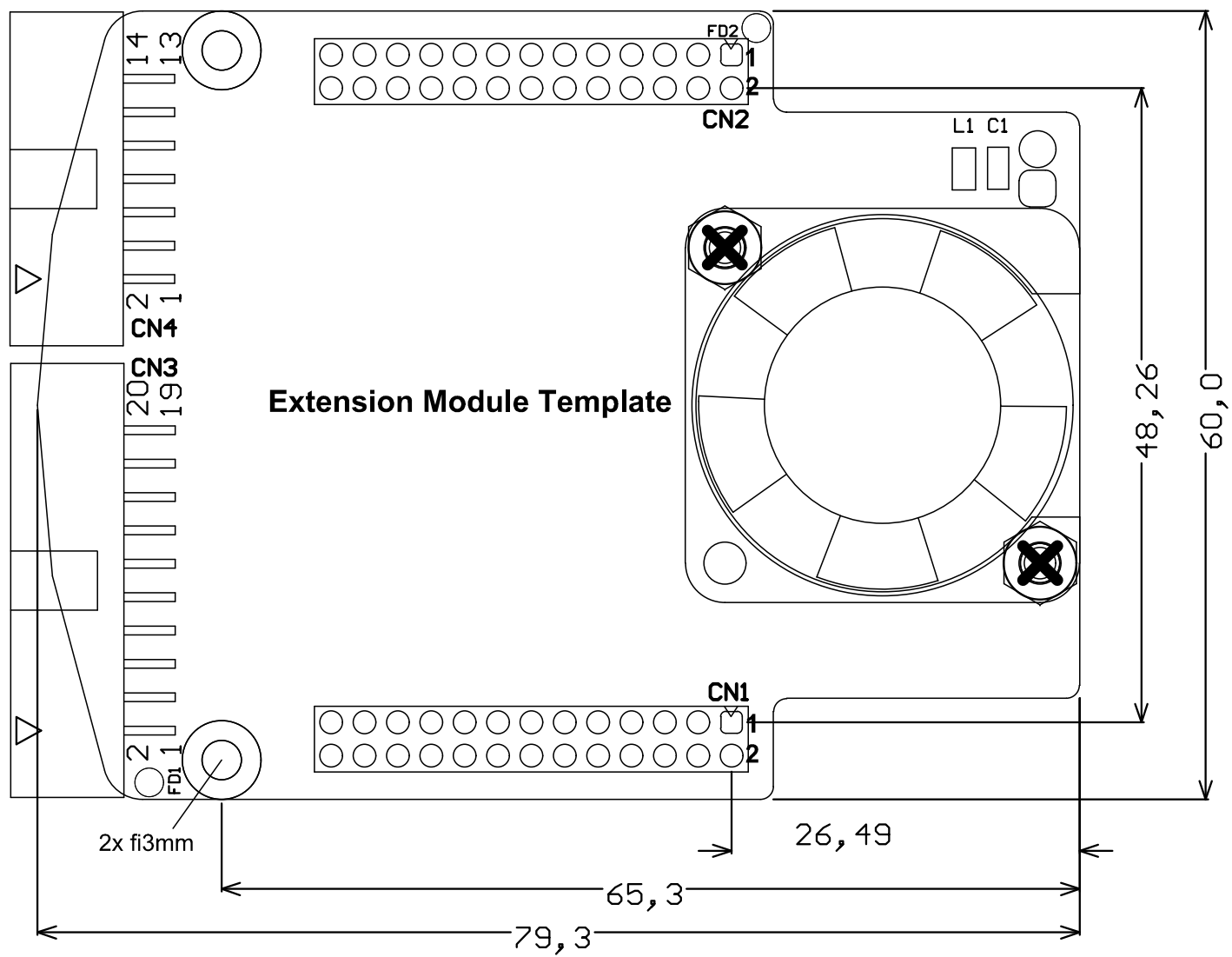
Designer: RedPitaya	Document: RPEM_Template1_A.PcbDoc	Sheet 1 of 1	Code: YourProjectCode
Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	ASSEMBLY
Approved By: RedPitaya	Variant: Template	Print Date: 25.7.2014	Size: A4 H
Title: Bottom Assembly Drawing			 redpitaya











Bill Of Material

Red Pitaya Extension Module Template 1

Source Data From:

RPEM_Template1_A.PrjPcb

Project:

RPEM_Template1

Version:

A

Variant:

Template

Template for Red Pitaya Extension Module

Product Code:

YourProjectCode



Report Date:

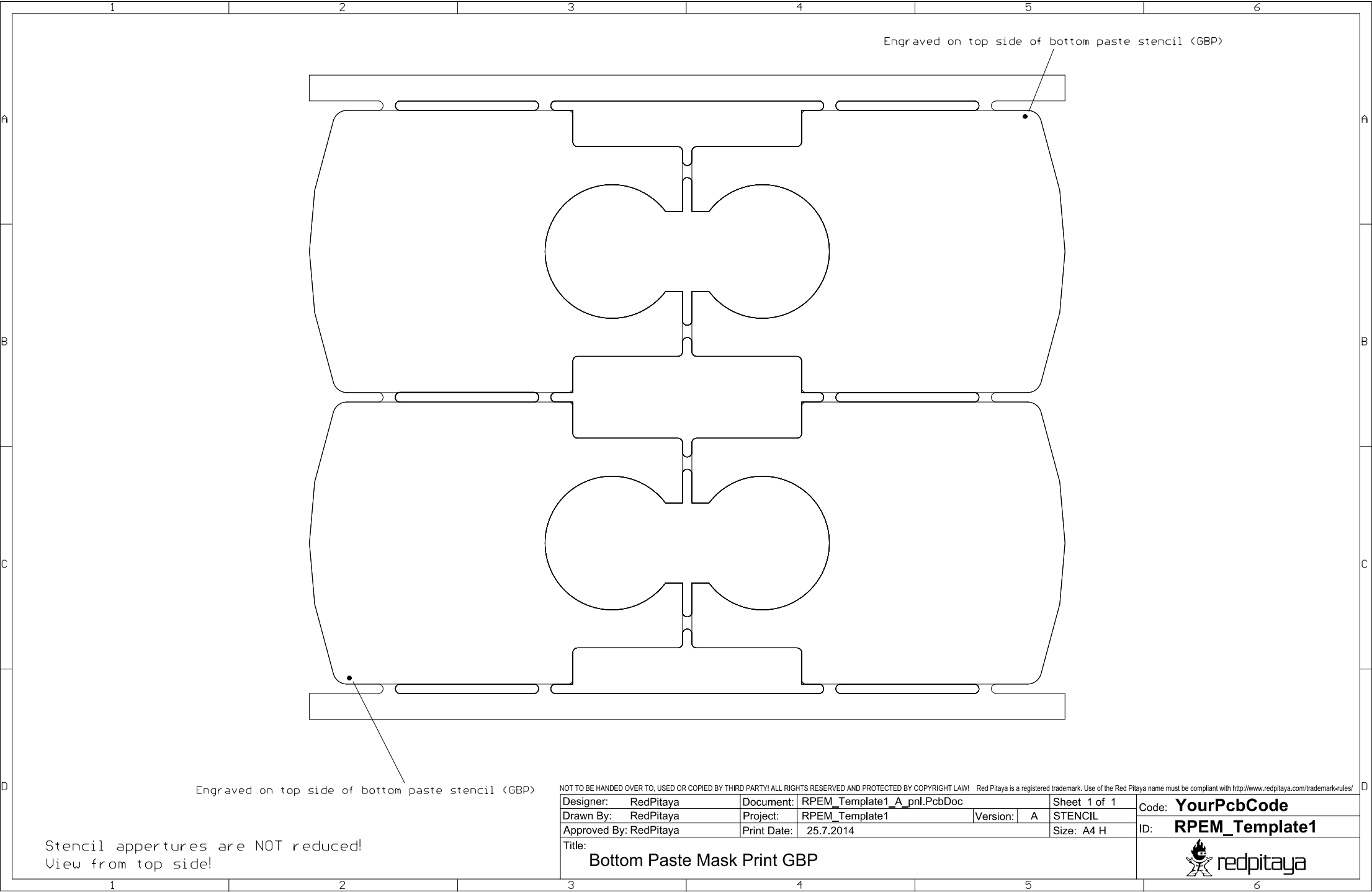
9:19:33 25.7.2014

Print Date:

9:19 25.07.2014

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#	Designator	Quantity	Description	Value	Value2	Manufacturer	Manufacturer Part Number
1	PCB1	1	Printed circuit board 2 layer 52x60mm Panel 2x2 106x137mm	RPEM_Template1_A	FR4 1.6mm 35-35um Cu		
2	FD1, FD2	2	Fiducial top&bottom round 1.27mm	R			
3	C1	1	Capacitor Chip Ceramic 3216m(1206)	47uF	10V ±10% X5R	Murata	GRM31CR61A476ME15L
4	L1	1	Chip inductor wire wounded 3218m(1207)	47uH	205mA 0.92R ±10% SRF12MHz	Taiyo Yuden	LB3218T470K
5	CN4	1	CN IDC THT right angle P2.54mm low profile	IDC14LPH	14pin Male 350V 1A 20mR	Harting	09185147323
6	CN3	1	CN IDC THT right angle P2.54mm low profile	IDC20LPH	20pin Male 350V 1A 20mR	Harting	09185207323
7	CN1 (E1), CN2 (E2)	2	Connector FEMHDR Board-Board P2.54mm Pcb Straight thd	100-2-026-0-NFX-YS0-2331	26pin Fem 50V 1A	MPE-Garry	100-2-026-0-NFX-YS0-2331
8	MP3, MP4	2	Nut DIN934 hexagonal metric	M3	Steel nickel plated		
9	MP1, MP2	2	Screw DIN7985A metric PH head	M3x10mm	Steel nickel plated		
10	M1	1	Fan VAPO ball bearing SQ30H6,9	MC30060V2-0000-A99	5Vcc 72mA 3.7CFM/0.48m3/min 7500rpm	Sunon	MC30060V2-0000-A99
Approved		Total Quantity	Notes				
Total components:		14					



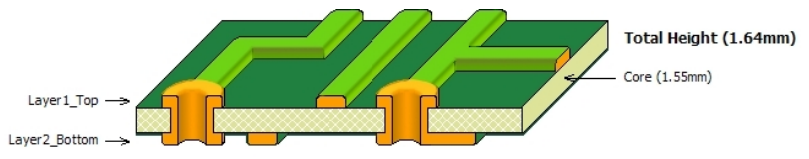
Engraved on top side of bottom paste stencil (GBP)

Engraved on top side of bottom paste stencil (GBP)

Stencil apertures are NOT reduced!
View from top side!

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Designer:	RedPitaya	Document:	RPEM_Template1_A_pnl.PcbDoc	Sheet	1 of 1
Drawn By:	RedPitaya	Project:	RPEM_Template1	Version:	A
Approved By:	RedPitaya	Print Date:	25.7.2014	STENCIL	Size: A4 H
Title: Bottom Paste Mask Print GBP					Code: YourPcbCode
					ID: RPEM_Template1
					 redpitaya

1 2 3 4 5 6



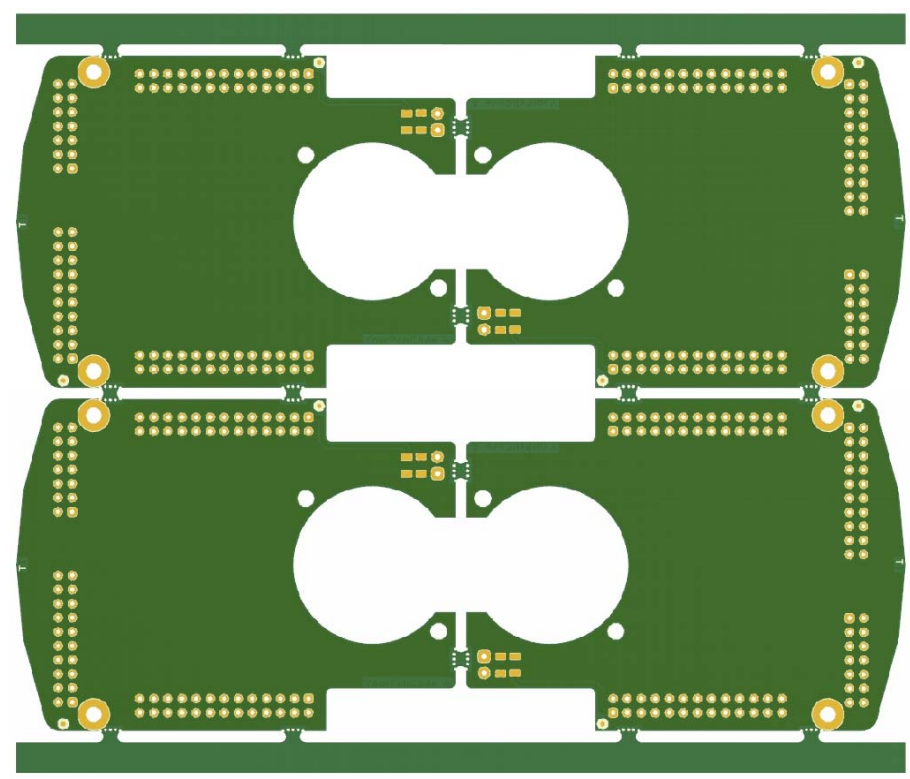
Production documentation for:

PCB: RPEM_Template1

version: A

code: YourPcbCode

Confidential documentation!



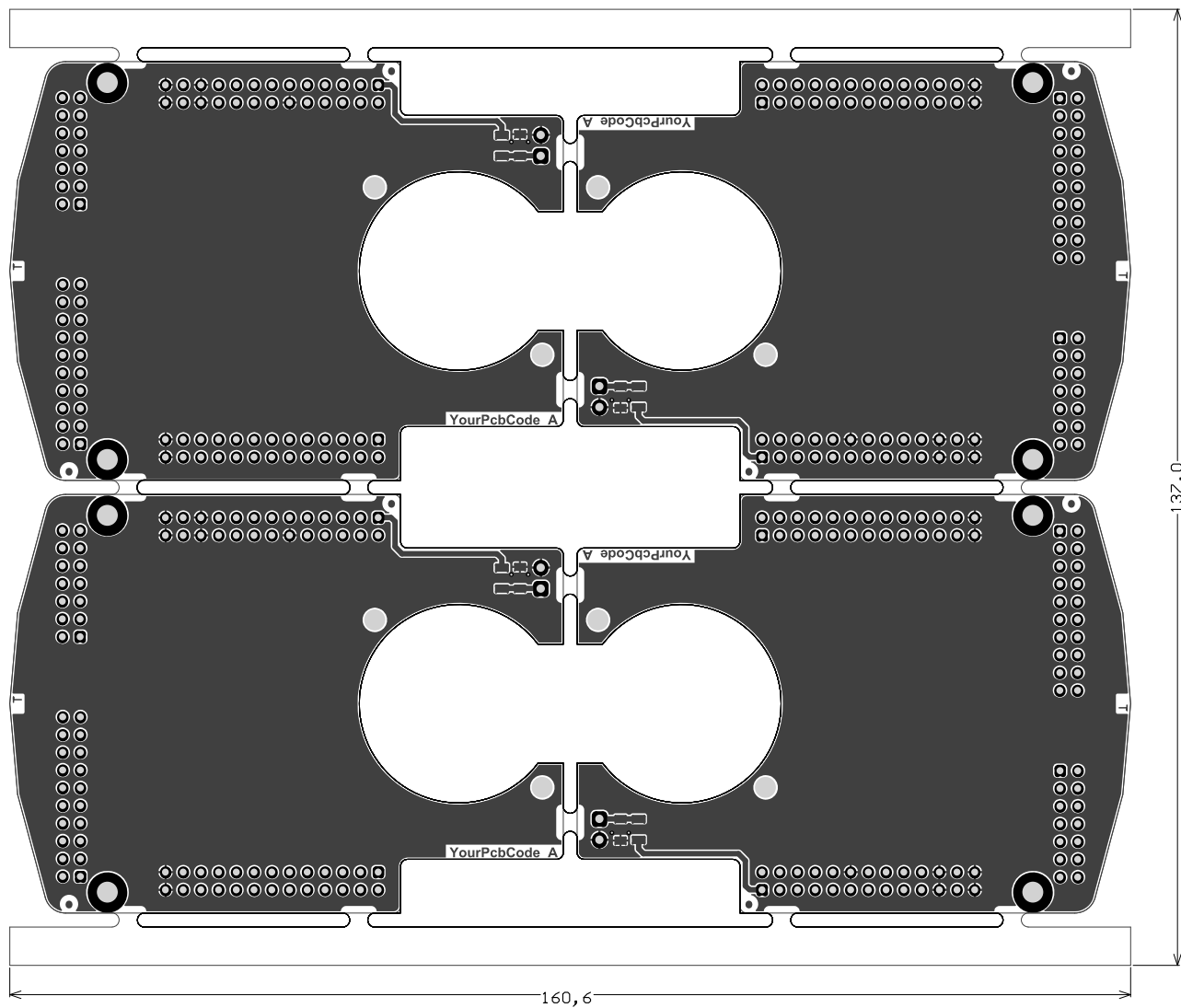
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Designer: RedPitaya	Pcb: RPEM_Template1	Sheet 1 of 1
Drawn By: RedPitaya	Version: A	PCB doc
Approved By: RedPitaya	Pcb code: YourPcbCode	Print Date: 25.7.2014
		Size: A4 H


Printed Circuit Board

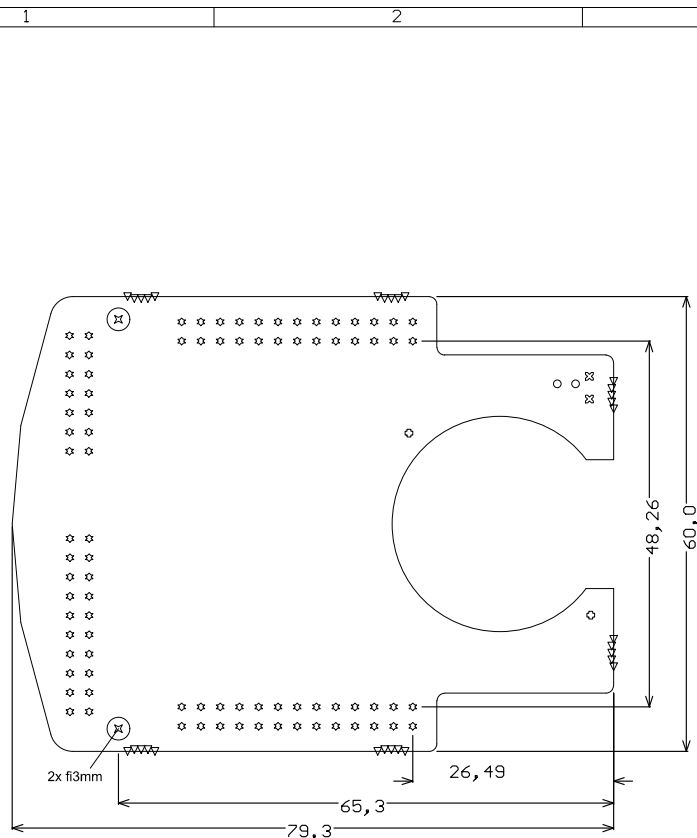


1 2 3 4 5 6



Milled with 2.0mm mill

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Designer:	RedPitaya	Document:	RPEM_Template1_A_pnl.PcbDoc	Sheet	1 of 1
Drawn By:	RedPitaya	Project:	RPEM_Template1	Version:	A
Approved By:	RedPitaya	Print Date:	25.7.2014	Size:	A4 H
Title:				Code:	
Panelization				ID:	
				RPEM_Template1	
				 redpitaya	



Notes:

- Board shall be fabricated - performance class II as per IPC-6011 and IPC6012
- PCB manufacturer logo, P/N, revision and/or date code of manufacturing shall be printed in top solder mask (not over pcb traces, allowed over copper plane). The date code shall be in the format: "WWYY" where WW=week and YY= year, max height 0.15 inches
- Silkscreen printed on both sides; color= WHITE
- Material: high temperature FR4 class epoxy glass
min 35um copper for all layers
Must be RoHS compliant and survive a lead-free assembly max reflow of 260 deg C (5 passes)
Td rating: >340 deg C
Tg = 150 deg C (min)
- Solder mask: SMOBC per IPC-SM-840C, class T must be RoHS compliant, 0.001" max measured over bare copper plating, must clear all lands as indicated on gerber solder mask layers, color= GREEN
- Finish: HAL-Sn100CL 7-10um over bare copper only
- Solderability test: Category 2 of J-STD-003
- Finished boards shall not have nicks, scratches, voids, exposed copper, poor plating or misdrilled holes
- All holes sizes are after plating
- All finished boards are to be 100% electrically tested
- Unless otherwise indicated, all linear tolerances shall be XX.X +/-0.2mm and XX.XX +/- 0.1mm
- Gerber file GM1 shows board outline (milling line)
- Panelization: 2x2 (160,6x137mm)

Additional notes:


- A1. Finished board thickness = 1.6mm +/- 10%; measured over top/bottom copper and solder mask

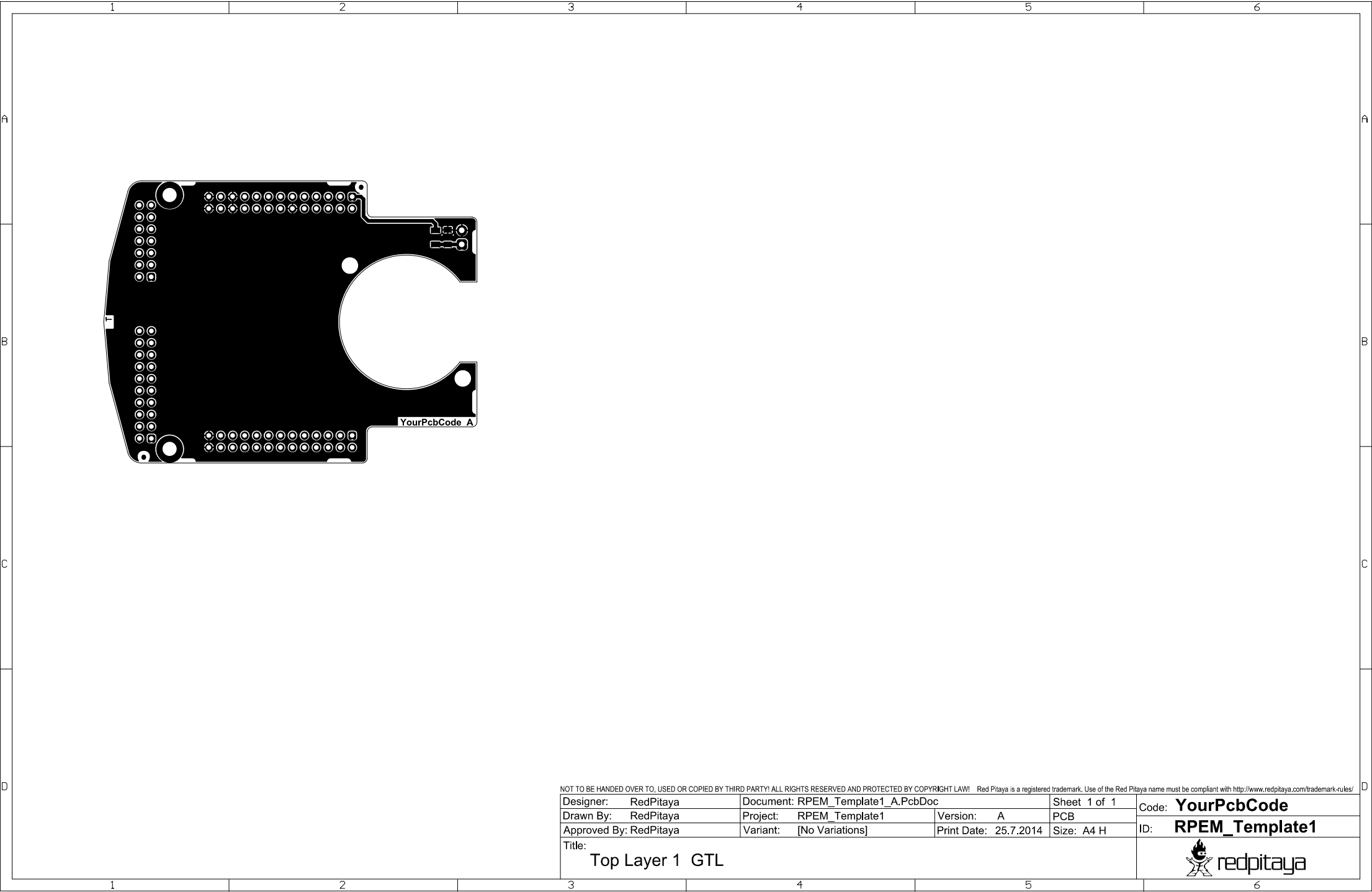
Layer Stack Up Detail for: RPEM_Template1_A.PcbDoc

Layer Name	Gerber Document	Copper Thickness	Dielectric Height	Dielectric Material	Dielectric Constant	Dielectric Type
Top Solder Mask	(.GTS)		0.0102mm	Solder Resist	3.50	
Layer1_Top	(.GTL)	0.035mm				
Layer2_Bottom	(.GBL)	0.035mm	1.55mm		4.6	Core
Bottom Solder Mask	(.GBS)		0.0102mm	Solder Resist	3.50	


Symbol	Hit Count	Tool Size	Plated	Hole Type
○	2	0.3mm <11.811mil>	PTH	Round
▽	30	0.6mm <23.622mil>	NPTH	Round
☆	86	1mm <39.37mil>	PTH	Round
⊗	2	1.2mm <47.244mil>	PTH	Round
⊕	2	3mm <118.11mil>	NPTH	Round
⊗	2	3mm <118.11mil>	PTH	Round
124 Total				

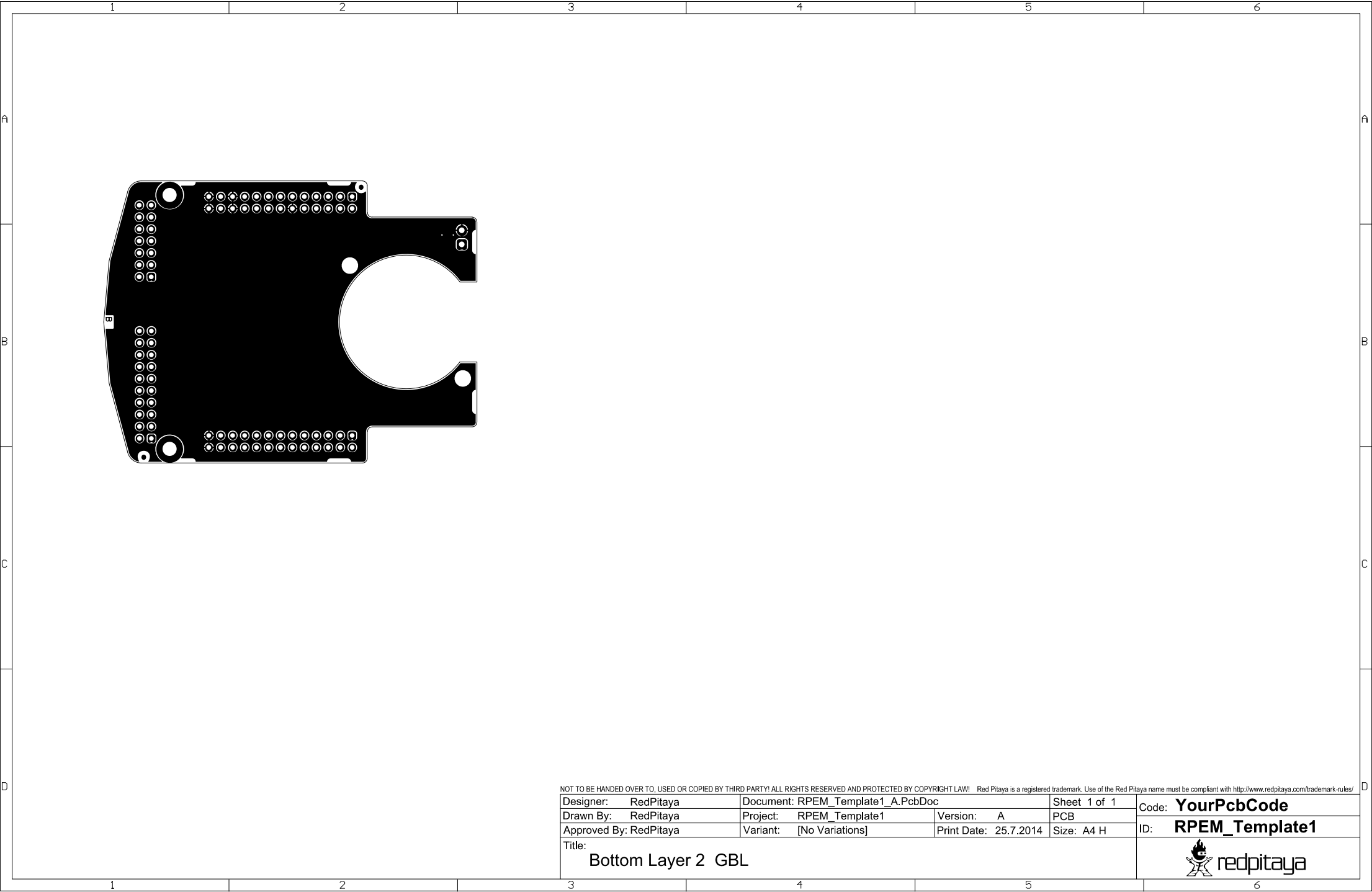
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Designer: RedPitaya	Document: RPEM_Template1_A.PcbDoc	Sheet 1 of 1	Code: YourPcbCode
Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Drill Drawing and Dimensions GD1			ID: RPEM_Template1
			 redpitaya




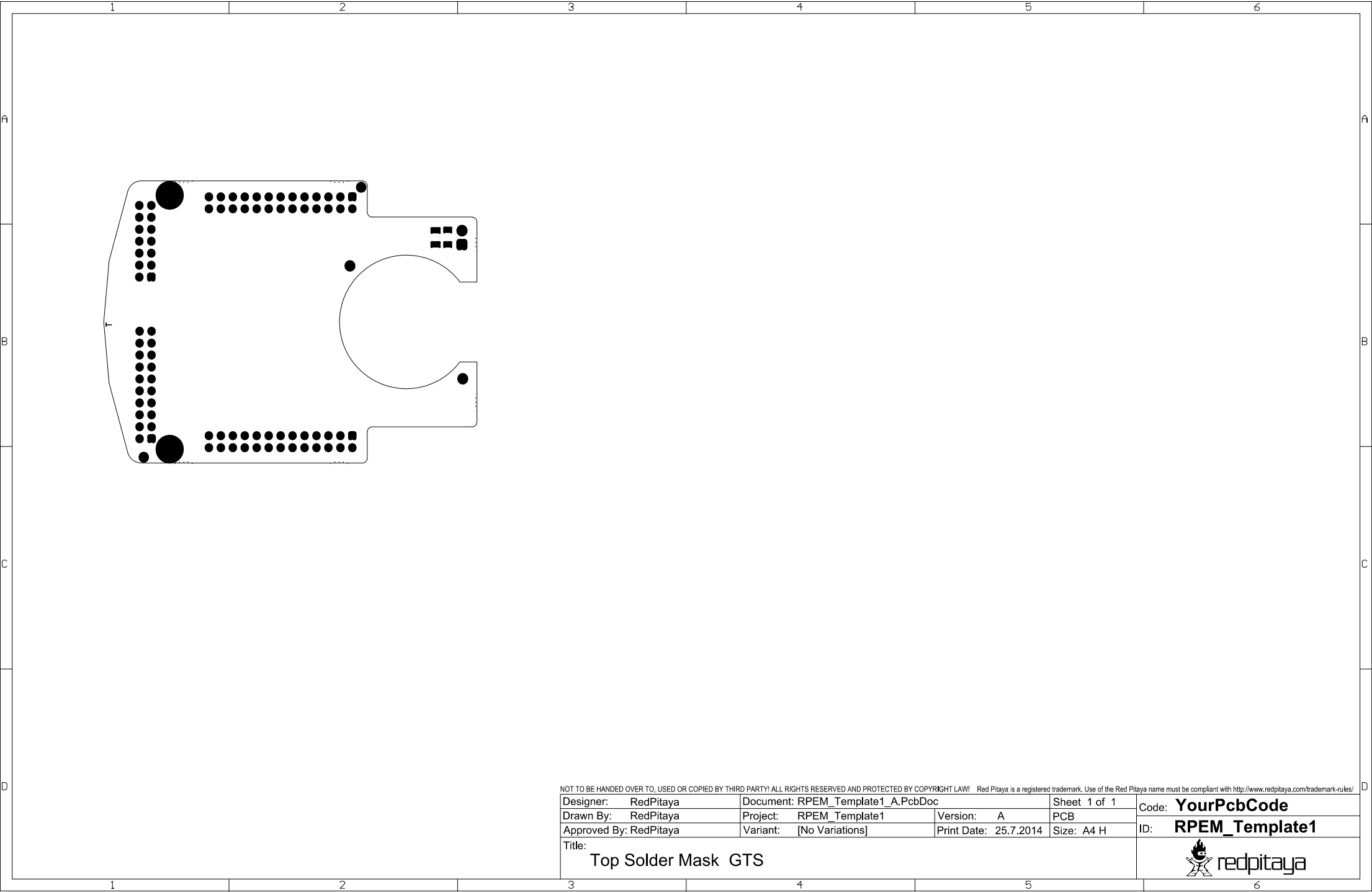
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Designer: RedPitaya	Document: RPEM_Template1_A.PcbDoc	Sheet 1 of 1	Code: YourPcbCode
Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Top Layer 1 GTL			 redpitaya




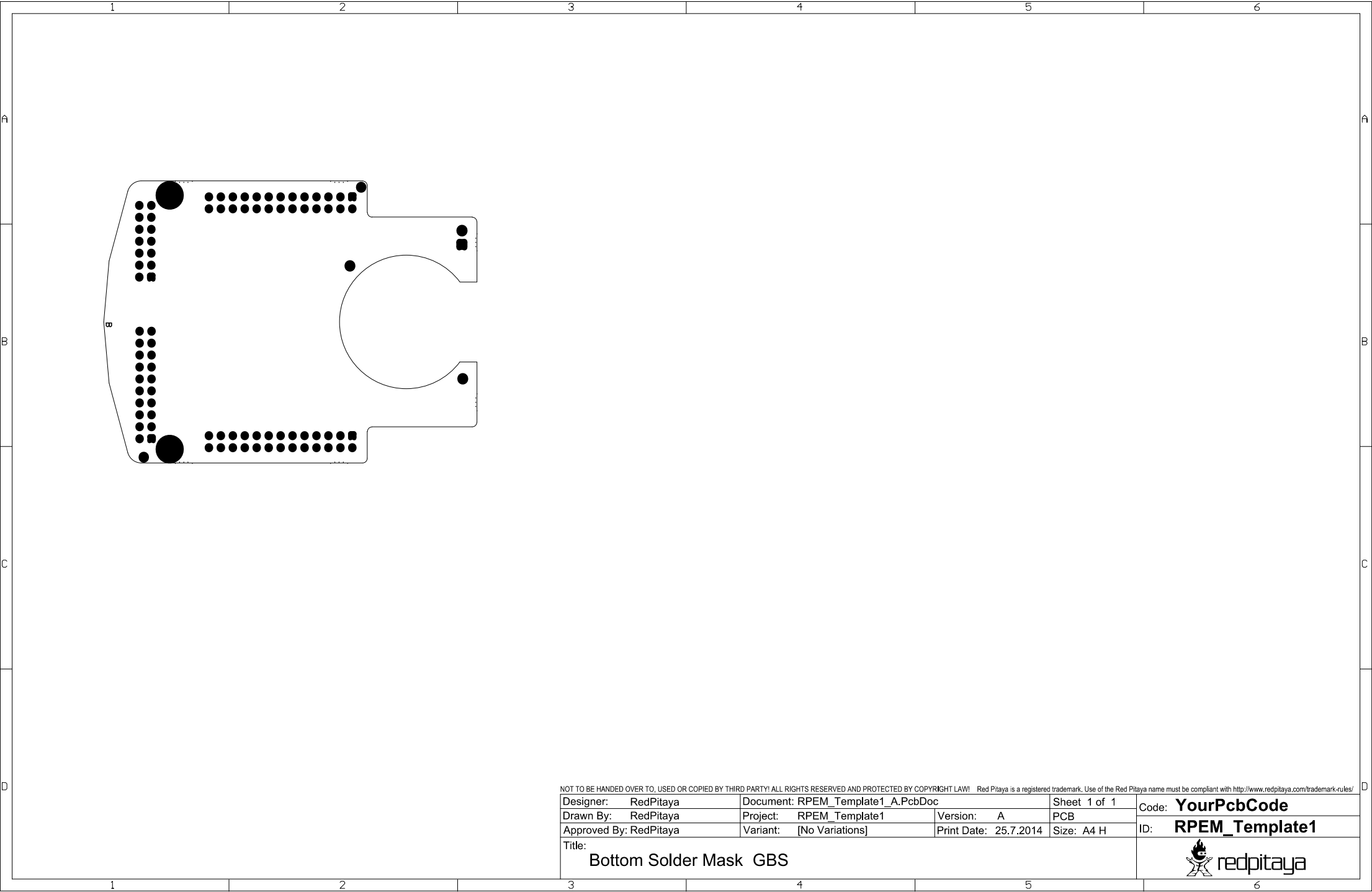
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Designer: RedPitaya	Document: RPEM_Template1_A.PcbDoc	Sheet 1 of 1	Code: YourPcbCode
Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Bottom Layer 2 GBL			 redpitaya




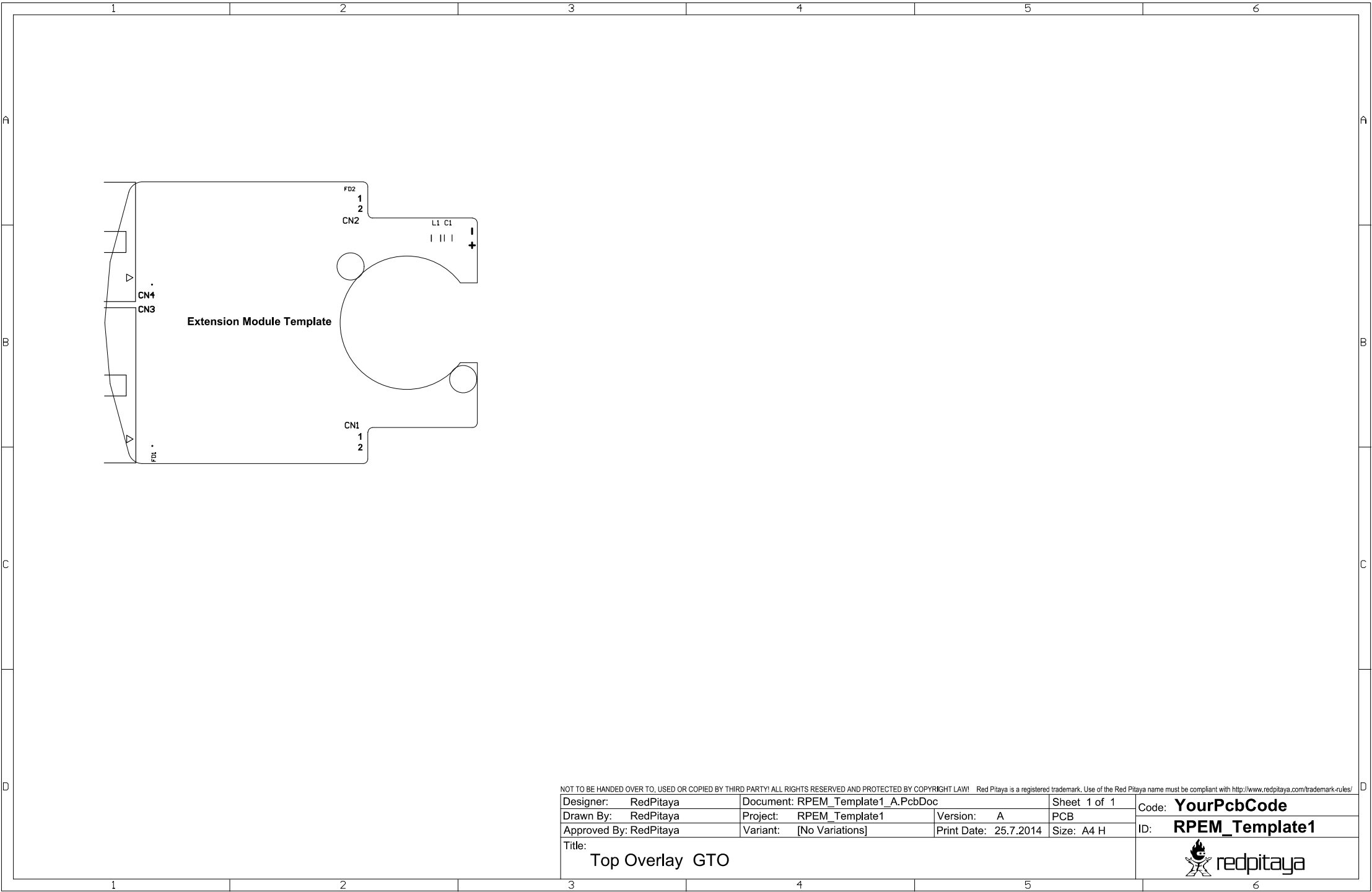
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Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Top Solder Mask GTS			 redpitaya




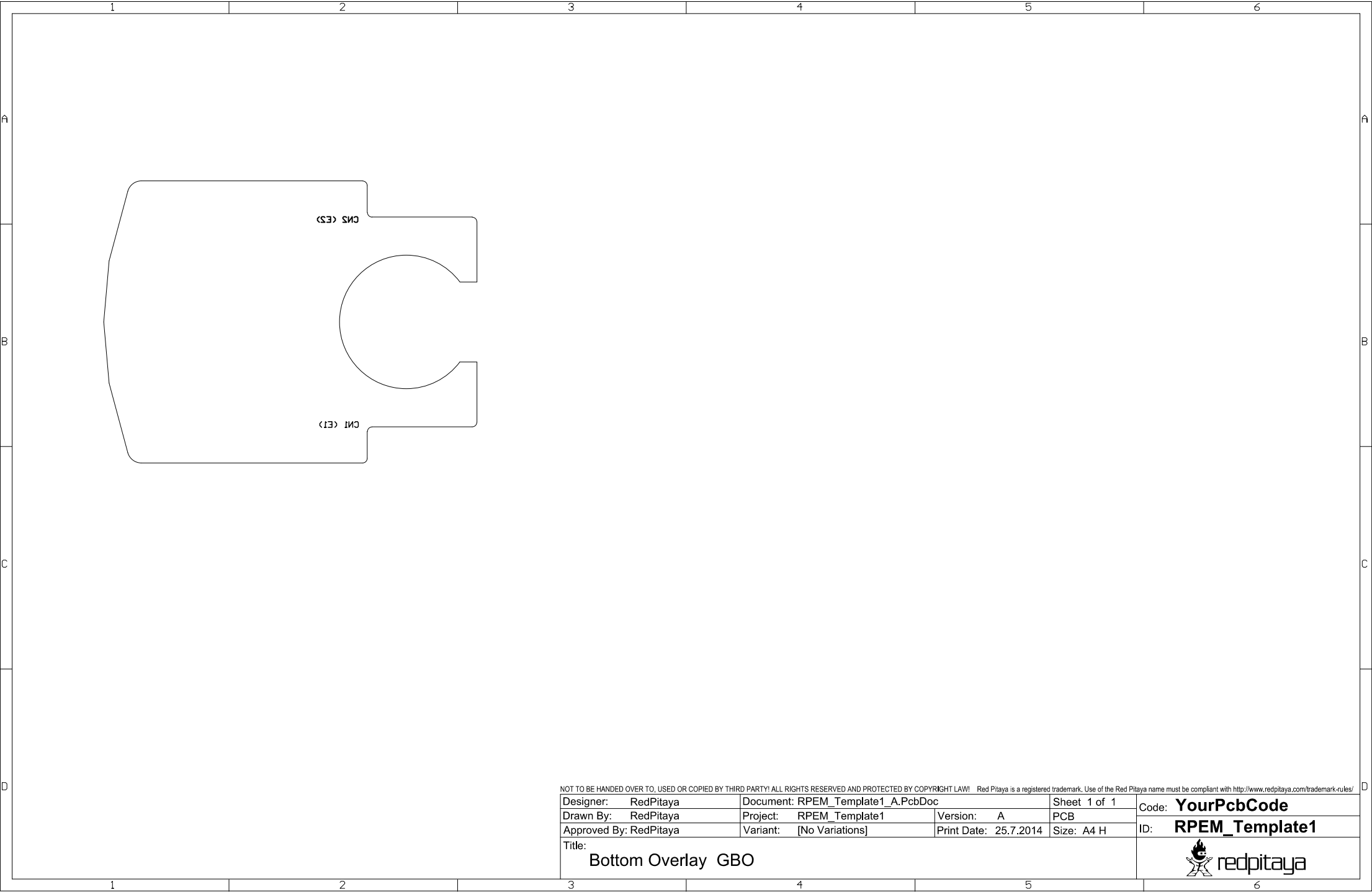
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Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Bottom Solder Mask GBS			 redpitaya




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Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Top Overlay GTO			 redpitaya



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Drawn By: RedPitaya	Project: RPEM_Template1	Version: A	PCB
Approved By: RedPitaya	Variant: [No Variations]	Print Date: 25.7.2014	Size: A4 H
Title: Bottom Overlay GBO			 redpitaya