STM8L152R8T6 Nucleo

MB1344

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Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.

Notes to generate the board layout.

PCB

STM8L PCB RevC

Open Platform License Agreement

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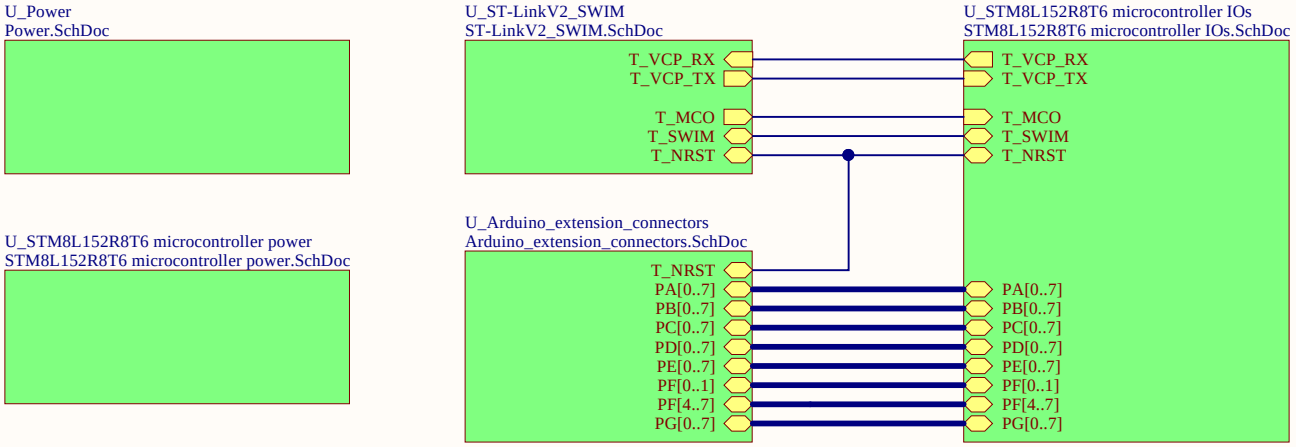
U_Top
Top.SchDoc

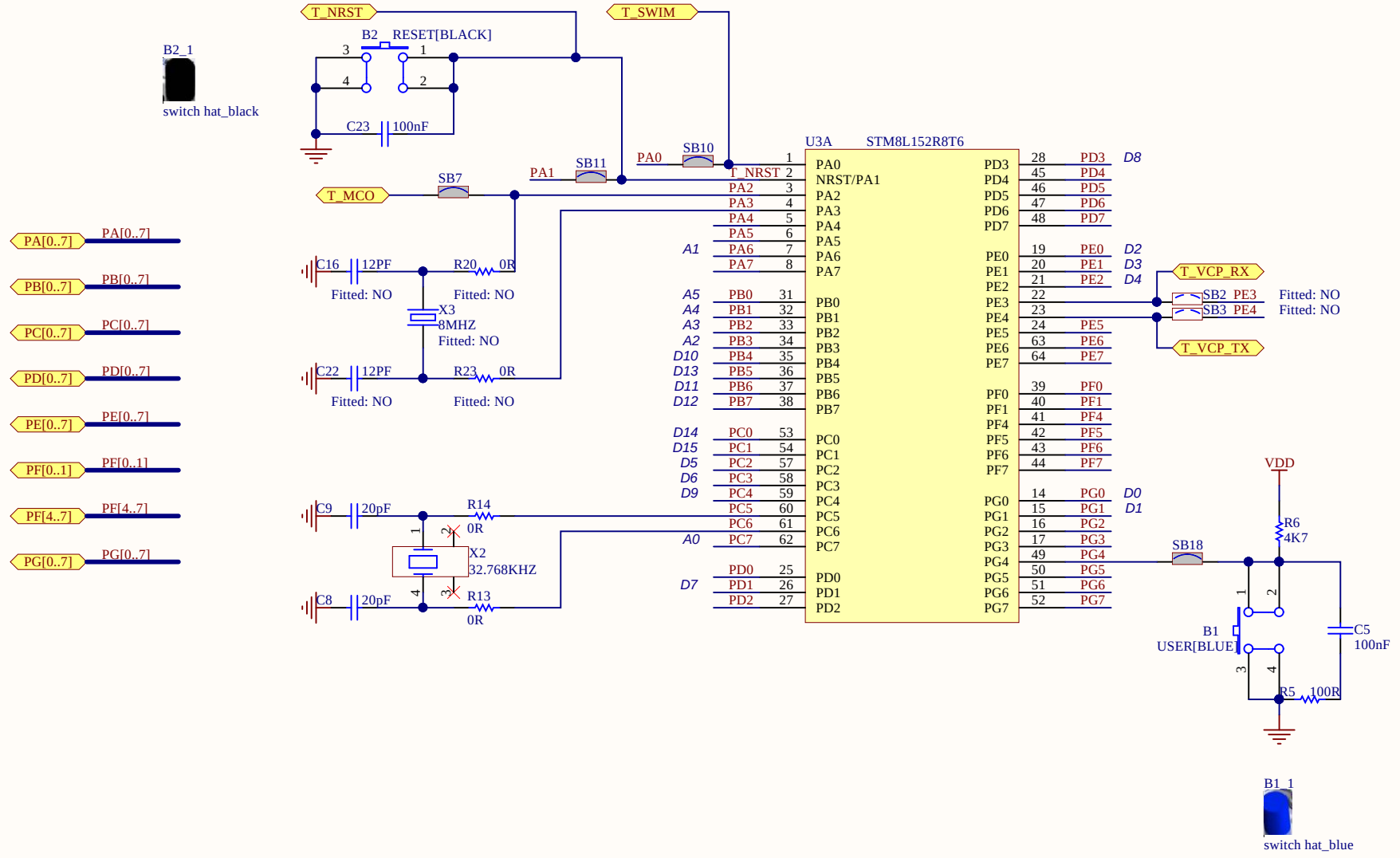
Title: **Project overview**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 1 of 7

life.augmented



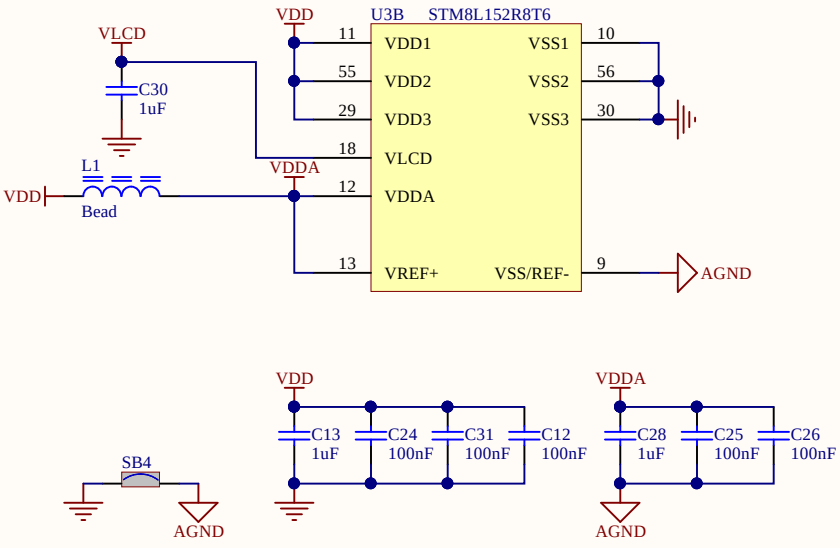
Title: **Top**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 2 of 7

life.augmented



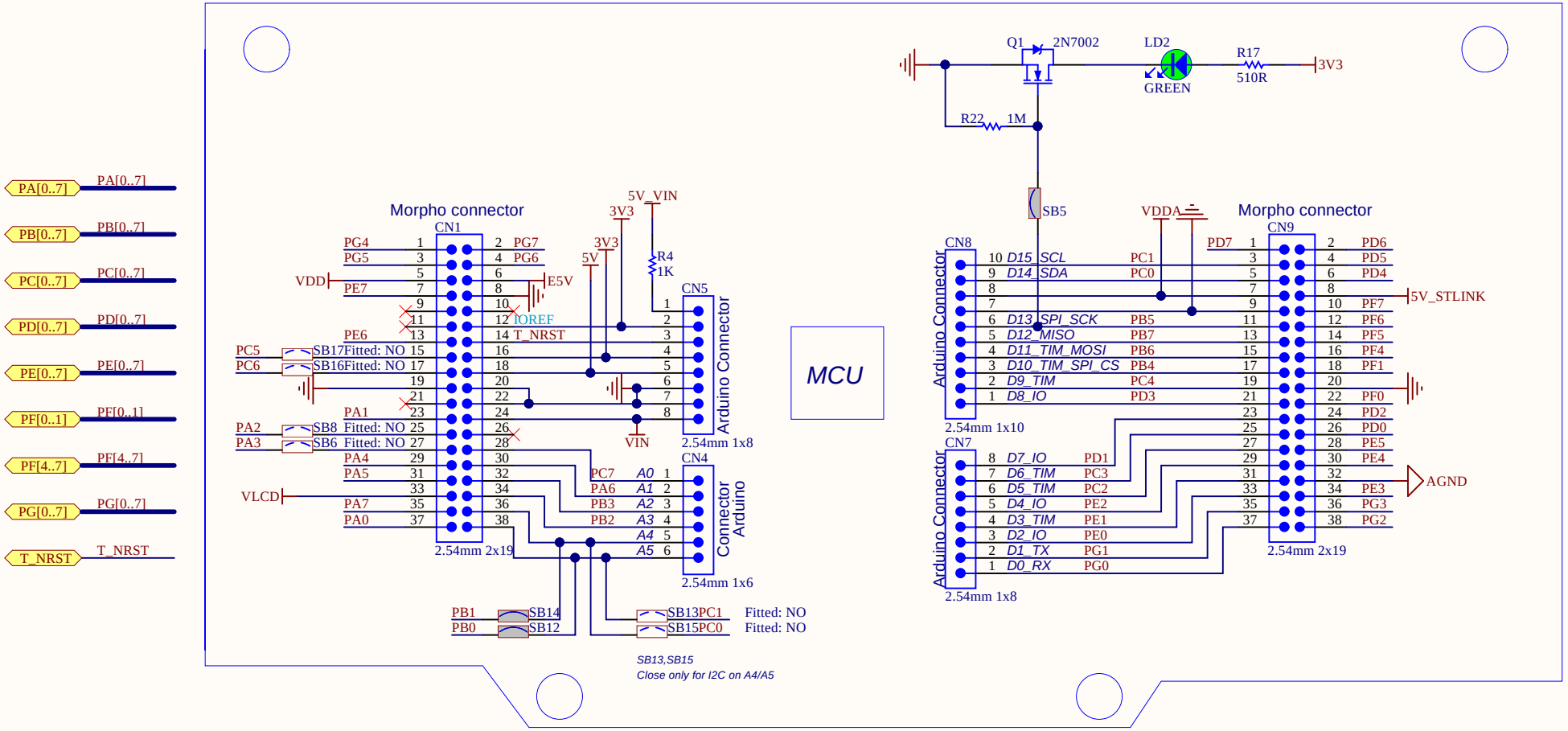
Title: **STM32 microcontroller I/Os**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 3 of 7

life.augmented



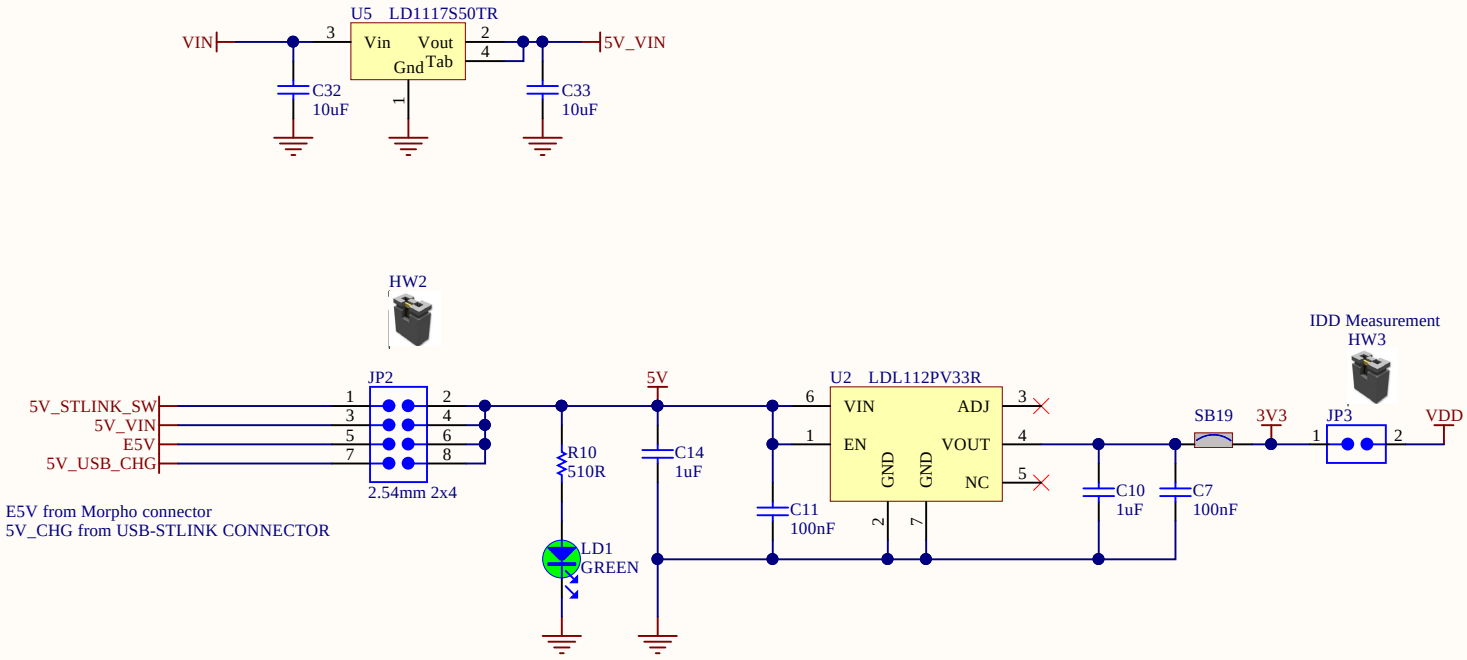
Title: **STM32 microcontroller power**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 4 of 7

life.augmented



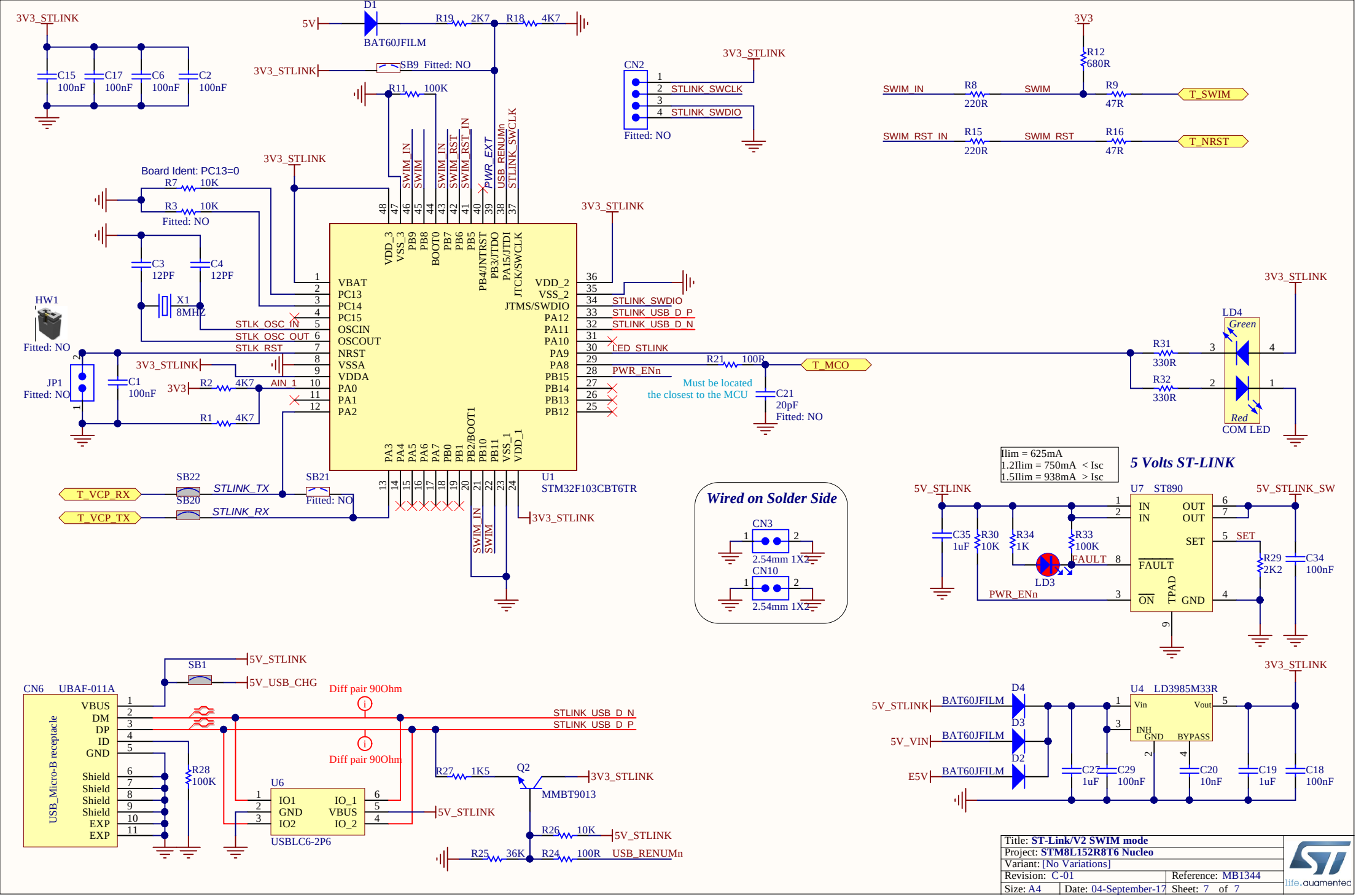
Title: **Arduino extension connectors**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 5 of 7

life.augmented



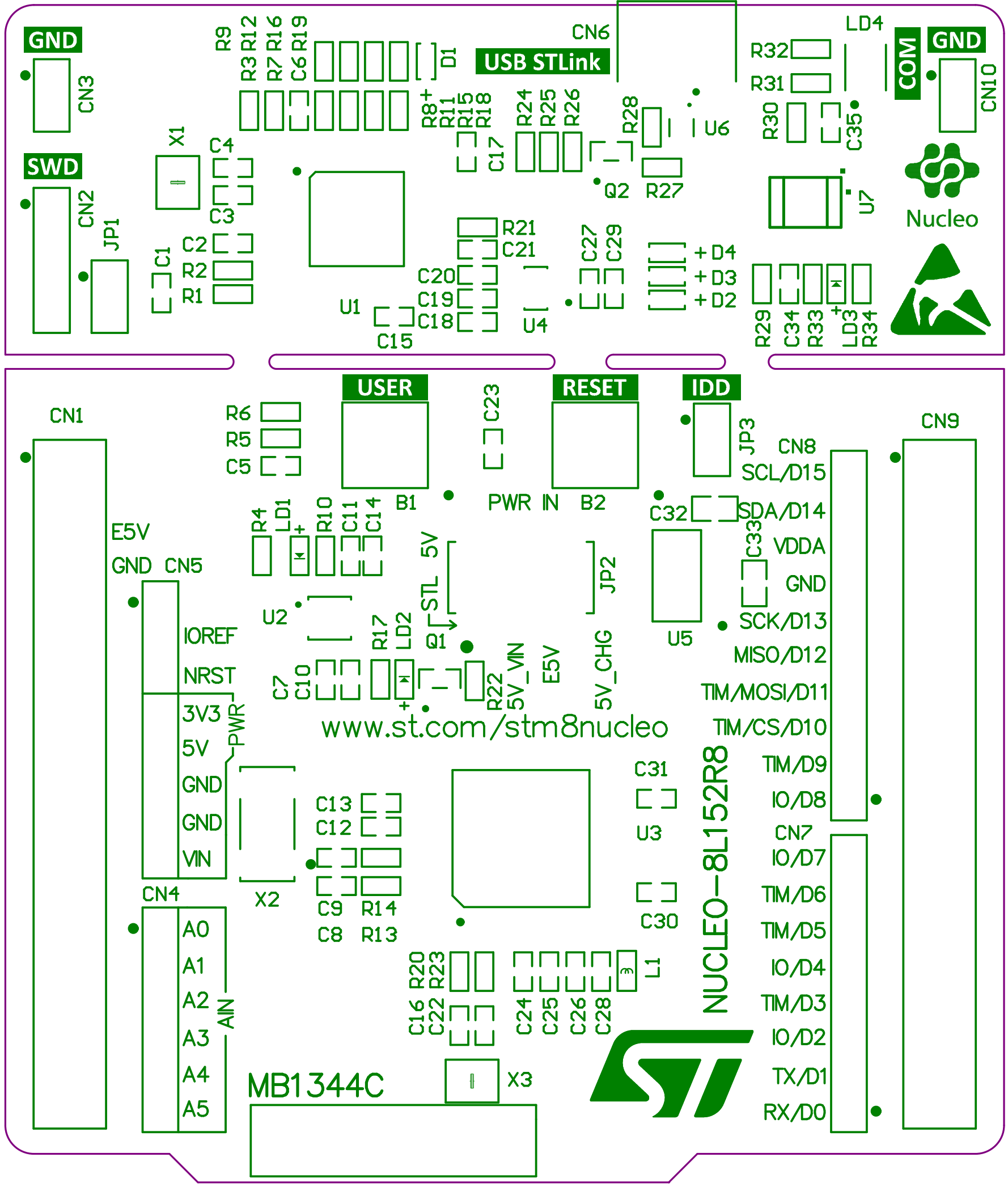
Title: **Power**		
Project: **STM8L152R8T6 Nucleo**		
Variant: [No Variations]		
Revision: C-01	Reference: MB1344	
Size: A4	Date: 04-September-17	Sheet: 6 of 7

life.augmented

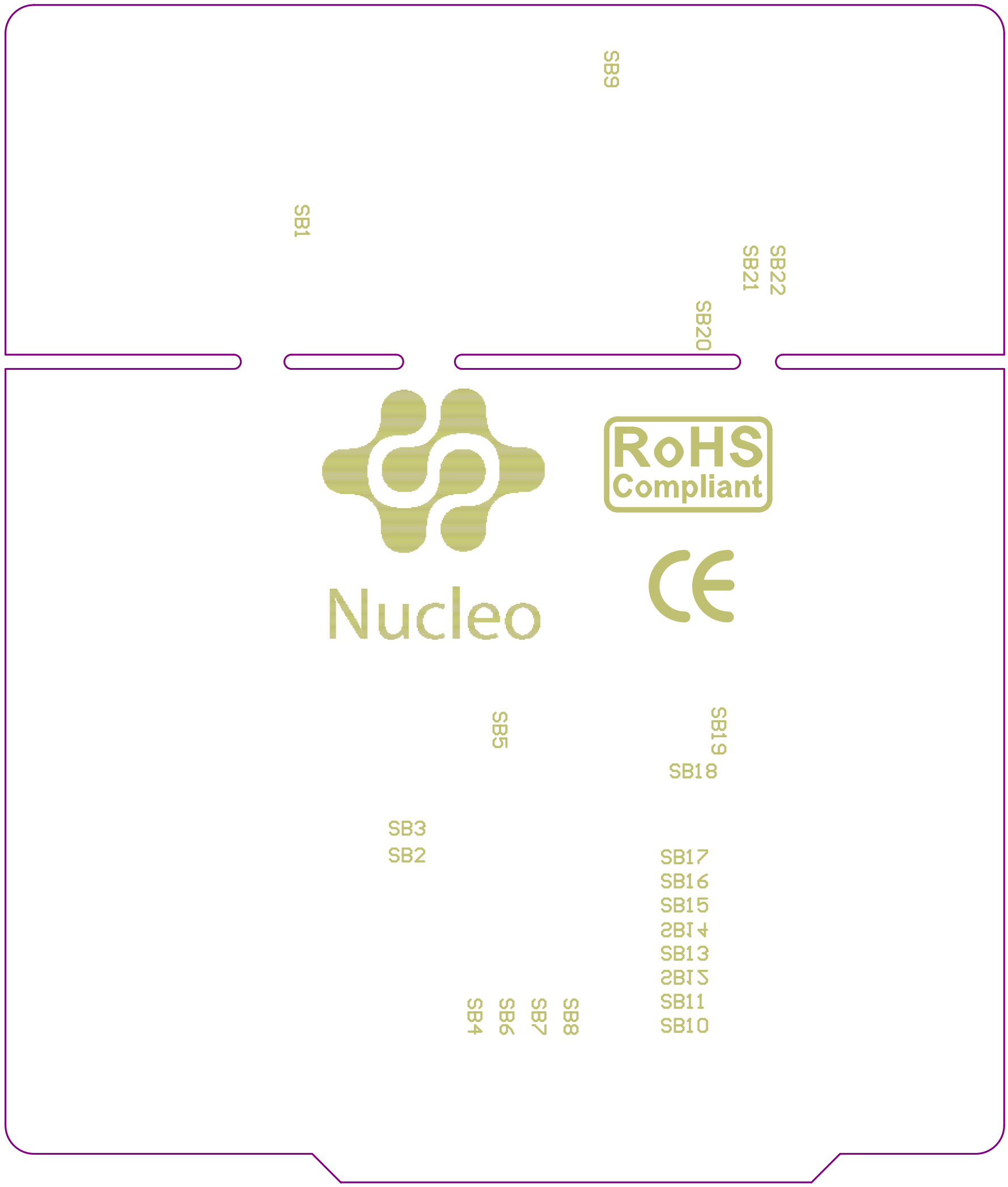


Title: **ST-Link/V2 SWIM mode**	
Project: **STM8L152R8T6 Nucleo**	
Variant: [No Variations]	
Revision: C-01	Reference: MB1344
Size: A4	Date: 04-September-17 Sheet: 7 of 7

life.augmented

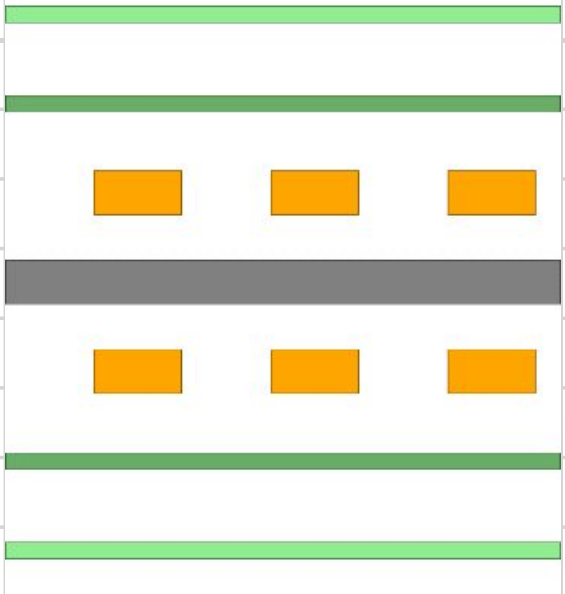


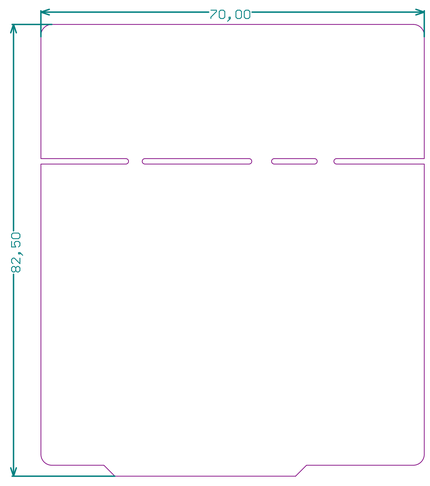
Project: STM8L152R8T6 Nucleo	
Layer: Top Overlay	Gerber: .GTO
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



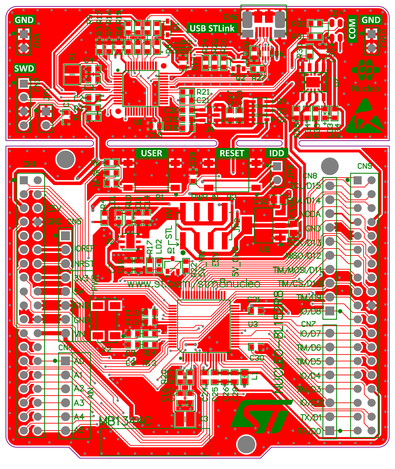
Project: STM8L152R8T6 Nucleo	
Layer: Bottom Overlay	Gerber:.GBO
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C

Board Stack Report

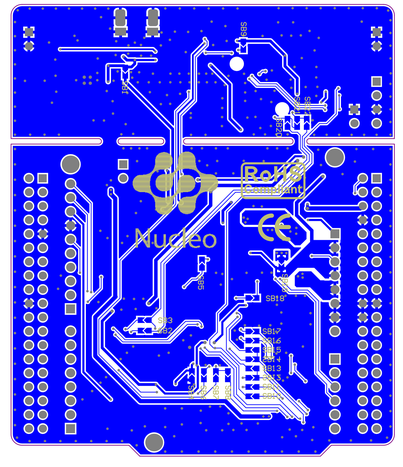
Stack Up		Layer Stack			
Layer	Board Layer Stack	Name	Material	Thickness	Constant
1		Top Paste			
2		Top Overlay			
3		Top Solder	Solder Resist	0,015mm	3,5
4		Top Layer	Copper	0,035mm	
5		Dielectric 1	FR-4	1,500mm	4,8
6		Bottom Layer	Copper	0,035mm	
7		Bottom Solder	Solder Resist	0,015mm	3,5
8		Bottom Overlay			
9		Bottom Paste			
	Height : 1,600mm				



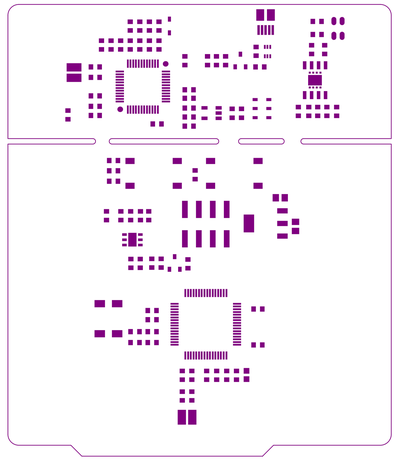
Project: STM8L152R8T6 Nucleo		
Layer: M2-Board Dimensions	Gerber: .GM2	
Variant: [No Variations]	Ref: MB1344	
Date: 04-September-17	Rev: C	



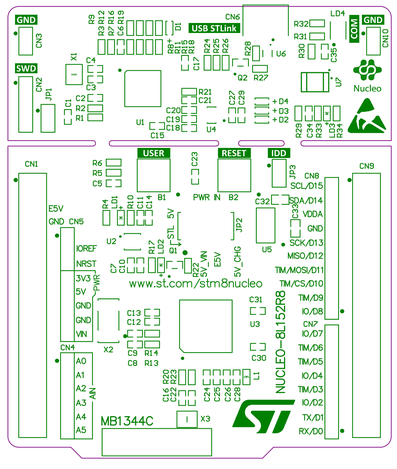
Project: STM8L152R8T6 Nucleo		
Layer: Top Overlay	Gerber: .GTD	
Variant: [No Variations]	Ref: MB1344	
Date: 04-September-17	Rev: C	



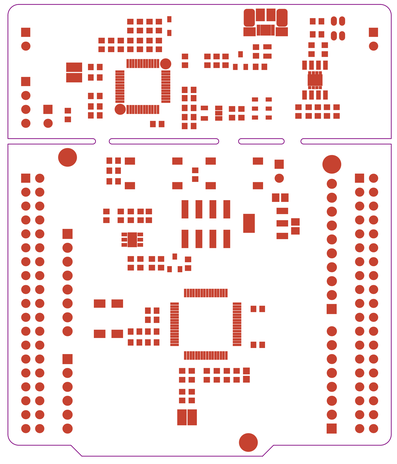
Project: STM8L152R8T6 Nucleo	
Layer: Bottom Layer	Gerber: .GBL
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



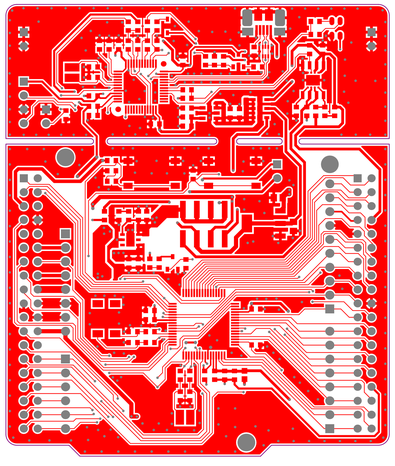
Project: STM8L152R8T6 Nucleo	
Layer: Top Paste	Gerber: .GTP
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



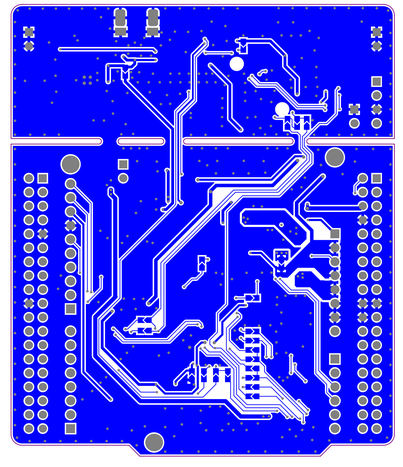
Project: STM8L152R8T6 Nucleo		
Layer: Top Overlay	Gerber: .GTO	
Variant: [No Variations]	Ref: MB1344	
Date: 04-September-17	Rev: C	



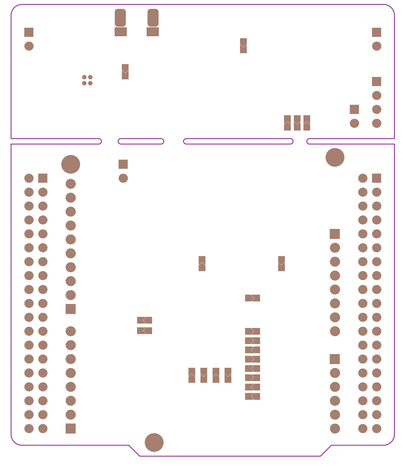
Project: STM8L152R8T6 Nucleo	
Layer: Top Solder	Gerber: .GTS
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



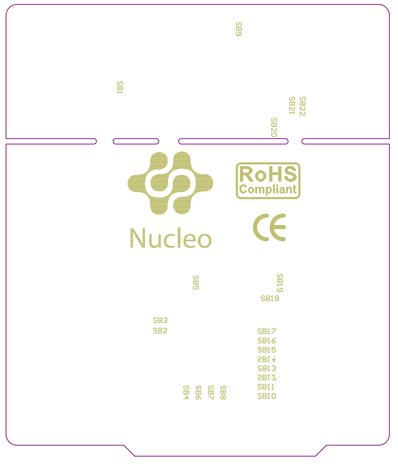
Project: STM8L152R8T6 Nucleo	
Layer: Top Layer	Gerber: .GTL
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



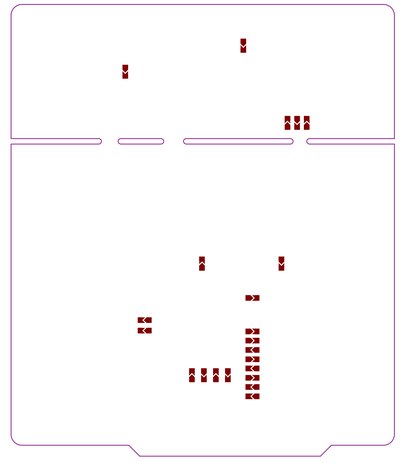
Project: STM8L152R8T6 Nucleo	
Layer: Bottom Layer	Gerber:.GBL
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



Project: STM8L152R8T6 Nucleo	
Layer: Bottom Solder	Gerber:.GBS
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



Project: STM8L152R8T6 Nucleo	
Layer: Bottom Overlay	Gerber: .GBO
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C



Project: STM8L152R8T6 Nucleo	
Layer: Bottom Paste	Gerber:.GBP
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C

LAYERS LAMINATION & IMPENDANCE CONTROL

LAYERS STACKUP	LAYER	MATERIAL	THICKNESS	LAYER TYPE	IMPEDANCE		
					SINGLE 50ohm+/-10%	DIFFERENCE 90ohm-/+10%	DIFFERENCE 100ohm-/+10%
					Line width(mil)	Line width/Space(mil)	Line width/Space(mil)
TOP	TOP	COPPER	1 OZ	ROUTING	5mil	mil	mil
PREPREG	PREPREG	FR4	4.3mil				
BOTTOM	BOTTOM	COPPER	1 OZ	PLANE	5mil		

THE TOTAL THICKNESS: 1.6MM+/-10%

REVISIONS

REV	ACTION	DATE	AUTH
A	First release	2017/05/25	Amy Kuang
C	second release	2017/09/05	Amy Kuang

NOTE

1. ACCEPTABILITY:
   PRINTED WIRING BOARD SHALL MEET THE REQUIREMENTS OF IPC- 6012C CLASS 2.

2. MATERIAL:
   GLASS EPOXY FR-4 FIRE RETARDANT AND UL 94V-0 RATING MATERIAL SHOULD MEET IPC-4101C

3. FABRICATION REQUIREMENTS:
   A). FAB TO MEET THE REQUIREMENTS PER IPC-A-600, CLASS 2
   B). ALL ARTWORK OR ELECTRONIC DATA MAY BE ADJUSTED BY THE BOARD MANUFACTURER TO COMPENSATE FOR MANUFACTURING PROCESS TOLERANCES, ADDITION OF FILLETS TEARDROPS AT LINE / PAD INTERFACE IS PREFERRED. THIEVING IS ALLOWED TO COMPENSATE FOR HIGH COPPER DENSITY AREAS
   C). FABRICATE ACCORDING TO THE FILES PART NO:
   1001001000655_STM8L_GERBER_RevC FILE FOR MANUFACTURING
   D). SOLDER MASK COLOR WHITE,SILKSCREEN COLOR BLUE INK PANTONE 2955
   E). FINISH ENIG

4. FABRICATION TOLERANCE:
   A). WIRE WIDTH TOLERANCE INTERNAL CONTROL STANDARD +/-20%
   B). PTH DIAMETER TOLERANCE +/-0.076mm,NPTH DIAMETER TOLERANCE +/-0.05mm
   C). ALL OUTER LAYER PADS REQUIRE +/-0.05mm TOLERANCE.
   D). LAYER REGISTRATION BETWEEN ADJACENT LAYER MAXIMUN 150um, THE INTERLAYER DIELECTRIC THICKNESS TOLERANCE +/-15%
   E). THICKNESS IS LESS THAN 1mm PCB TO A TOLERANCE OF +/-0.1mm,THICKNESS IS GREATER THAN OR EQUAL TO 1mm PCB TO A TOLERANCE OF +/-10%

5. SOLDER MASK:
   A). MATERIALS IN ACCORDANCE WITH IPC-SM-840E CLASS T STANDARDS AND ROHS REQUIREMENTS
   B). SOLDER MASK BOTH PRIMARY AND SECONDARY SIDES, THE ADHESION OF SOLDER MASK MEET THE REQUIREMENTS OF IPC-A-600F LEVEL 2
   C). SOLDER MASK COVERAGE ON THE MIDDLE OF THE COPPER WIRE MINIMUM 10um,EDGE COVERAGE OF THE COPPER WIRE MINIMUM 4um, SOLDER MASK MISREGISTRATION MAXIM 2.5mil
   D). ALL HOLES WITH SOLDER MASK COVERED IN THE GERBER SHOULD BE PULGED
   E). SOLDER MASK BRIDGE BETWEEN PADS SHOULD BE MINIMUM 0.10mm

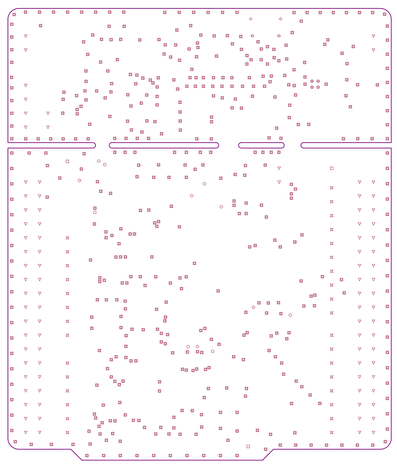
6. FINISH:
   A). ENIG, GOLD THICKNESS IS 0.05 um ~0.23um,NICKEL THICKNESS IS 3 um ~6 um.
   B). OSP, THE OSP COATING THICKNESS IS 0.2 um ~0.5um.
   C). LF HASL, Sn THICKNESS IS 1 um ~40um .

7. SILKSCREEN:
   A). PRIMARY AND SECONDARY SIDES USING A GLOSSY , NON-CONDUCTIVE, RoHS COMPLIANT, EPOXY BASED INK
   B). NO SILKSCREEN ALLOWED ON PADS OR IN HOLES
   C). MANUFACTUREERS CAN ADD SYMBOL IN SILKSCREEN LAYER OR SOLDER MASK LAYER, ALLOW TO INCREASE SYMBOL :ASSEMBLY REF , DATE CODE, LEAD-FREE SYMBOL, UL FILE NUMBER,UL TYPE, UL SYMBOL AND FIRE RATING,NO LIST DOES NOT ALLOW TO INCREASE.

8. BOW AND TWIST:
   MAX BOW & TWIST OF PCB SHALL NOT EXCEED 0.75% OF MAXIMUN DIMENSION, MEASUREMENT METHOD IN 2.4.22 OF IPC-TM-650 IS FOR REFERENCE

9. MEASUREMENTS:
   INTERPRET ALL DIMENSIONS AND TOLERANCES PER IPC-D-300G, CLASS B AND ALL DIMENSIONS ARE METRIC, DIMENSIONS ARE AFTER ETCHING AND PLATING.

10. ENVIRONMENTAL:
    THE PCB SUPPLIER SHALL PROVIDE A SIGNED CERTIFICATE OF COMPLIANCE BY AUTHORIZED QA REPRESENTATIVE. THE BASE MATERIAL OF PCB SHALL NOT CONTAIN THE BANNED SUBSTANCES LISTED IN THE CERTIFICATE OF COMPLIANCE.



Symbol	Count	Hole Size	Plated	Hole Type	Hole Length
◎	4	7,87mil (0,200mm)	PTH	Round	-
▣	474	10,00mil (0,254mm)	PTH	Round	-
○	12	12,00mil (0,305mm)	PTH	Round	-
☼	2	23,62mil (0,600mm)	PTH	Slot	41,34mil (1,050mm)
◇	2	23,62mil (0,600mm)	PTH	Slot	47,24mil (1,200mm)
▽	88	37,40mil (0,950mm)	PTH	Round	-
⌘	32	40,16mil (1,020mm)	PTH	Round	-
□	3	125,98mil (3,200mm)	NPTH	Round	-
	617 Total				

Slot definitions : **Routed Path Length** = Calculated from tool start centre position to tool end centre position.
Hole Length = Routed Path Length + Tool Size = Slot length as defined in the PCB layout

Project: STM8L152R8T6 Nucleo	
Layer: Drill Drawing	Gerber: .DRL
Variant: [No Variations]	Ref: MB1344
Date: 04-September-17	Rev: C

Embest Technology co.,Ltd.

TITLE: STM8L	
PART NUMBER: 1001001000655	ELEC ENGR: Andy Meng
ADD: www.embest-tech.com	REV: C
	DATE: 2017/09/05