

HiveBoard

PMC

SwarmUS

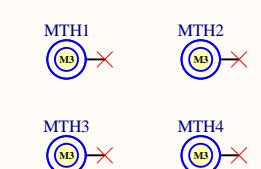
Revision 1.000

Date: 2020-06-01

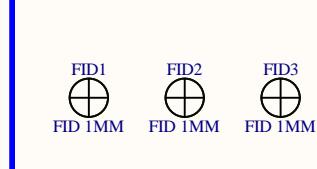
TOP
HIVE_BOARD_TOP.SchDoc

Block diagram
HIVE_BOARD_BLOCK_DIAG.SchDoc

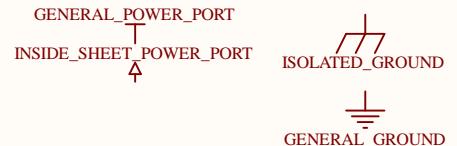
Mounting holes



Fiducials



Revision history	



Package size conversion	
Metric	Imperial
1005	0402
1608	0603
2012	0805
3216	1206
3225	1210
6432	2512

Usage notes

Routing notes

Power notes

Questions / TODO

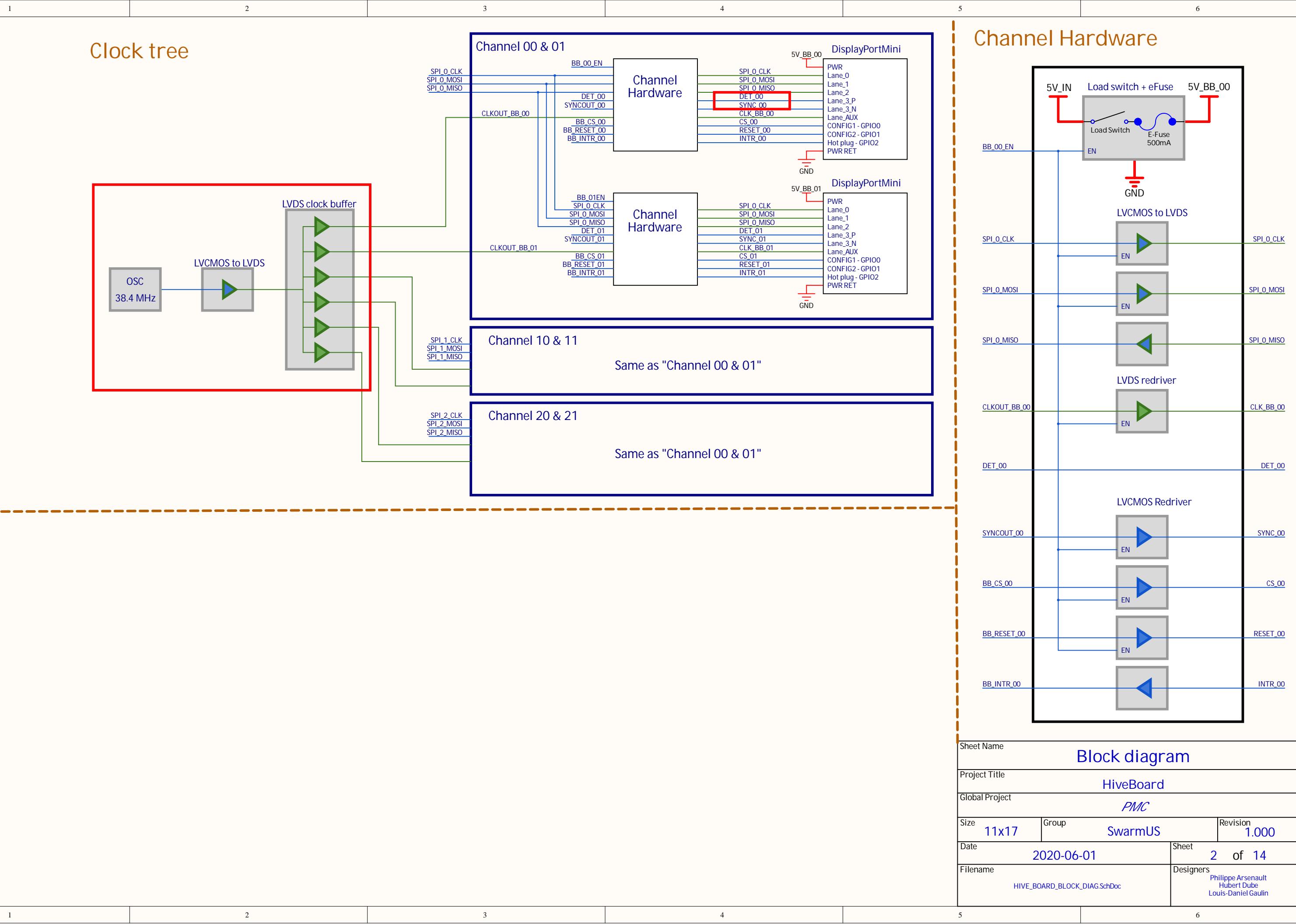
Section name

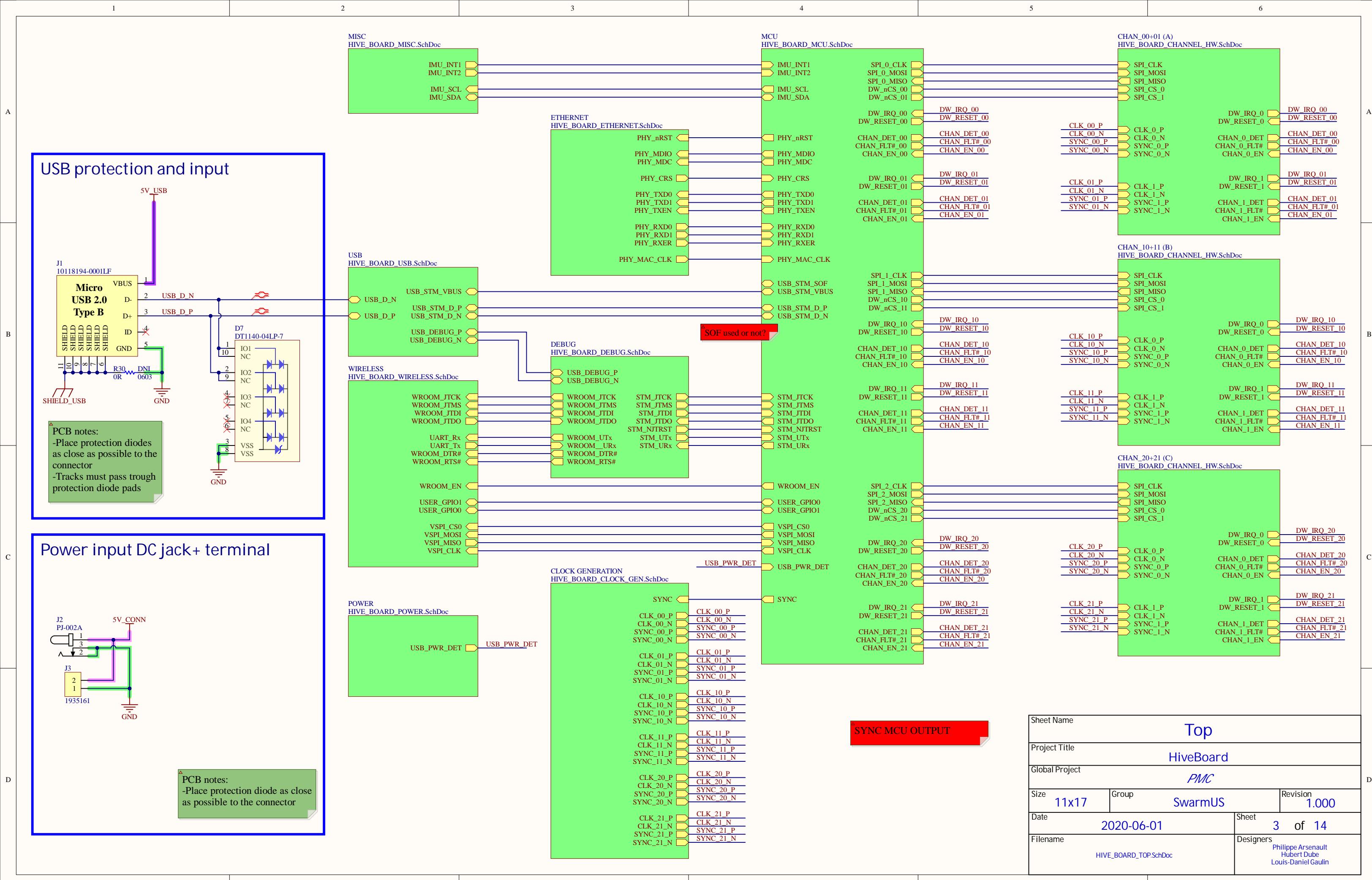
R15
1%
0402

C26
1%
0402

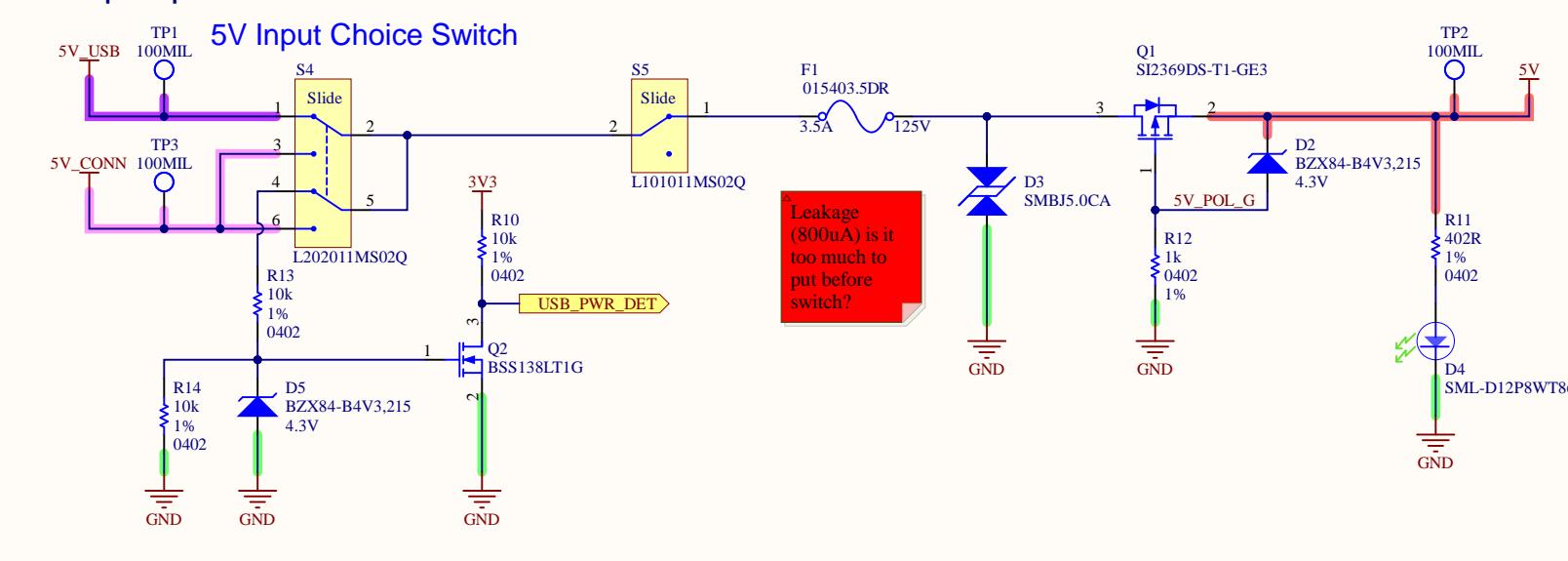
power

Project Title	HiveBoard		
Global Project	PMC		
Size	11x17	Group	SwarmUS
Date	2020-06-01	Sheet	1 of 14
Filename	HIVE_BOARD_TITLE.SchDoc		
Designers	Philippe Arsenault Hubert Dube Louis-Daniel Gaulin		

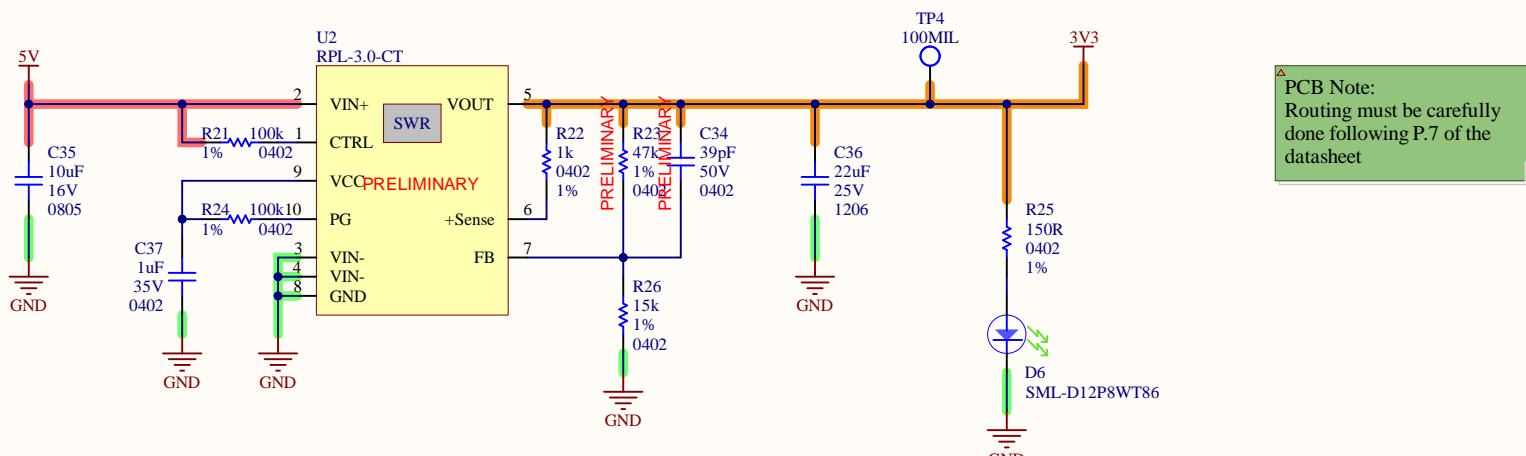




5V input protection + choice

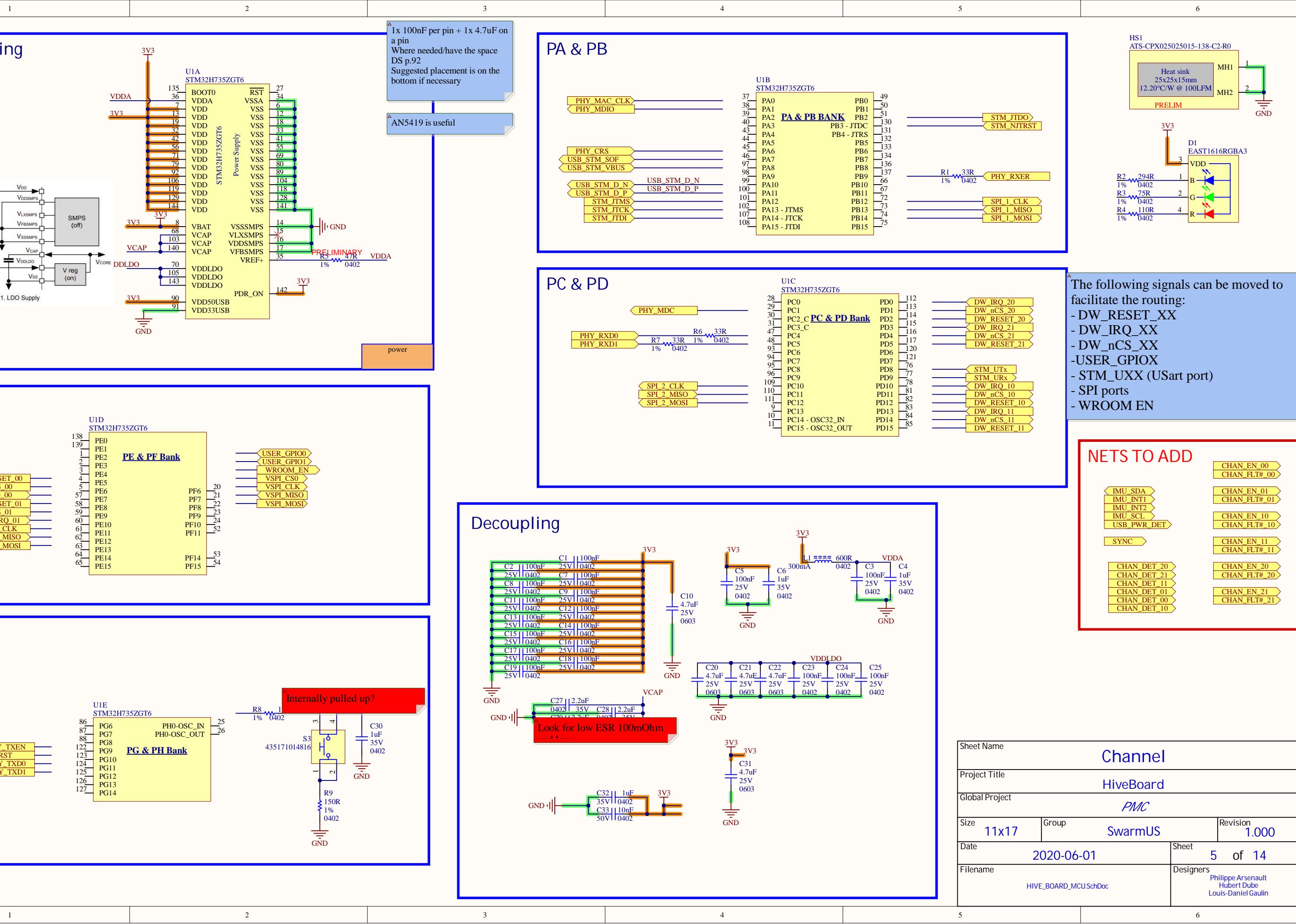


3V3 generation

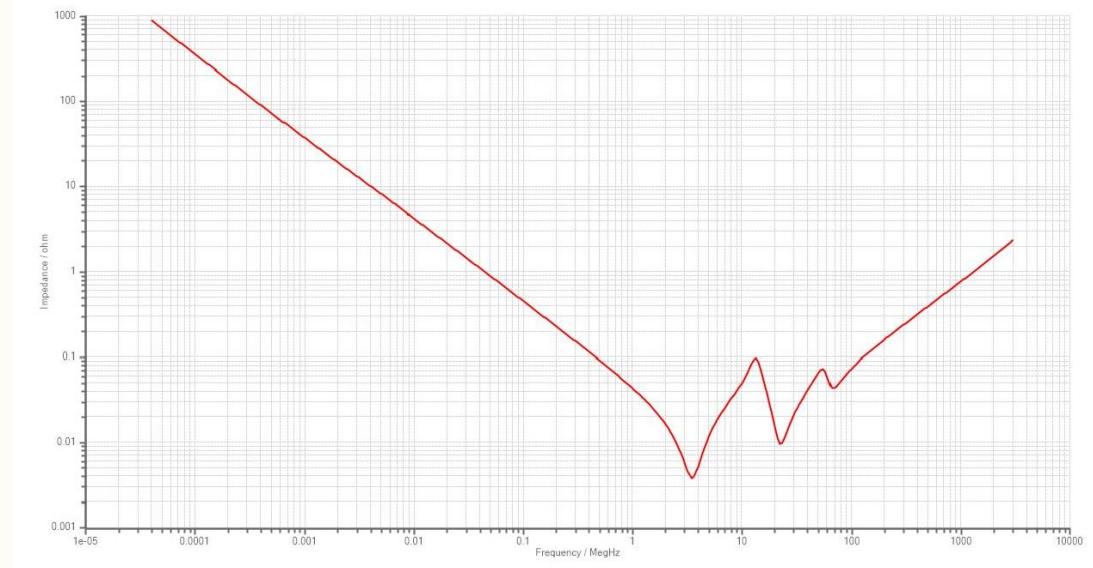
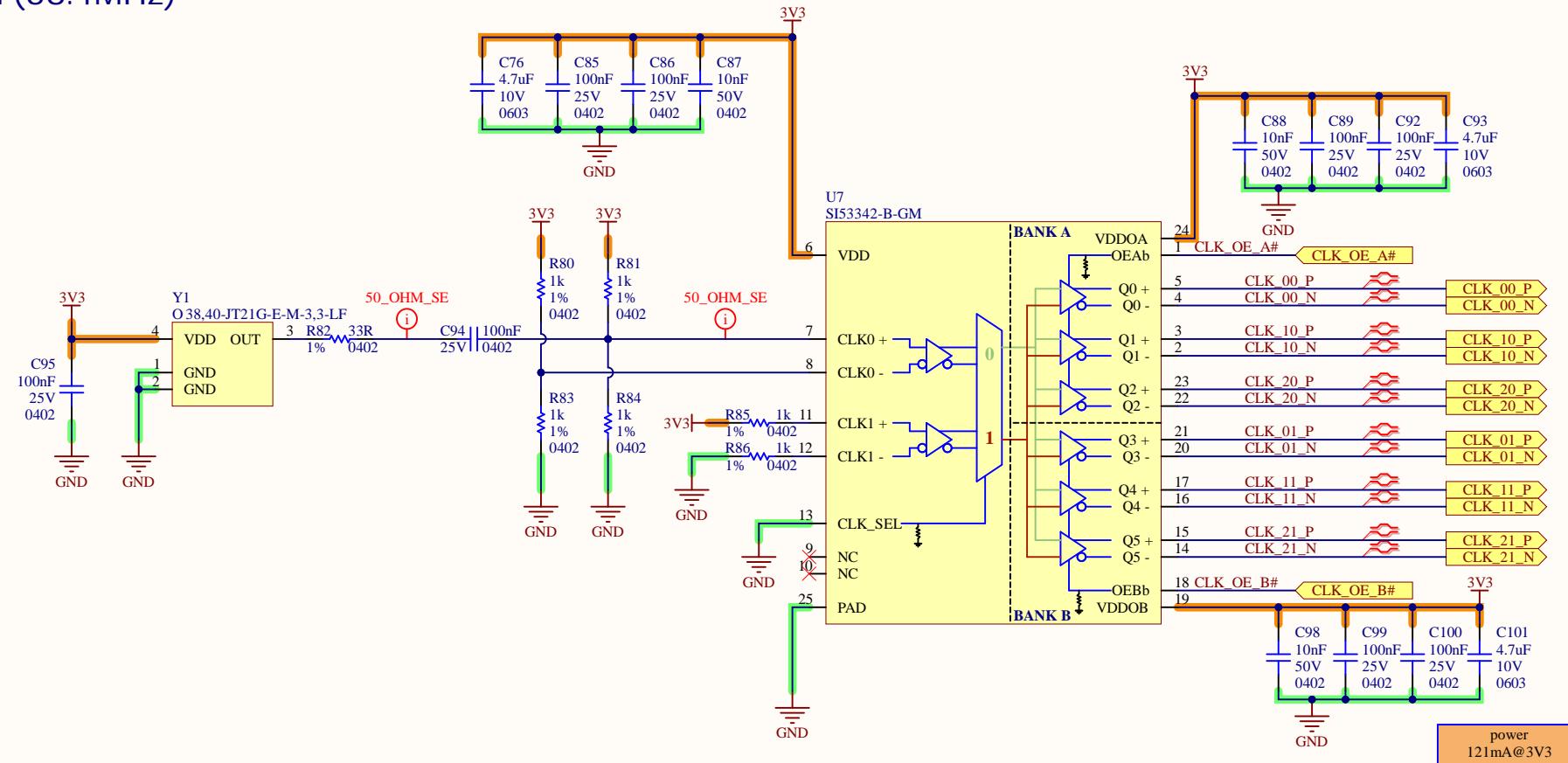


Power table			
Sheet	Current @ 5V	Current @ 3V3	Current @ 1V8
MCU	-	620 mA	-
CLOCK_GEN	-	242 mA	-
CHANNEL_HW	1521 mA	639 mA	-
USB	-	93 mA	-
ETHERNET	-	167 mA	-
DEBUG	-	153 mA	-
WIRELESS	-	394 mA	-
MISC	-	1 mA	-
Total	1521 mA	2309 mA	-

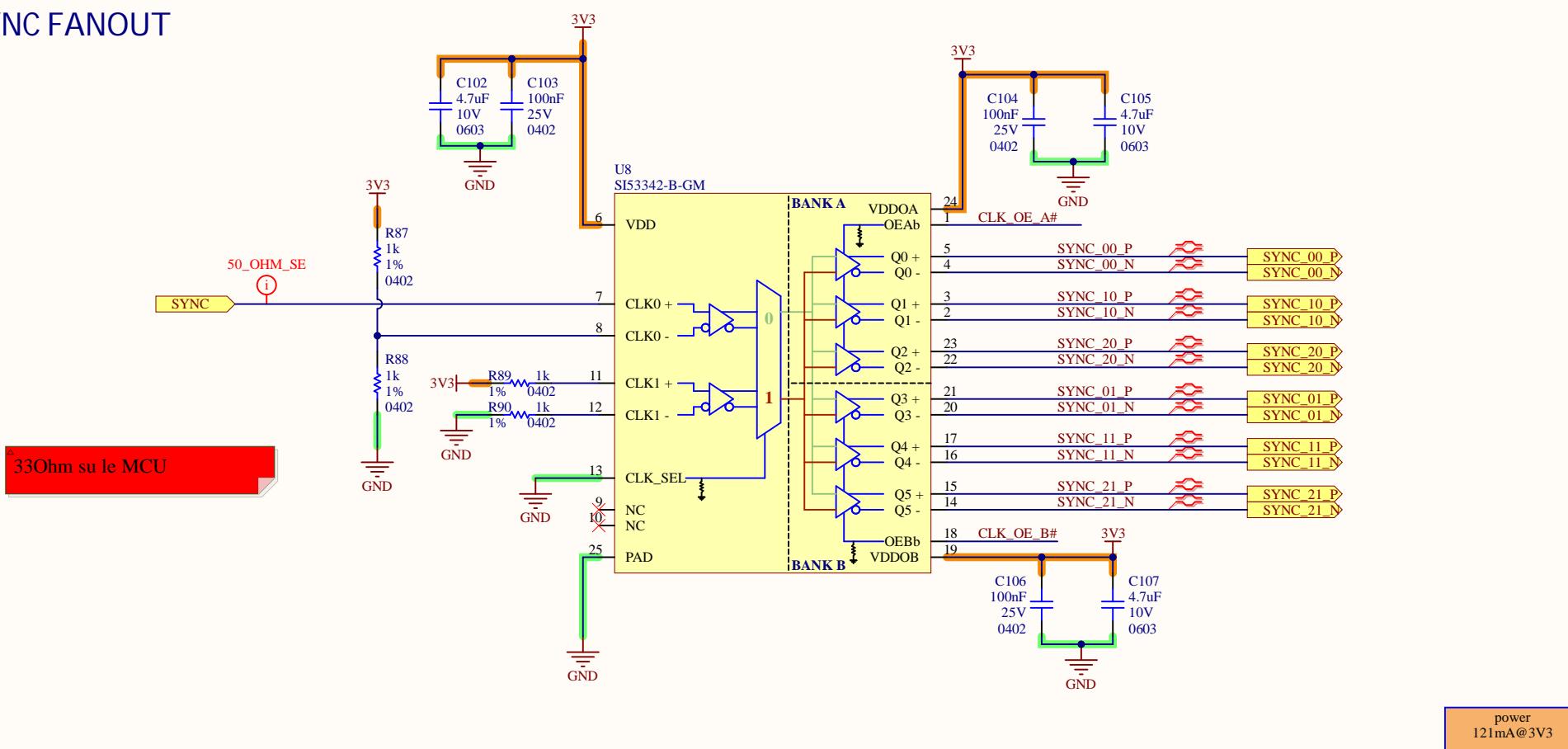
Sheet Name		POWER	
Project Title		HiveBoard	
Global Project		PMC	
Size	Group	Revision	1.000
11x17		SwarmUS	
Date	2020-06-01	Sheet	4 of 14
Filename			Designers
HIVE_BOARD_POWER.SchDoc			Philippe Arsenault Hubert Dubé Louis-Daniel Gaulin



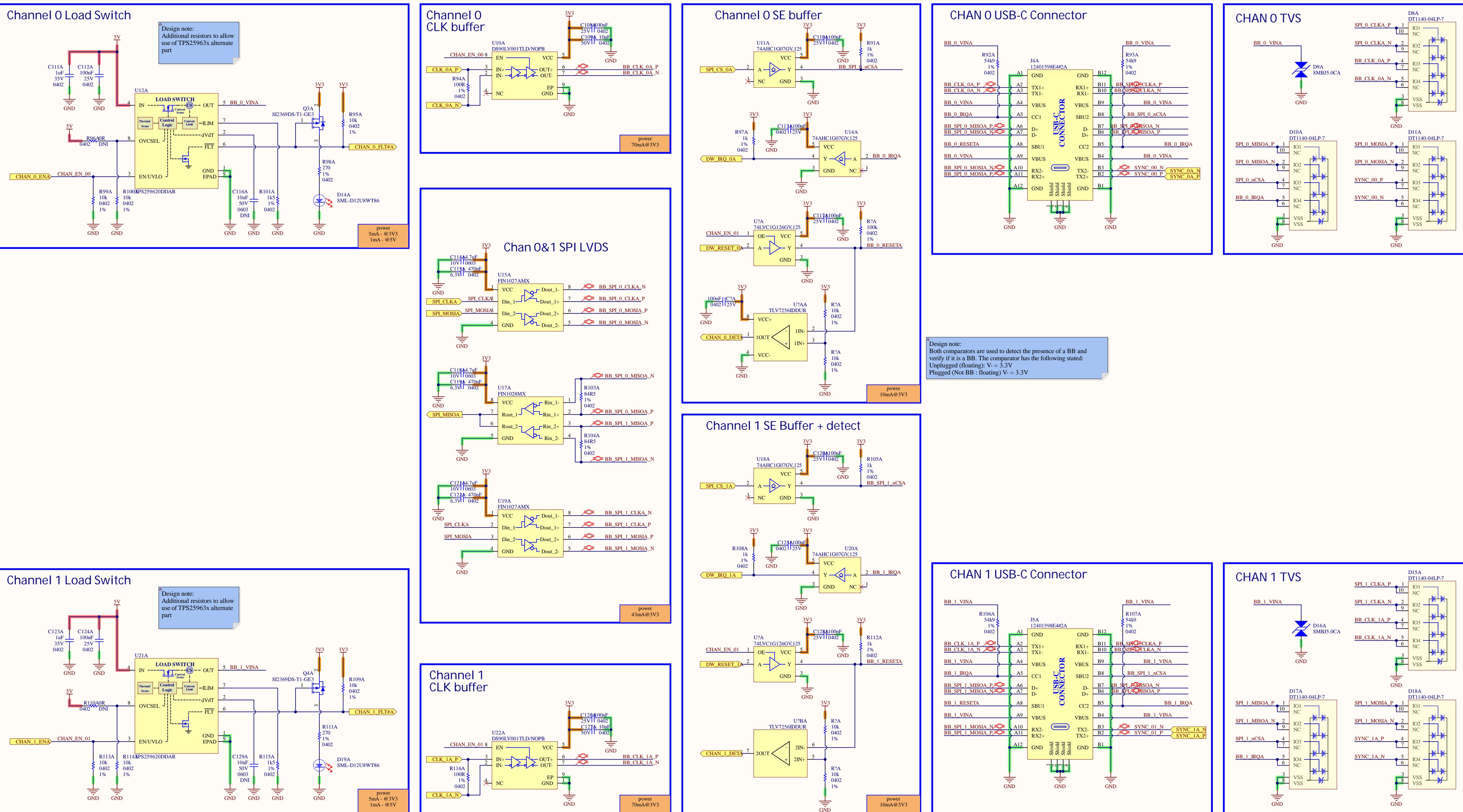
CLK GEN (38.4MHz)

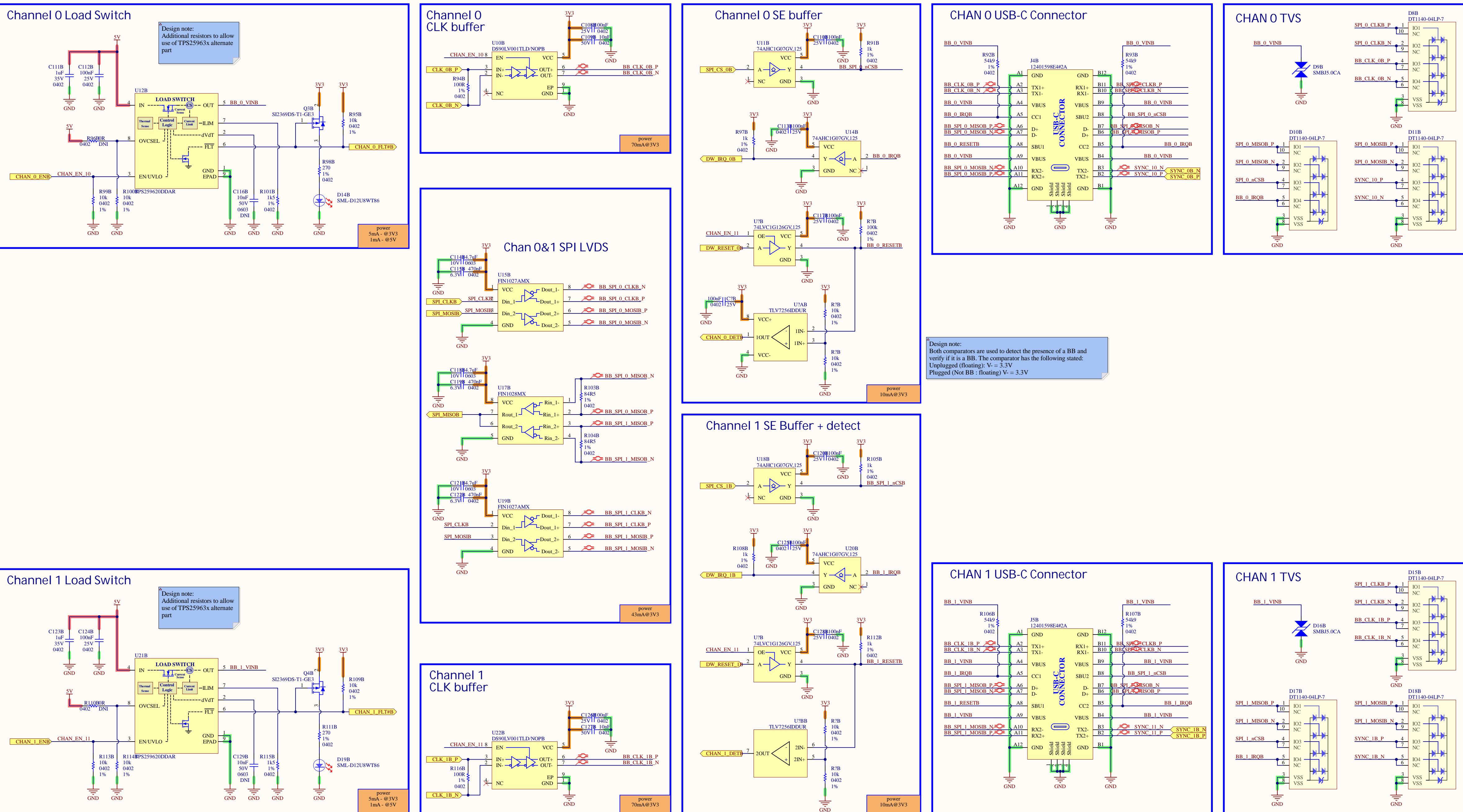


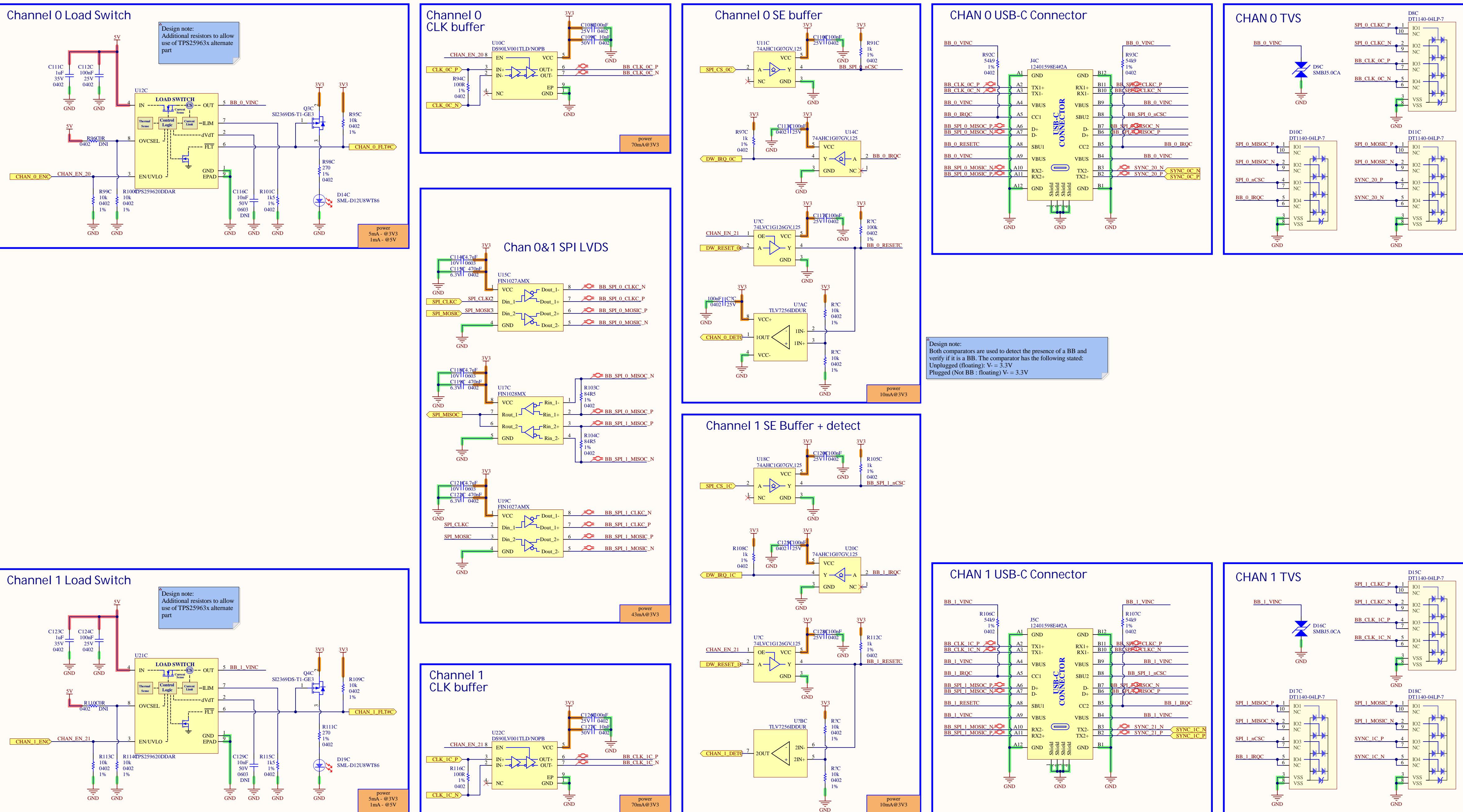
SYNC FANOUT

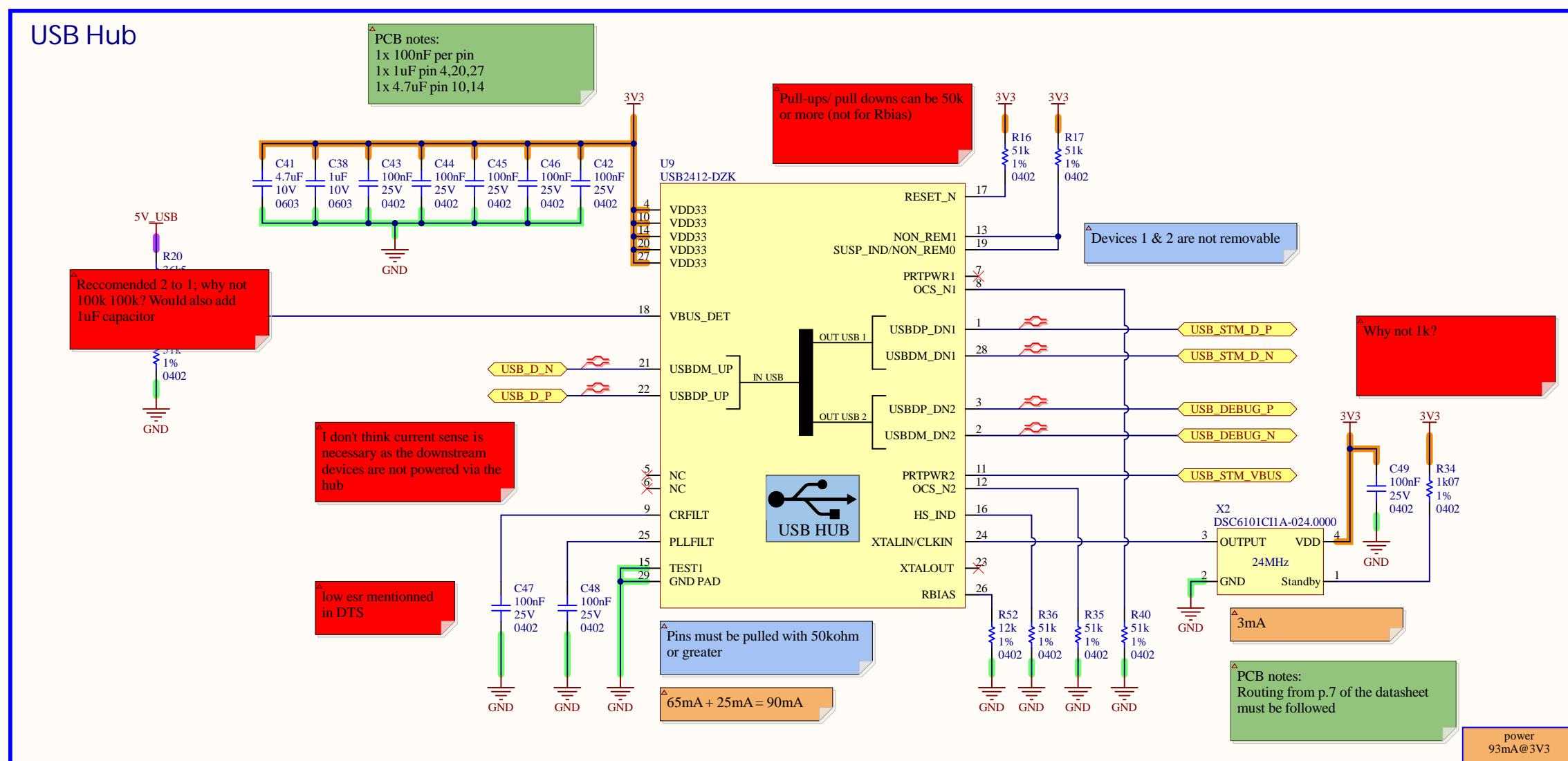


Sheet Name	CLOCK GEN & FANOUT		
Project Title	HiveBoard		
Global Project	PMC		
Size	11x17	Group	Revision
Date	2020-06-01	Sheet	6 of 14
Filename	HIVE_BOARD_CLOCK_GEN.SchDoc		Designers
	Philippe Arsenault Hubert Dubé Louis-Daniel Gaulin		



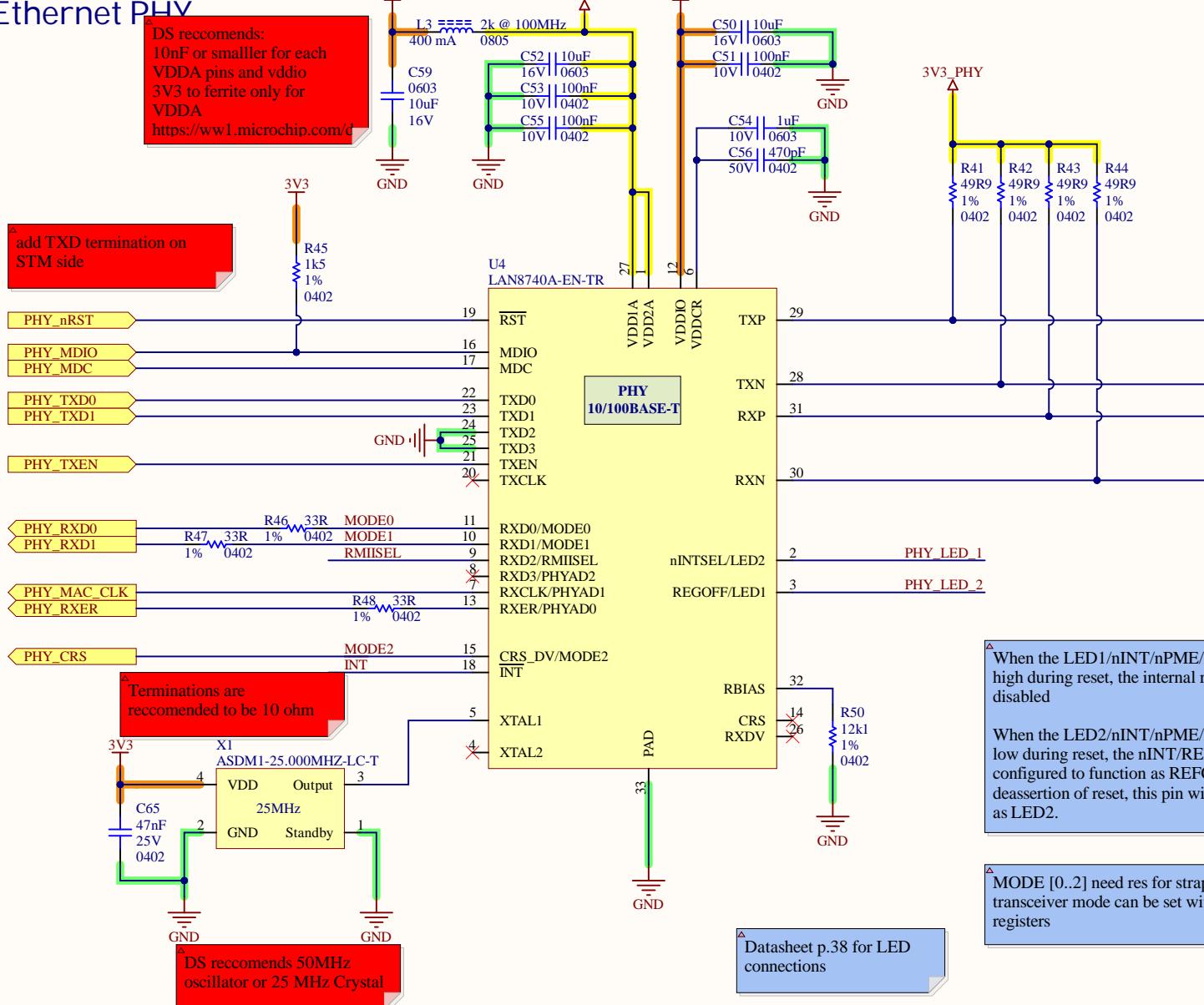




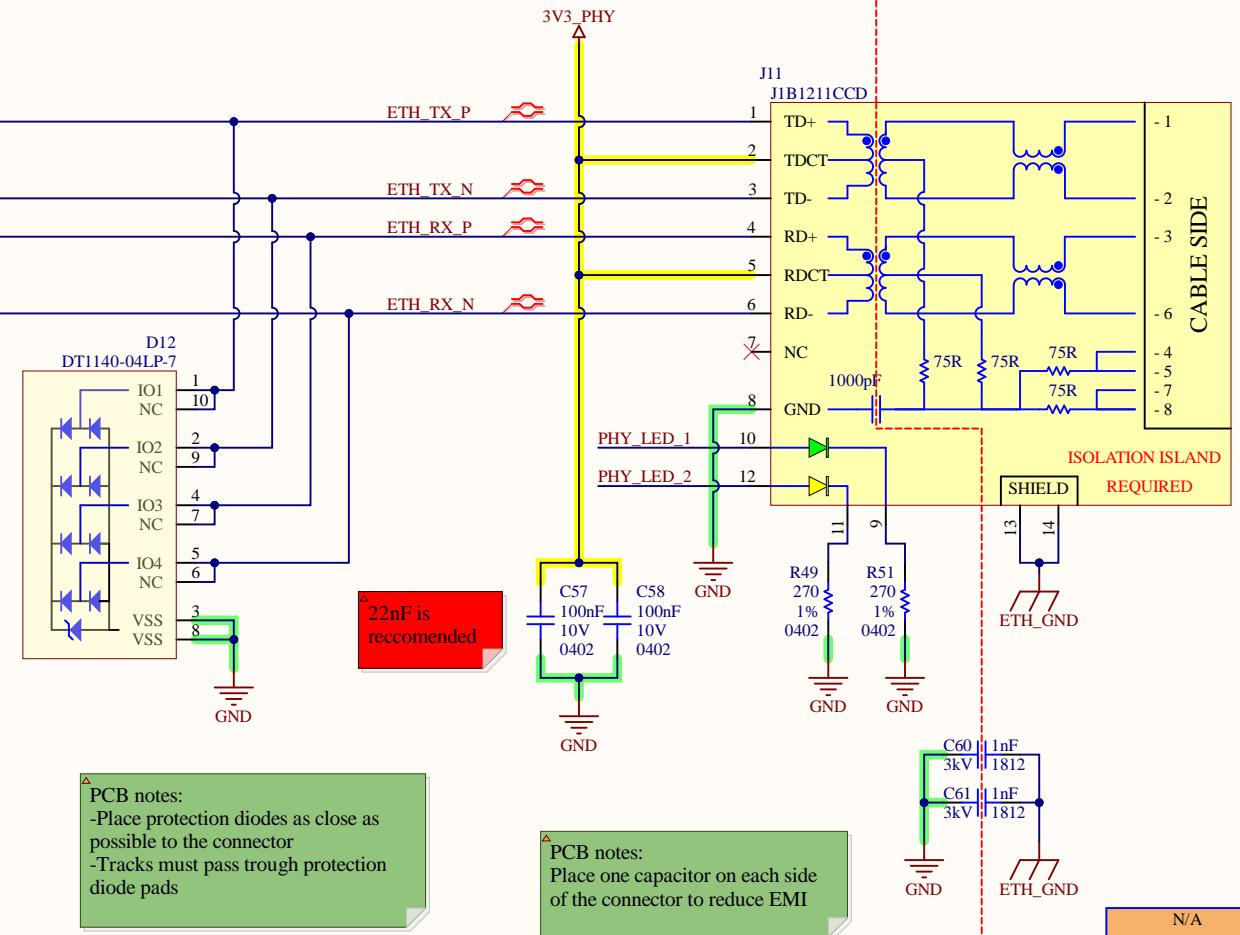


Sheet Name		USB Hub	
Project Title		HiveBoard	
Global Project		PMC	
Size	Group	SwarmUS	Revision
11x17			1.000
Date	2020-06-01	Sheet	8 of 14
Filename	HIVE_BOARD_USB.SchDoc		Designers
	Philippe Arsenault Hubert Dubé Louis-Daniel Gaulin		

Ethernet PHY

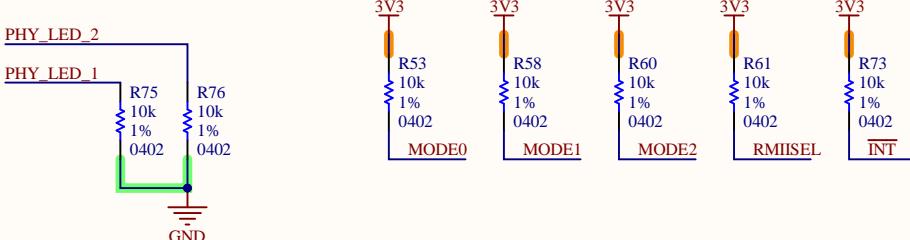


RJ45 magnetics + protections



RMII CLOCK
frequency is 50MHz.
13ieme harmonique is 650MHz.
Wavelength is 46cm
IF MAC CLK is less than 11cm : not considered a transmission line

Straps



Sheet Name

ETHERNET

HiveBoard

PMC

Project Title

Global Project

Size

11x17

Group

SwarmUS

Revision

1.000

Date

2020-06-01

Sheet

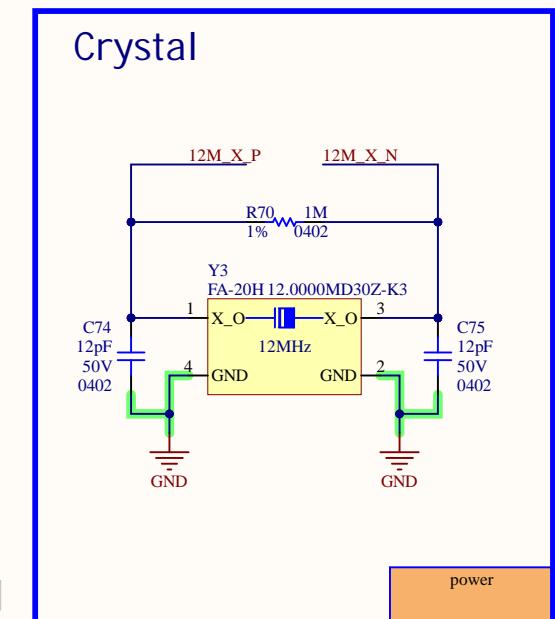
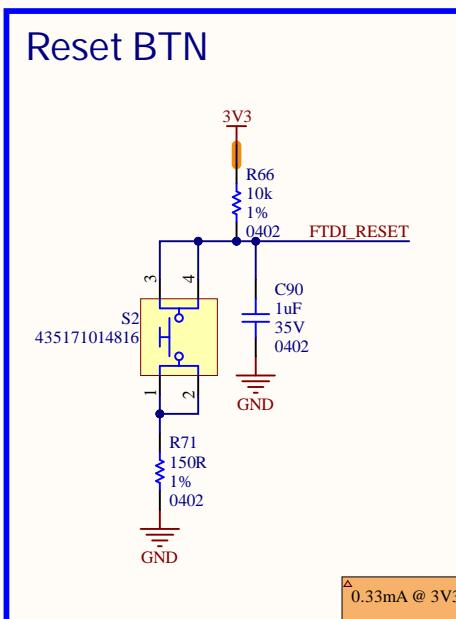
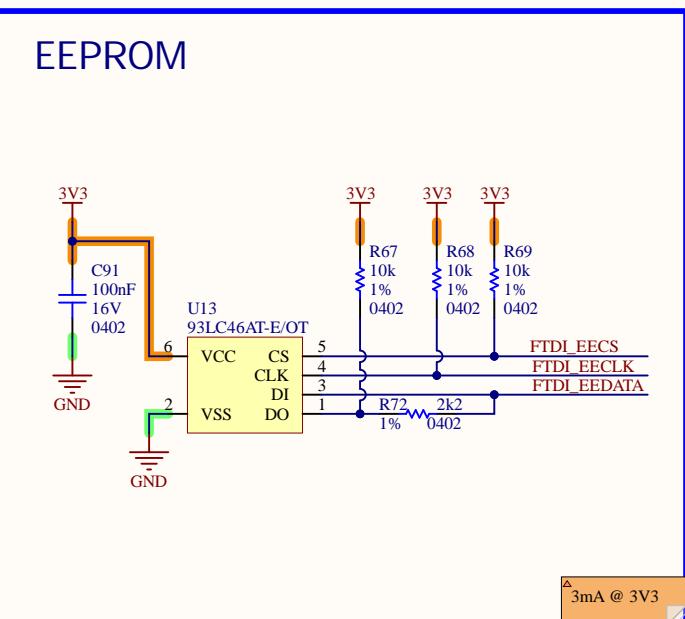
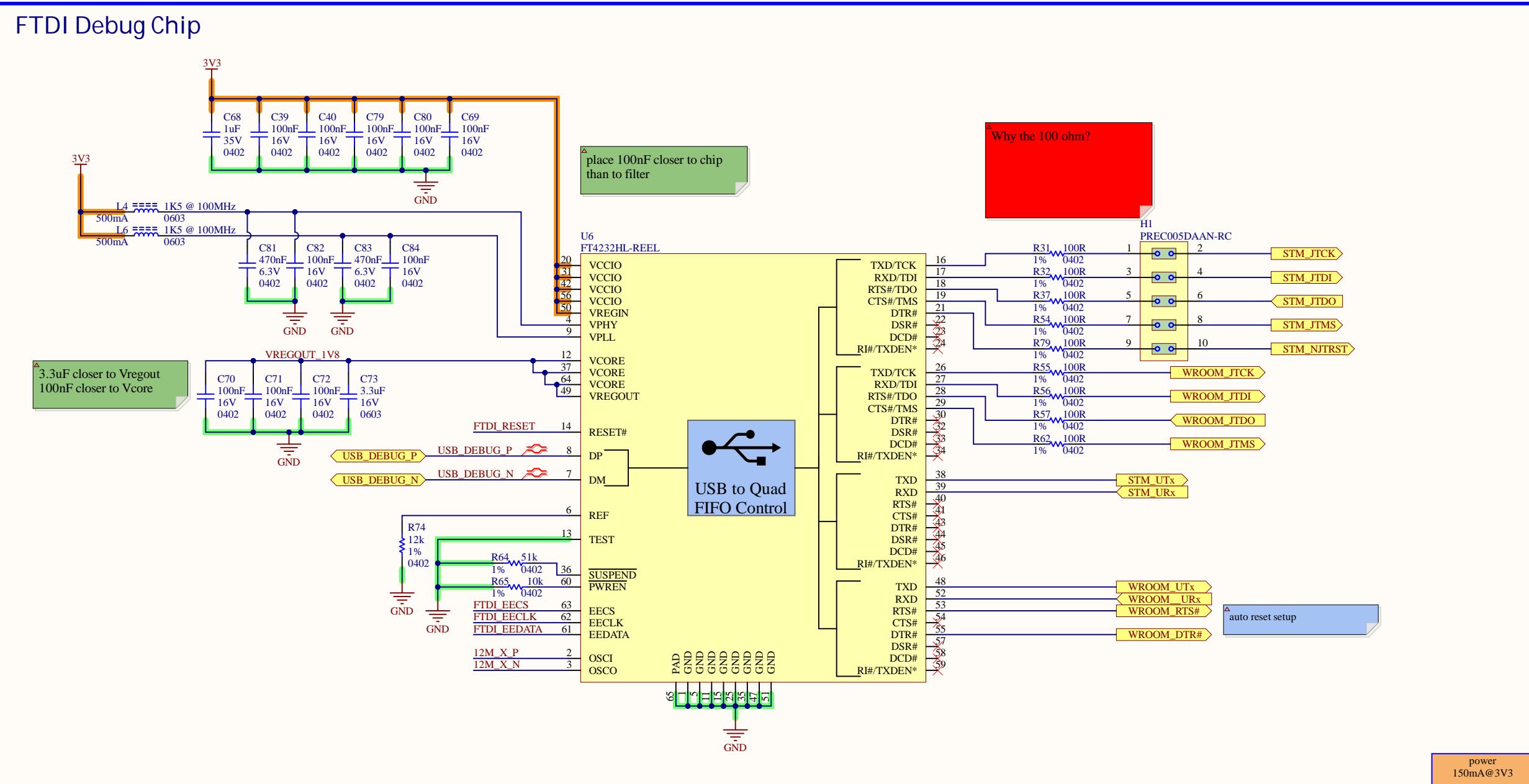
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Filename

HIVE_BOARD_ETHERNET.SchDoc

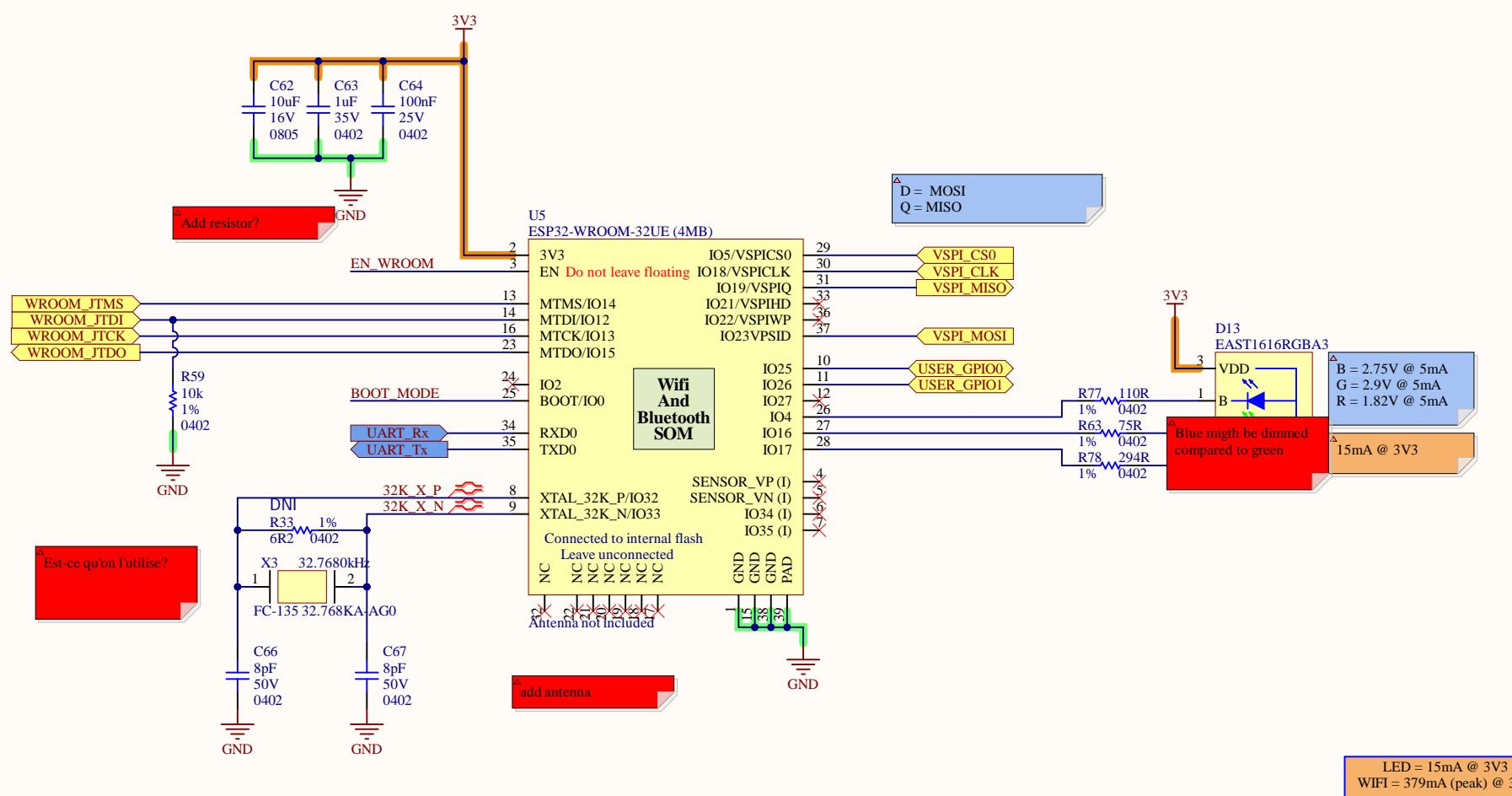
Designers

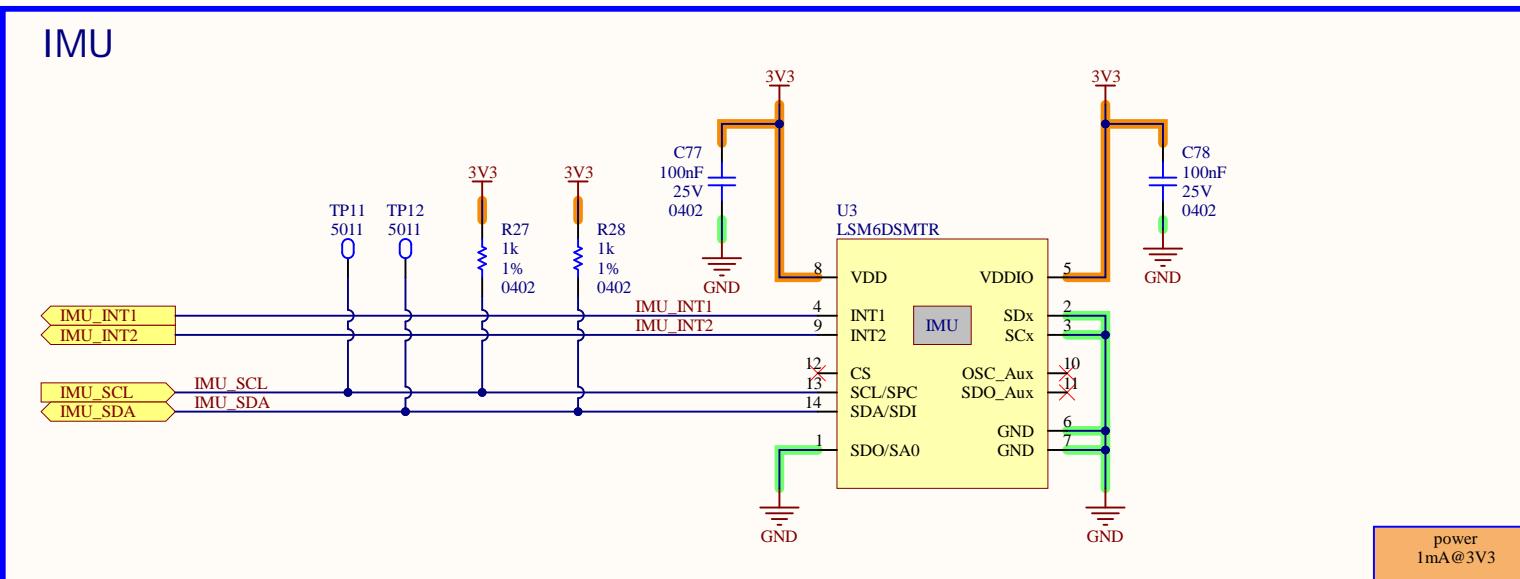
**Philippe Arsenault
Hubert Dubé
Louis-Daniel Gaulin**



Sheet Name	Debug Module		
Project Title	HiveBoard		
Global Project	PMC		
Size	Group	SwarmUS	Revision
11x17			1.000
Date	2020-06-01	Sheet 10 of 14	
Filename	HIVE_BOARD_DEBUG.SchDoc	Designers	Philippe Arsenault Hubert Dube Louis-Daniel Gaulin

WROOM





Sheet Name		
DECAWAVE		
Project Title		
Global Project	HiveBoard	
Size	Group	Revision
11x17	SwarmUS	1.000
Date	Sheet	
2020-06-01	12	of 14
Filename	Designers	
HIVE_BOARD_MISC.SchDoc	Philippe Arsenault Hubert Dubé Louis-Daniel Gaulin	