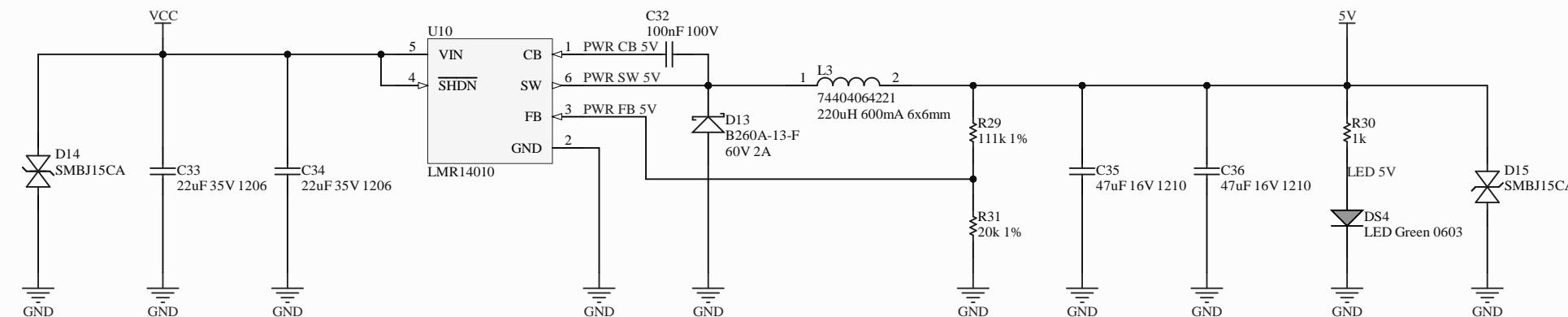


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## Revision History:

Rev	Date	Description

Sheet Title: Power Supply (9-25V to 3v3 @ 0.1-0.3A)

Project: Shutdown Board 2020

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000

Size: A3 Number: 7

Version: 01  
Revision: 01

Drawn By: Jonn Dillon

Sheet 7 of 11  
Australia

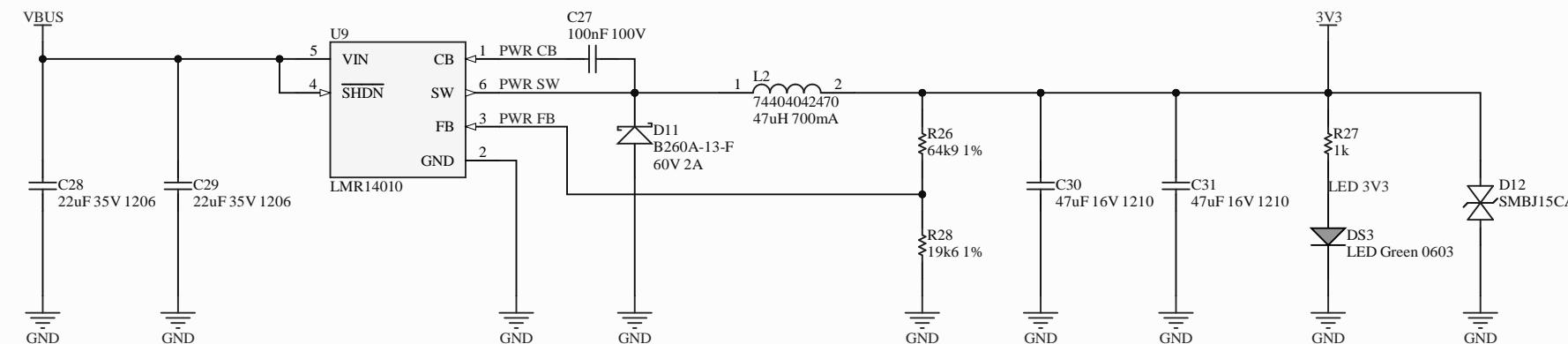
Print Date: 9/09/2020 Print Time: 11:33:02 PM File Name: CC-S10-V00-PSU-5V.SchDoc

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## Revision History:

Rev	Date	Description

Sheet Title: Power Supply (9-25V to 3v3 @ 0.1-0.3A)

Project: Shutdown Board 2020

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000  
Australia

Size: A3 Number: 7

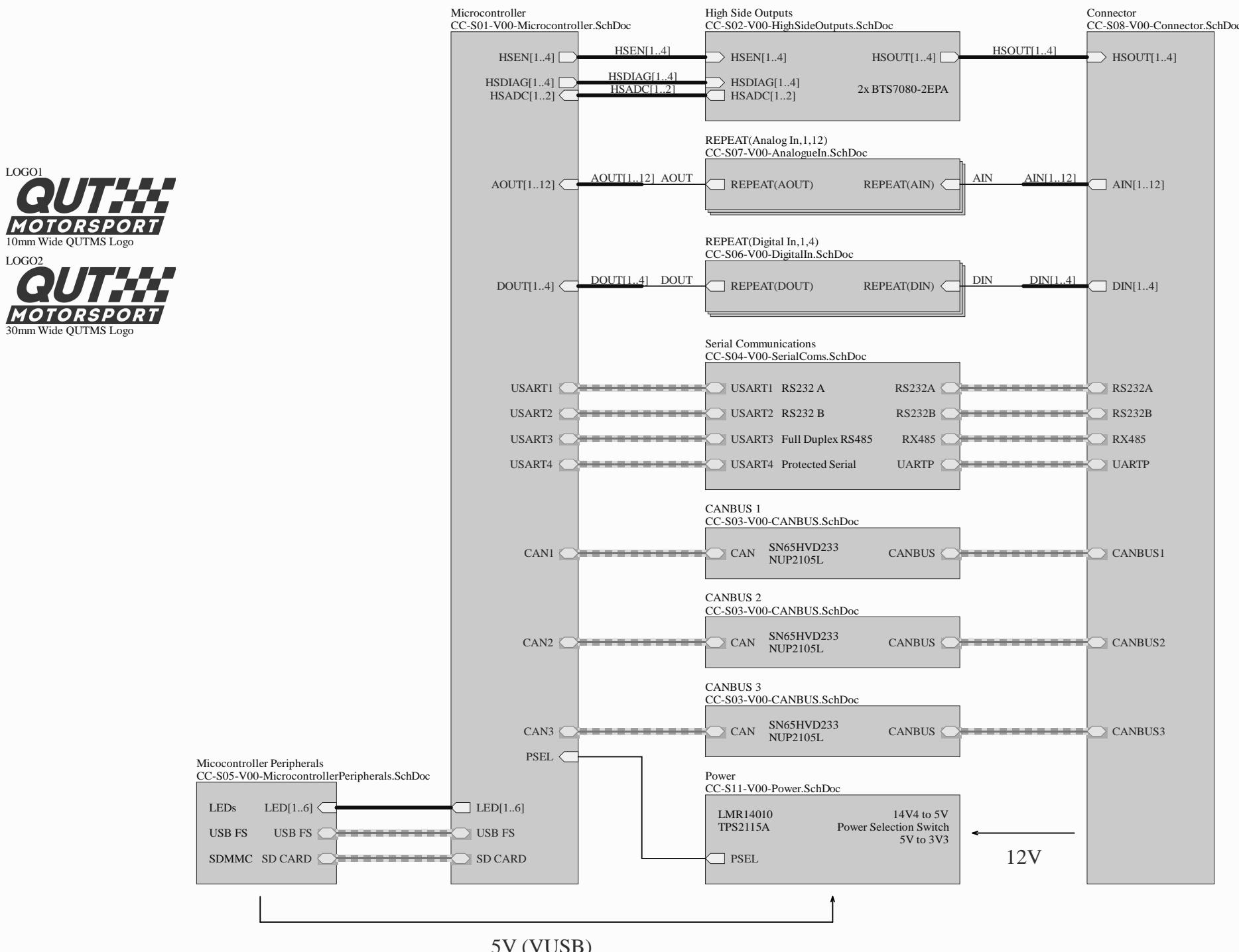
Version: 01  
Revision: 01

Drawn By: Jonn Dillon

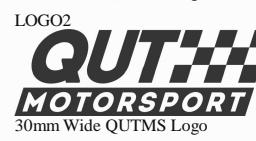
Sheet 7 of 11

Print Date: 9/09/2020 Print Time: 11:33:02 PM File Name: CC-S09-V00-PSU-3V3.SchDoc

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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

QUT Motorsport

O-120, Gardens Point

2 George Street

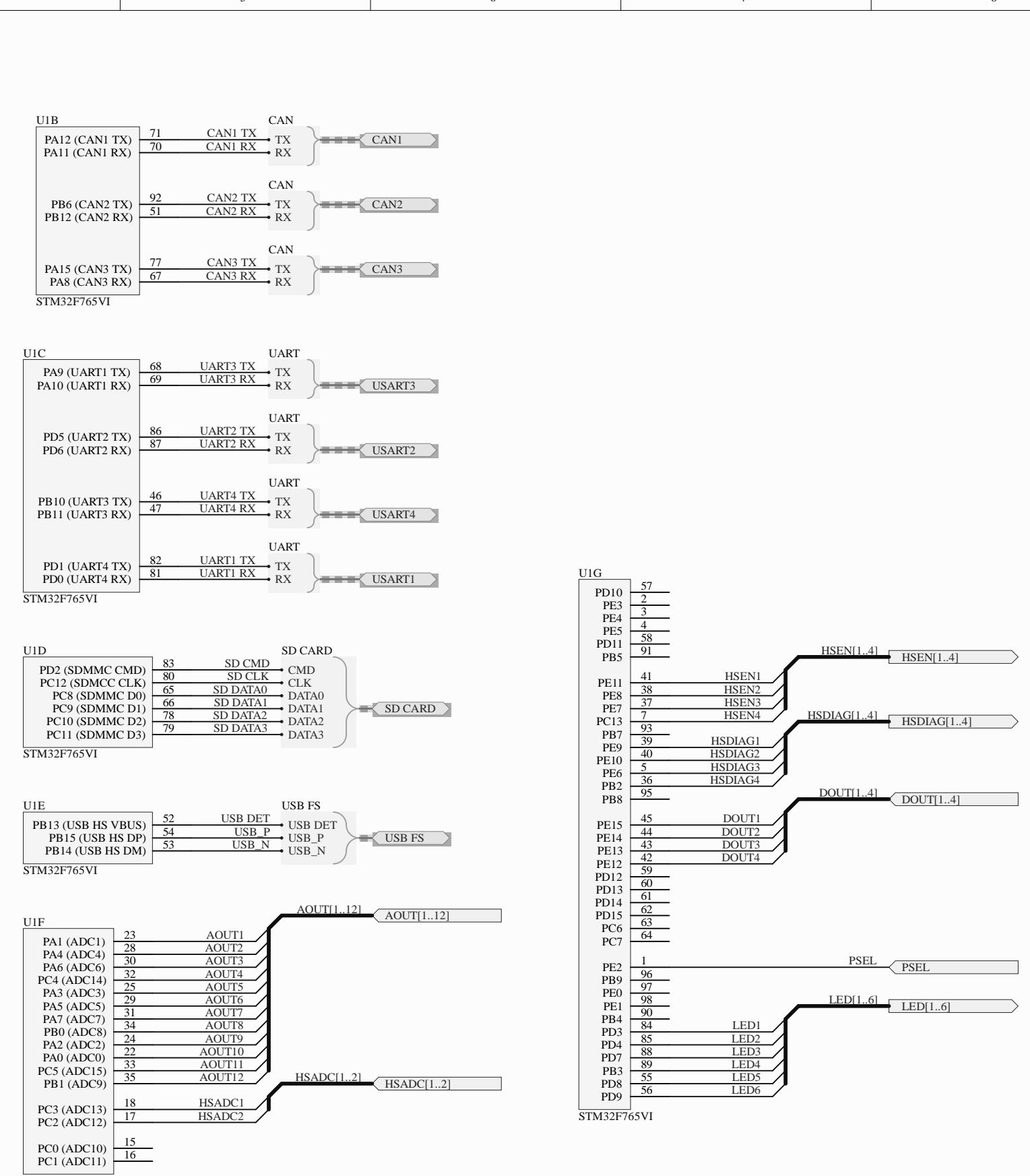
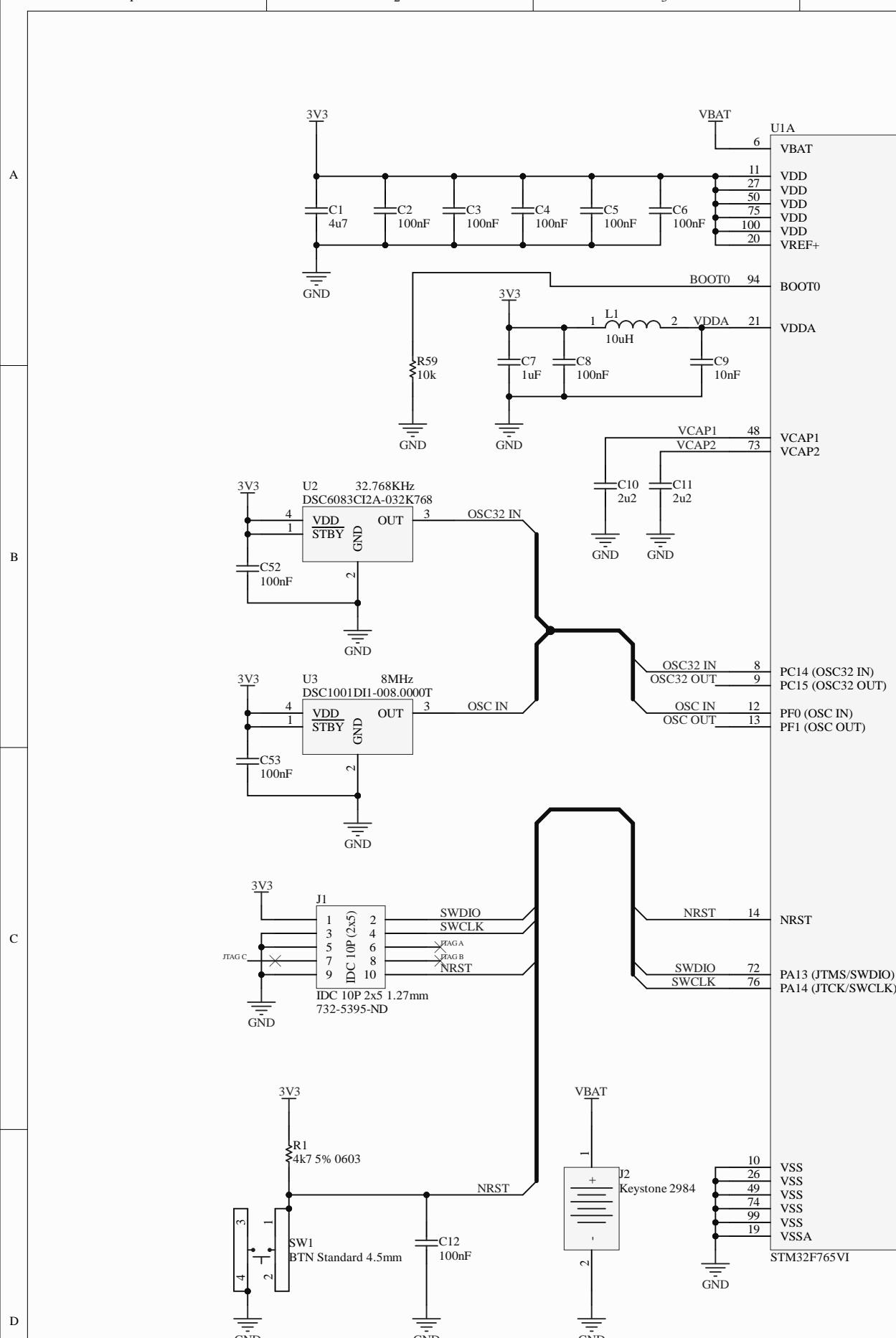
Brisbane, QLD 4000

Australia

Drawn By: \* Sheet \* of \*

Print Date: 9/09/2020 Print Time: 11:33:02 PM File Name: CC-S00-V00-ChassisController.SchDoc





## Revision History:

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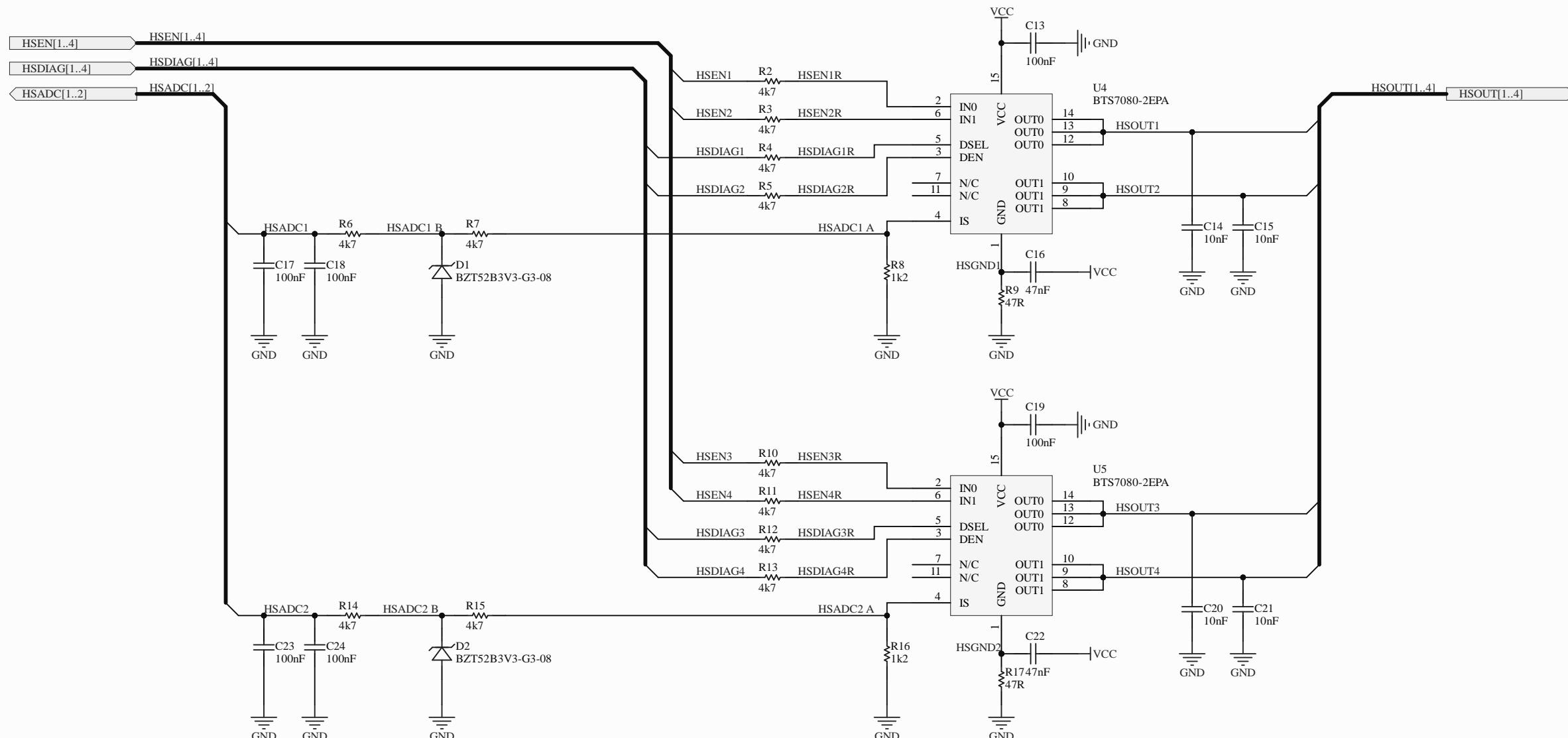
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Project:		QUT Motorsport O-120, Gardens Point 2 George Street Brisbane, QLD 4000 Australia	
Size: A3	Number: *	Version: *	2
Revision: *		Sheet * of *	1
Drawn By: *		Print Date: 9/09/2020	File Name: CC-S01-V00-Microcontroller.SchDoc



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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000  
Australia



Size: A3 Number: \*

Version: \*  
Revision: \*  
Sheet \* of \*

Drawn By: \* Print Date: 9/09/2020 Print Time: 11:33:03 PM File Name: CC-S02-V00-HighSideOutputs.SchDoc

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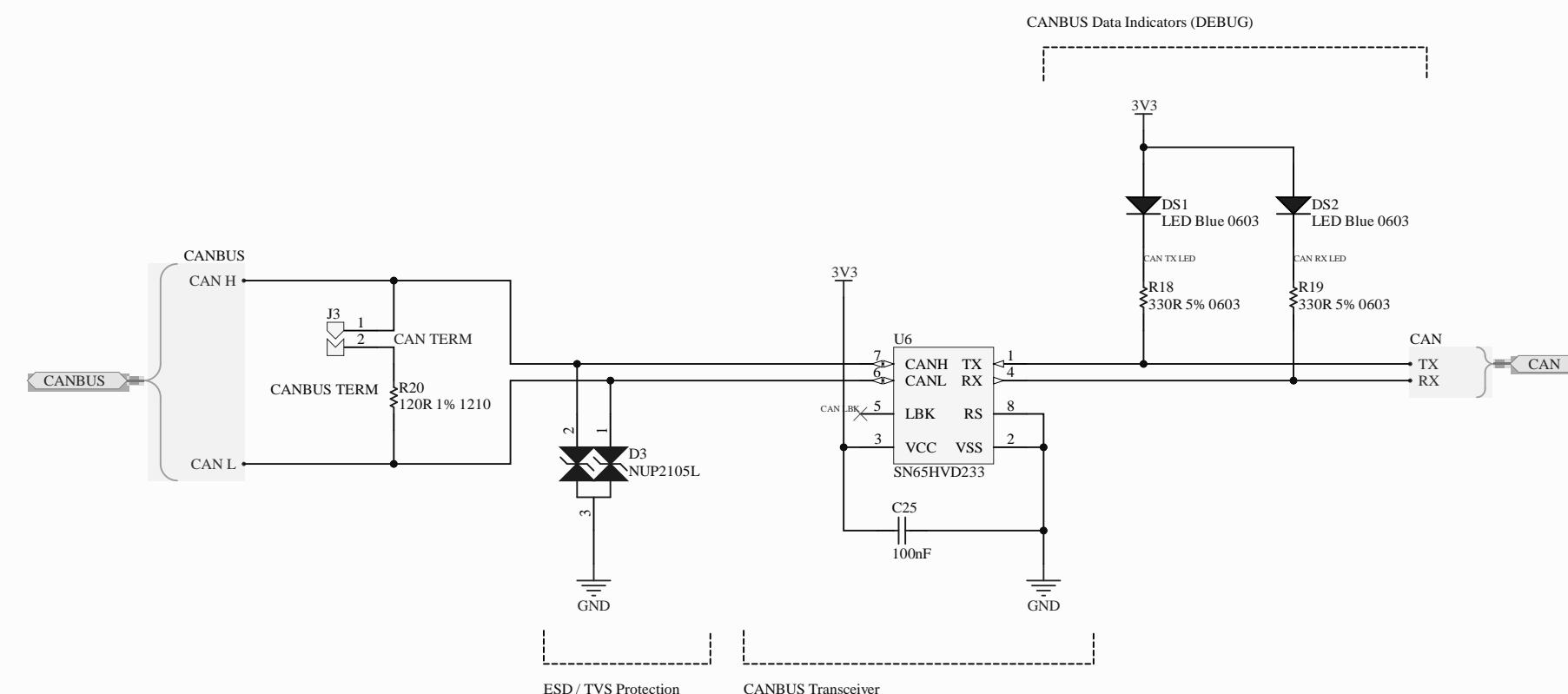
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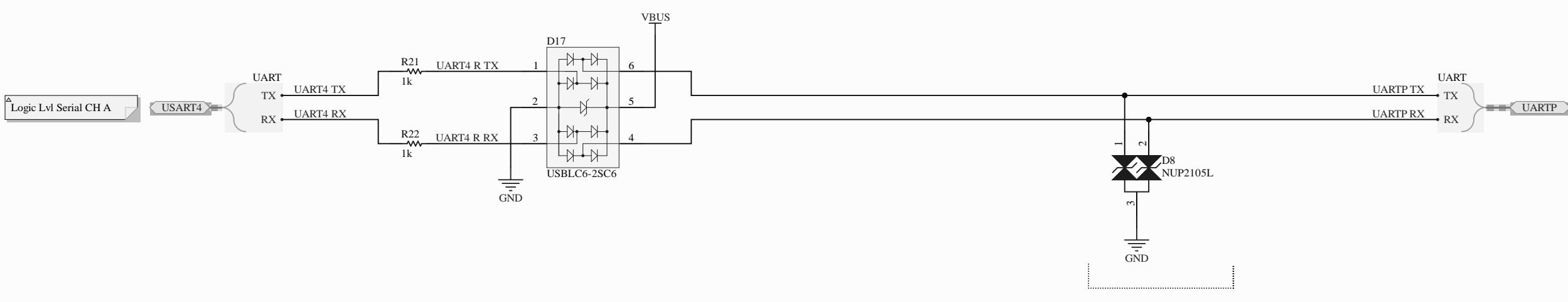
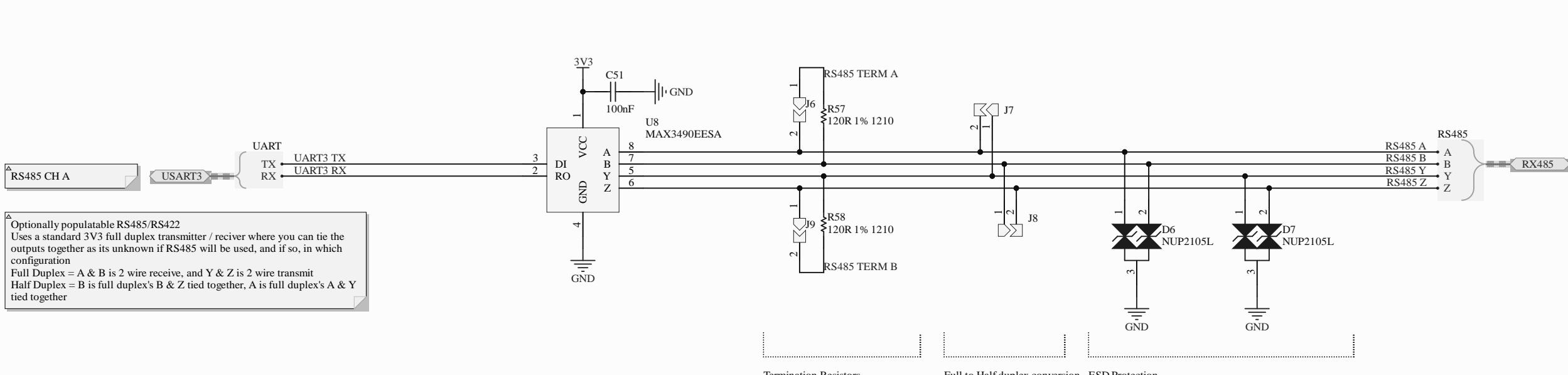
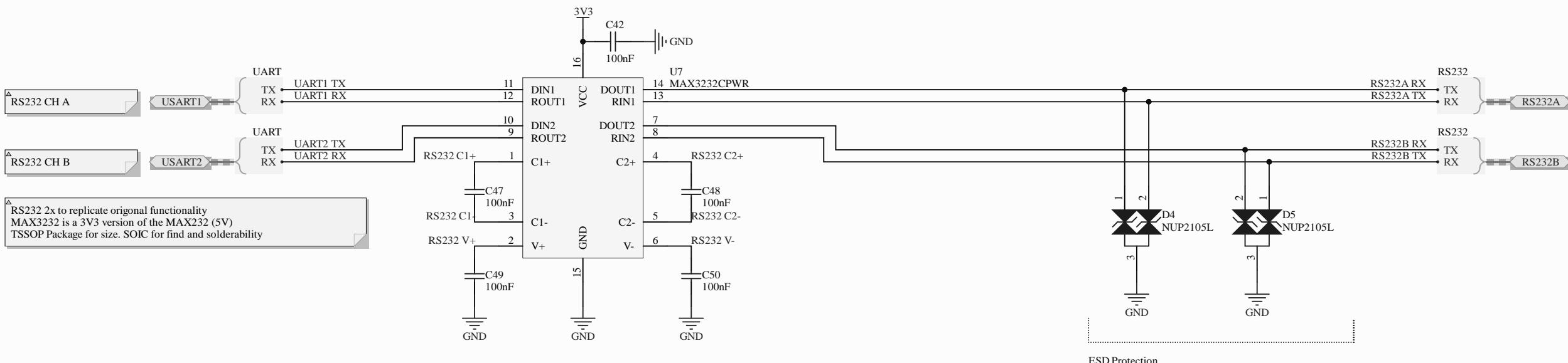
## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:		
Size: A3	Number: *	Version: *
		2 George Street Brisbane, QLD 4000
Drawn By: *	Sheet * of *	Australia
Print Date: 9/09/2020 Print Time: 11:33:03 PM File Name: CC-S03-V00-CANBUS.SchDoc		





## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

Size: A3

Number: \*

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000

Revision: \*

Drawn By: \*

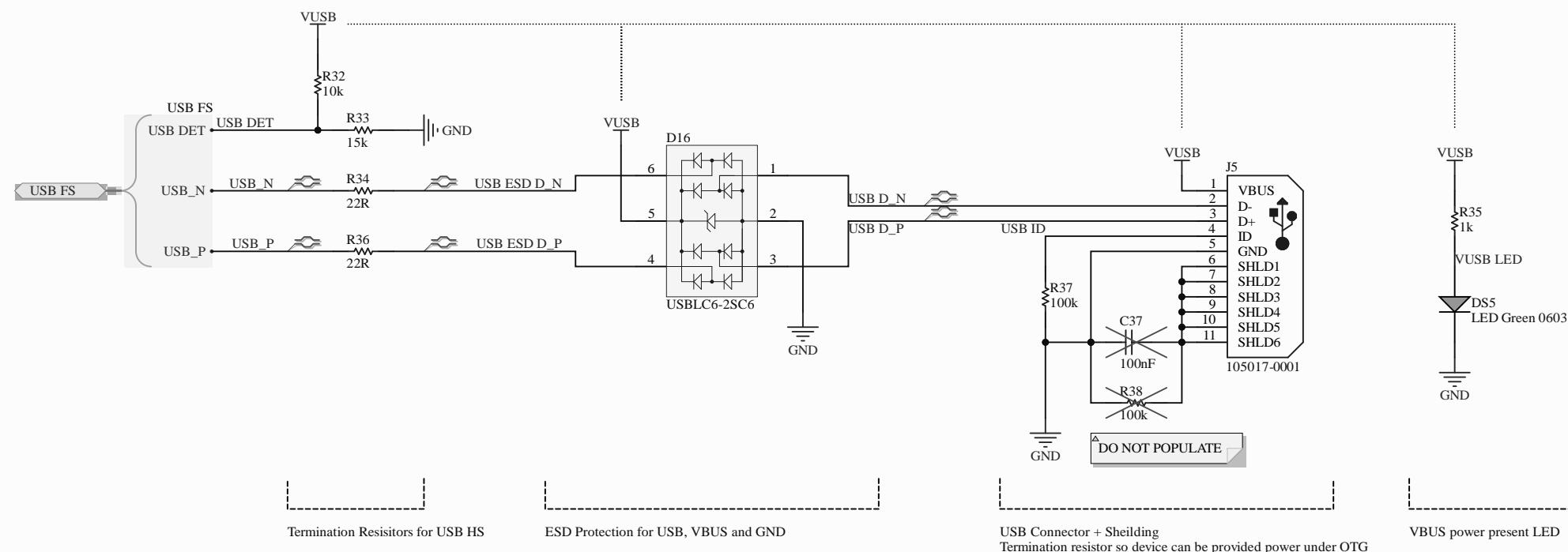
Sheet \* of \*

Australia

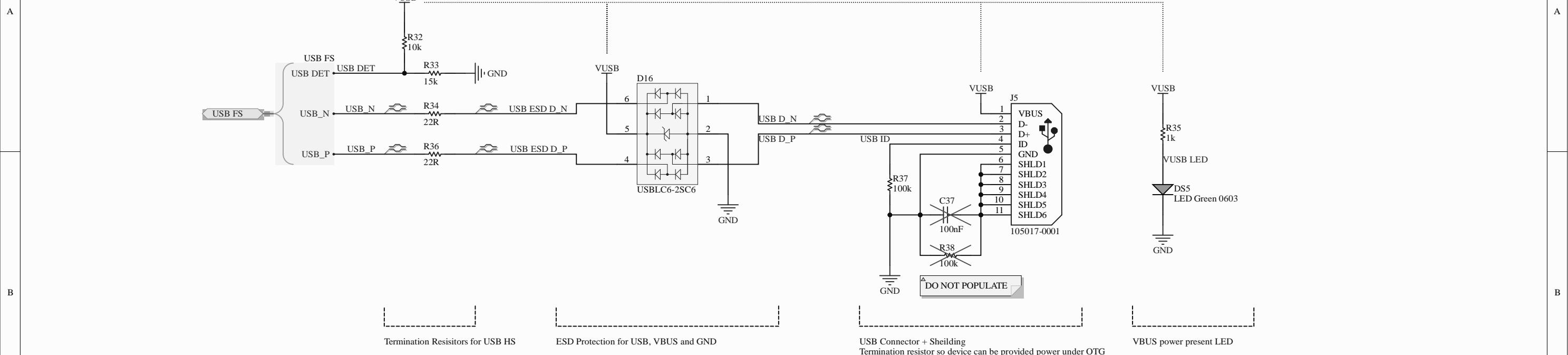
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**QUT**  
**MOTORSPORT**

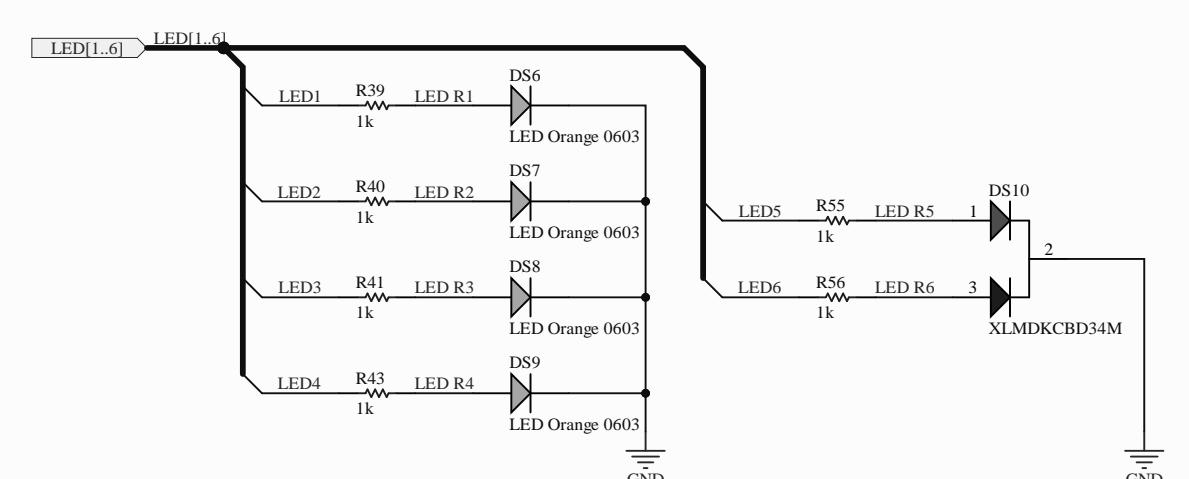
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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

**QUT Motorsport**  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000  
Australia



Size: A3 Number: \*

Version: \*  
Revision: \*  
Sheet \* of \*

Drawn By: \*

Print Date: 9/09/2020 Print Time: 11:33:03 PM File Name: CC-S05-V00-MicrocontrollerPeripherals.SchDoc

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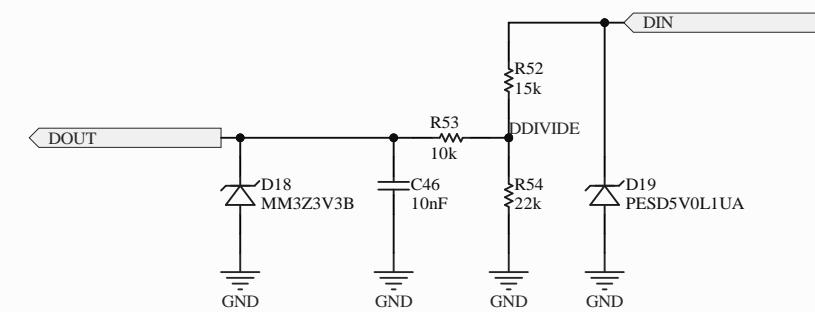
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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

**QUT Motorsport**

O-120, Gardens Point

2 George Street

Brisbane, QLD 4000

Size: A3 Number: \*

Version: \*  
Revision: \*

Drawn By: \*

Sheet \* of \*

Australia

Print Date: 9/09/2020 Print Time: 11:33:04 PM File Name: CC-S06-V00-DigitalIn.SchDoc



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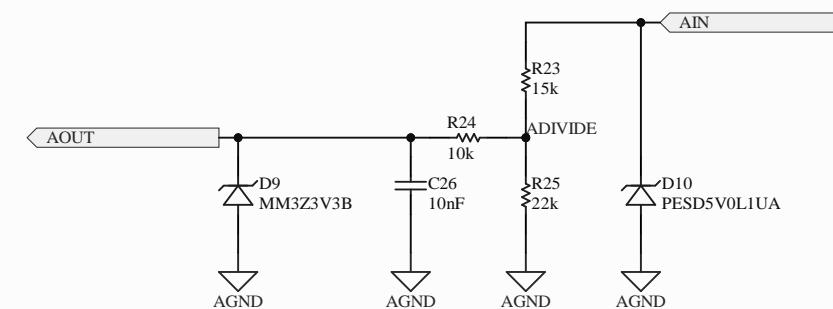
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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project: QUT Motorsport  
O-120, Gardens Point

Size: A3 Number: \* Version: 2 George Street

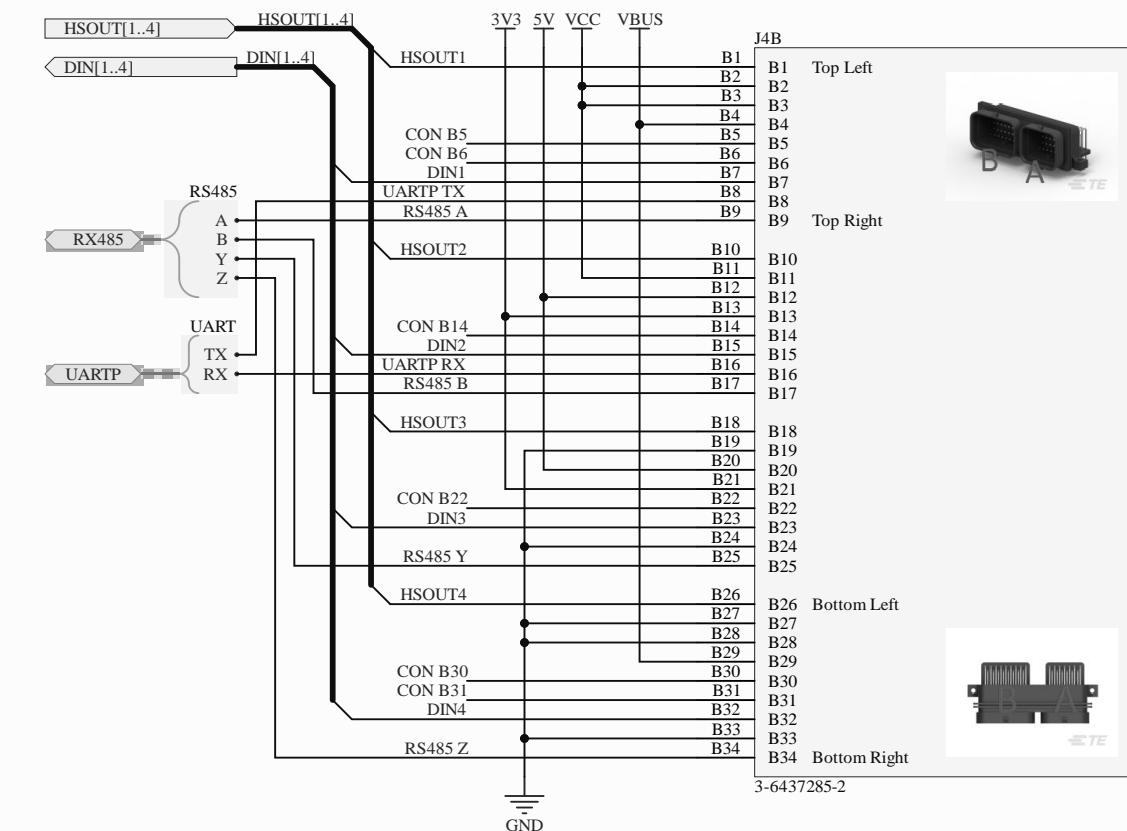
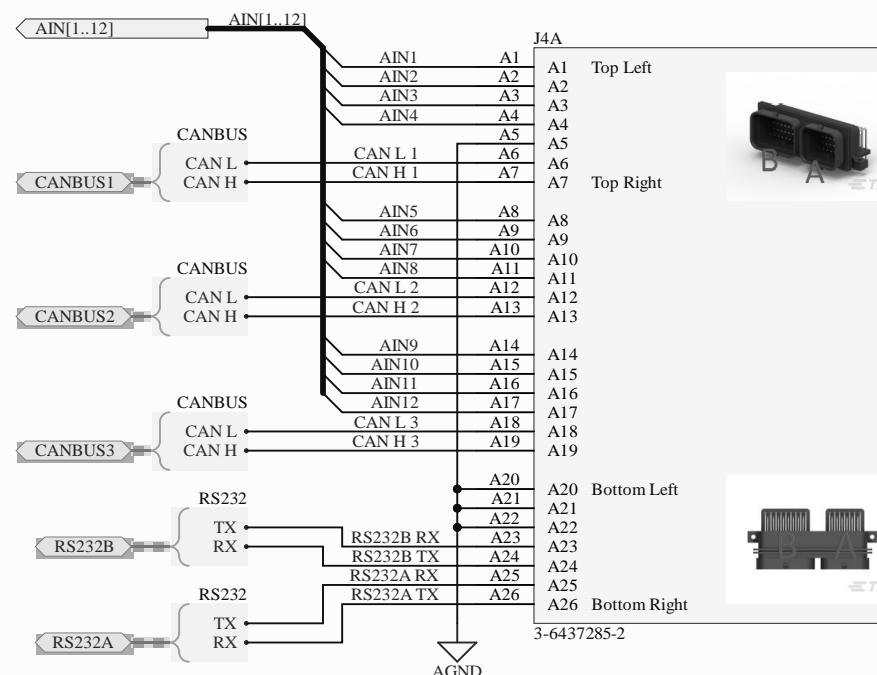
Revision: \* Brisbane, QLD 4000

Drawn By: \* Sheet \* of \* Australia

Print Date: 9/09/2020 Print Time: 11:33:04 PM File Name: CC-S07-V00-AnalogueIn.Sch|Doc

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## Revision History:

Rev	Date	Description

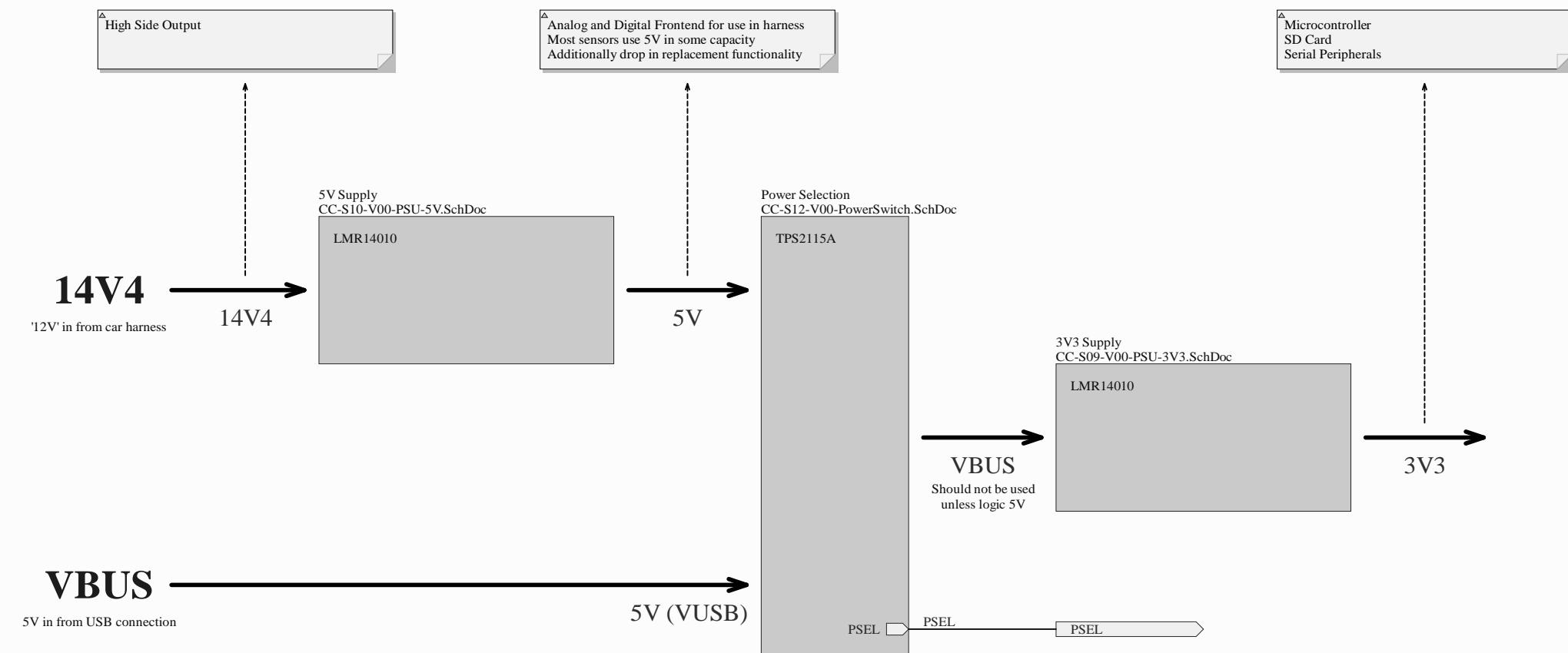
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Project:			QUT Motorsport O-120, Gardens Point 2 George Street Brisbane, QLD 4000 Australia
Size: A3	Number: *	Version: *	
Revision: *	Sheet * of *	Drawn By: *	
Print Date: 9/09/2020	Print Time: 11:33:04 PM	File Name: CC-S08-V00-Connector.SchDoc	Print Date: 9/09/2020



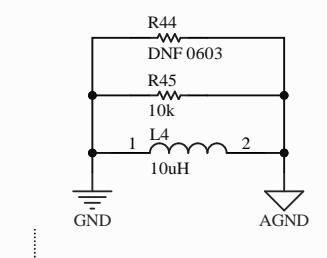
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Analog Ground Connection

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## Revision History:

Rev	Date	Description

Sheet Title: \*

Project:

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000  
Australia**QUT**  
**MOTORSPORT**Size: A3 Number: \* Version: \*  
Revision: \* Drawn By: \* Sheet \* of \*  
Print Date: 9/09/2020 Print Time: 11:33:04 PM File Name: CC-S11-V00-Power.SchDoc

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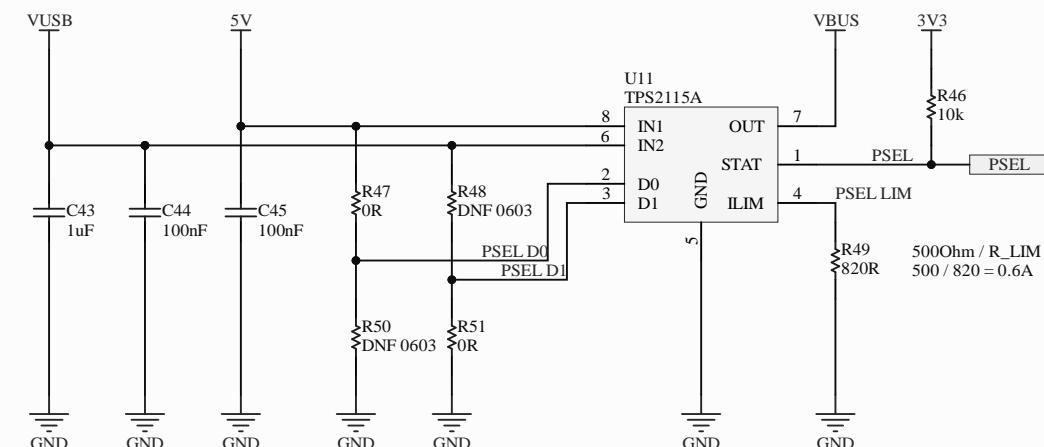
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**Table 1. Truth Table**

D1	D0	$V_{I(IN2)} > V_{I(IN1)}$ <sup>(1)</sup>	STAT	OUT <sup>(2)</sup>
0	0	X	Hi-Z	IN2
0	1	No	0	IN1
0	1	Yes	Hi-Z	IN2
1	0	X	0	IN1
1	1	X	0	Hi-Z

(1) X = don't care

(2) The undervoltage lockout circuit causes the output OUT to go Hi-Z if the selected power supply does not exceed the IN1 or IN2 UVLO, or if neither of the supplies exceeds the internal  $V_{DD}$  UVLO.

## Revision History:

Rev Date Description

Sheet Title: \*

Project:

QUT Motorsport  
O-120, Gardens Point  
2 George Street  
Brisbane, QLD 4000  
Australia

Size: A3 Number: \*

Version: \*  
Revision: \*  
Sheet \* of \*

Drawn By: \* Sheet \* of \* Australia

Print Date: 9/09/2020 Print Time: 11:33:05 PM File Name: CC-S12-V00-PowerSwitch.SchDoc

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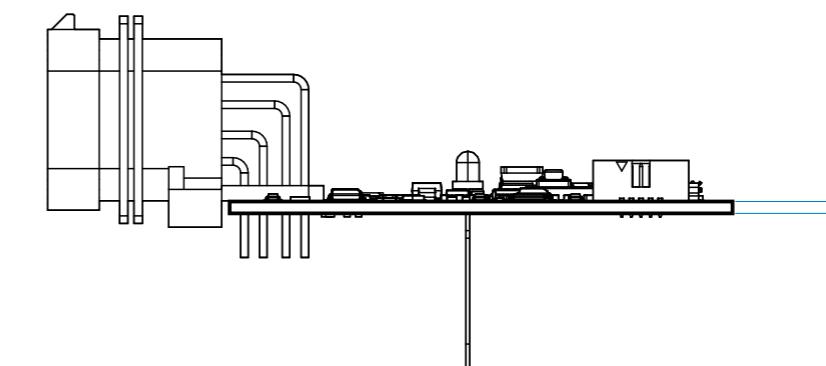
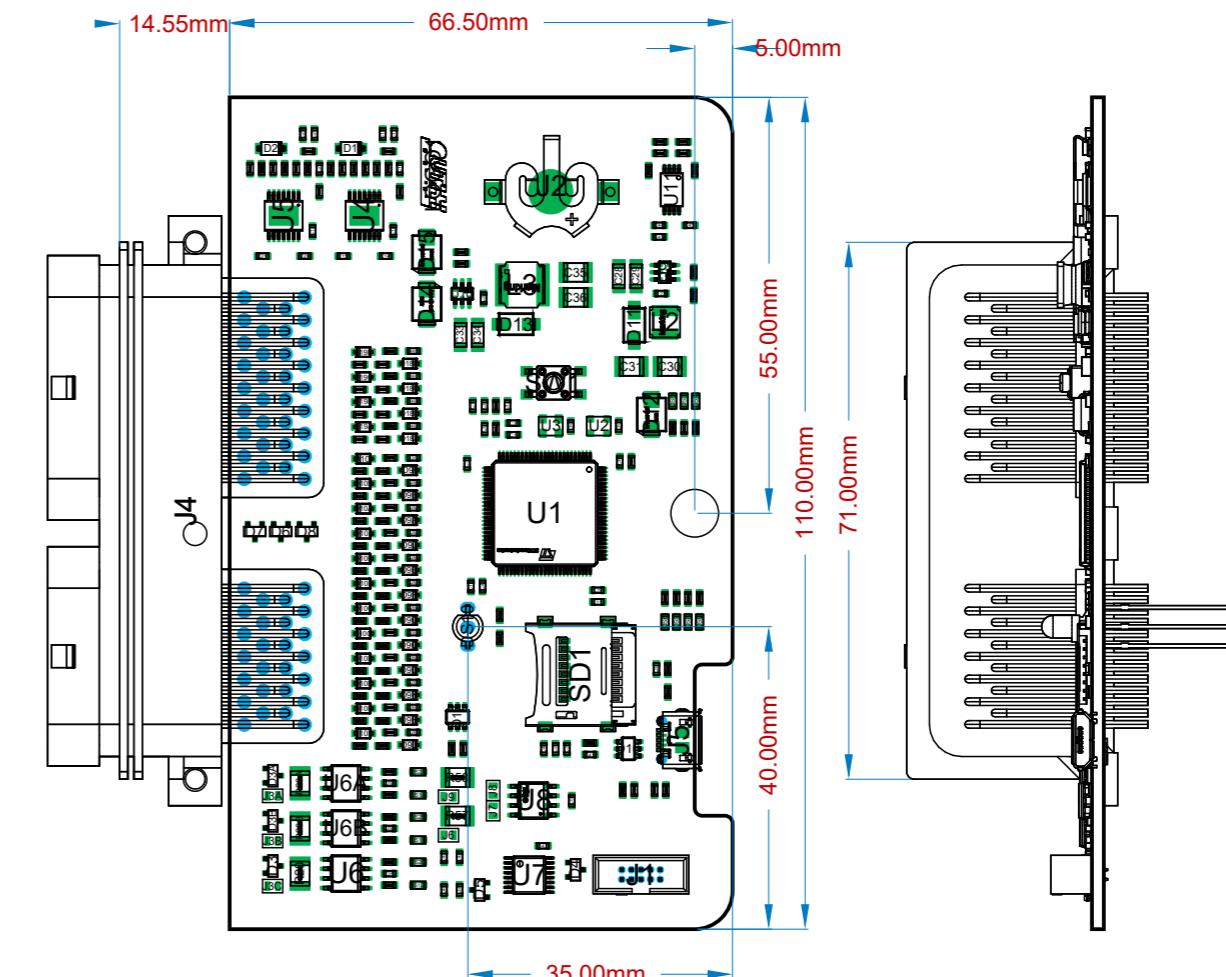
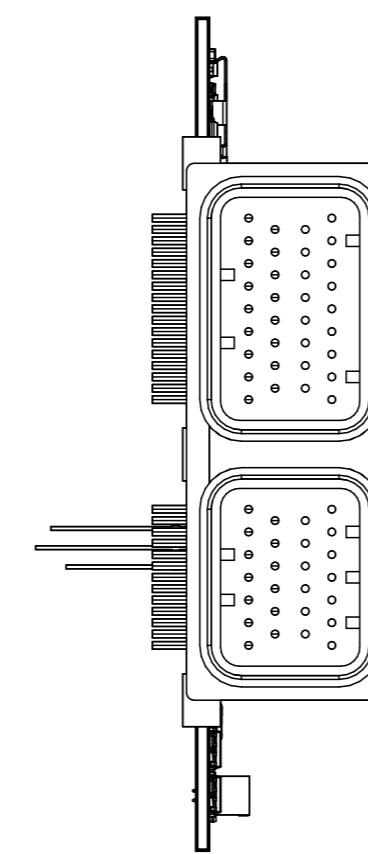
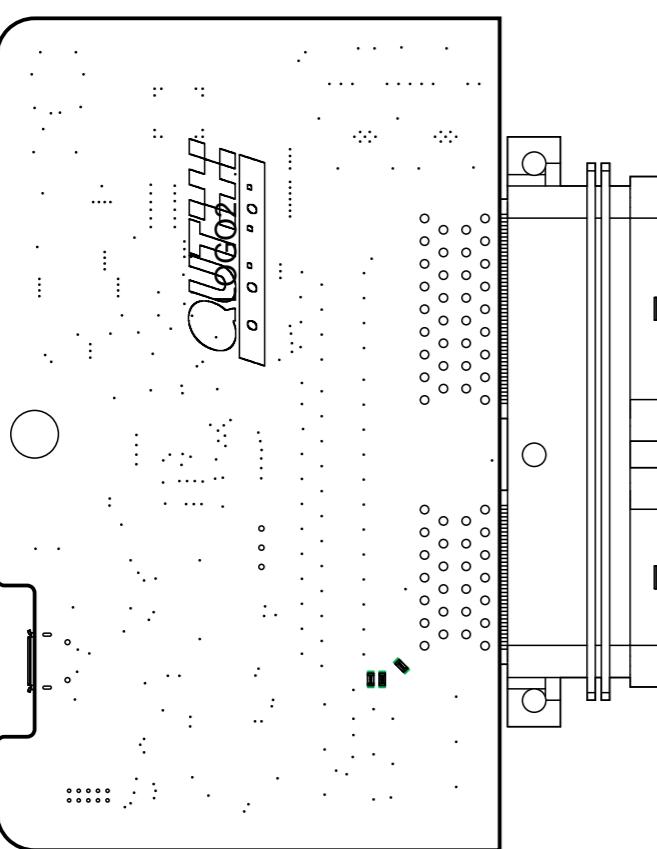
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES:		FINISH:			DEBURR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING		REVISION
DRAW	NAME	SIGNATURE	DATA					
CHK'D						TITLE:		
APPV'D								
MFG						DWG NO.		
QA								
						SCALE 1:1		
						SHEET 1 OF 4		

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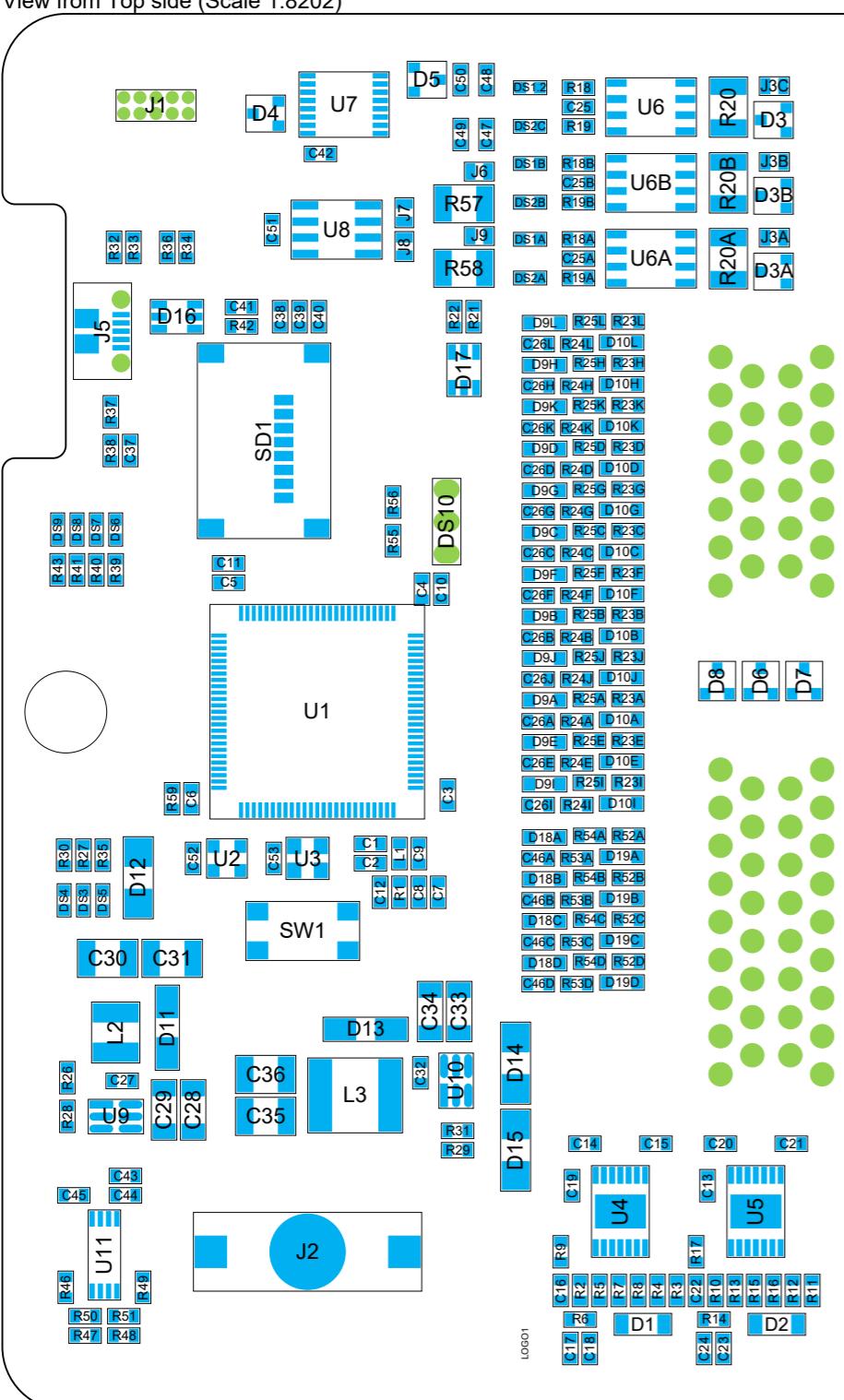
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View from Top side (Scale 1.8202)



Bill Of Materials

Line #	Designator	Comment	Quantity
1	C1, C38	4u7	2
2	C2, C3, C4, C5, C6, C8, C12, C13, C17, C18, C19, C23, C24, C25A, C25B, C25C, C37, C40, C41, C42, C44, C45, C47, C48, C49, C50, C51, C52, C53	100nF	29
3	C7, C39, C43	1uF	3
4	C9, C14, C15, C20, C21, C26A, C26B, C26C, C26D, C26E, C26F, C26G, C26H, C26I, C26J, C26K, C26L, C46A, C46B, C46C, C46D	10nF	21
5	C10, C11	2u2	2
6	C16, C22	47nF	2
7	C27, C32	100nF 100V	2
8	C28, C29, C33, C34	22uF 35V 1206	4
9	C30, C31, C35, C36	47uF 16V 1210	4
10	D1, D2	BZT52B3V3-G3-08	2
11	D3A, D3B, D3C, D4, D5, D6, D7, D8	NUP2105L	8
12	D9A, D9B, D9C, D9D, D9E, D9F, D9G, D9H, D9I, D9J, D9K, D9L, D18A, D18B, D18C, D18D	MM3Z3V3B	16
13	D10A, D10B, D10C, D10D, D10E, D10F, D10G, D10H, D10I, D10J, D10K, D10L, D19A, D19B, D19C, D19D	PESD5V0L1UA	16
14	D11, D13	B260A-13-F	2
15	D12, D14, D15	SMBJ15CA	3
16	D16, D17	USBLC6-2SC6	2
17	DS1A, DS1B, DS1C, DS2A, DS2B, DS2C	LED Blue 0603	6
18	DS3, DS4, DS5	LED Green 0603	3
19	DS6, DS7, DS8, DS9	LED Orange 0603	4
20	DS10	XLMDK CBD34M	1
21	J1	IDC 10P 2x5 1.27mm	1
22	J2	Keystone 2984	1
23	J3A, J3B, J3C, J7, J8	Jumper 2Way Solderable	5
24	J4	3-6437285-2	1
25	J5	105017-0001	1
26	J6, J9	Jumper 2Way Solderable	2
27	L1, L4	10uH	2
28	L2	74404042470	1
29	L3	74404064221	1
30	LOGO1	10mm Wide QUTMS Logo	1

Bill Of Materials

Line #	Designator	Comment	Quantity
31	LOGO2	30mm Wide QUTMS Logo	1
32	R1	4k7 5% 0603	1
33	R2, R3, R4, R5, R6, R7, R10, R11, R12, R13, R14, R15	4k7	12
34	R8, R16	1k2	2
35	R9, R17	47R	2
36	R18A, R18B, R18C, R19A, R19B, R19C	330R 5% 0603	6
37	R20A, R20B, R20C, R57, R58	120R 1% 1210	5
38	R21, R22, R27, R30, R35, R39, R40, R41, R43, R55, R56	1k	11
39	R23A, R23B, R23C, R23D, R23E, R23F, R23G, R23H, R23I, R23J, R23K, R23L, R33, R52A, R52B, R52C, R52D	15k	17
40	R24A, R24B, R24C, R24D, R24E, R24F, R24G, R24H, R24I, R24J, R24K, R24L, R32, R45, R46, R53A, R53B, R53C, R53D, R59	10k	20
41	R25A, R25B, R25C, R25D, R25E, R25F, R25G, R25H, R25I, R25J, R25K, R25L, R54A, R54B, R54C, R54D	22k	16
42	R26	64k9 1%	1
43	R28	19k6 1%	1
44	R29	111k 1%	1
45	R31	20k 1%	1
46	R34, R36	22R	2
47	R37, R38, R42	100k	3
48	R44, R48, R50	DNF 0603	3
49	R47, R51	0R	2
50	R49	820R	1
51	SD1	47219-2001	1
52	SW1	BTN Standard 4.5mm	1
53	U1	STM32F765VI	1
54	U2	DSC6083CI2A-032K768	1
55	U3	DSC1001D1-008.0000T	1
56	U4, U5	BTS7080-2EPA	2
57	U6A, U6B, U6C	SN65HVD233	3
58	U7	MAX3232CPWR	1
59	U8	MAX3490EEASA	1
60	U9, U10	LMR14010	2
61	U11	TPS2115A	1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES:		FINISH:			DEBURR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING		REVISION
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CHK'D						TITLE:		
APPV'D								
MFG								
QA						MATERIAL:		DWG NO.
						WEIGHT:		SCALE 1:1
								SHEET 2 OF 4
								A0

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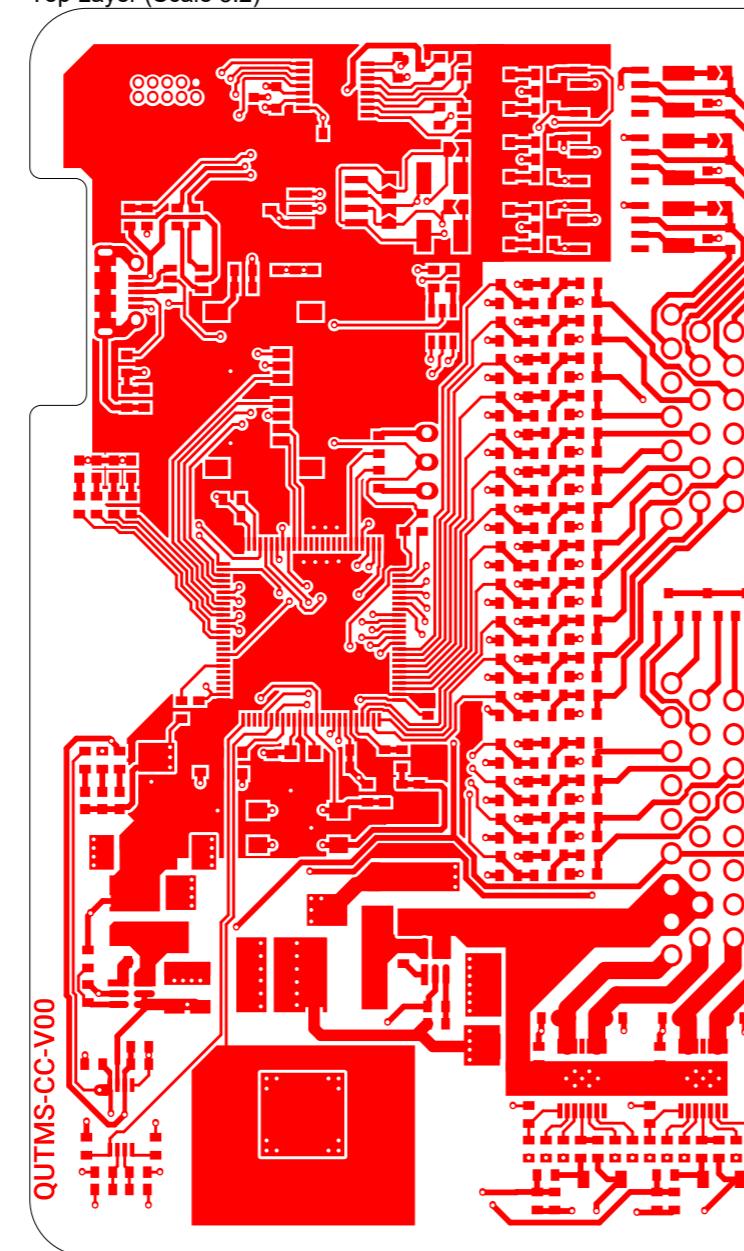
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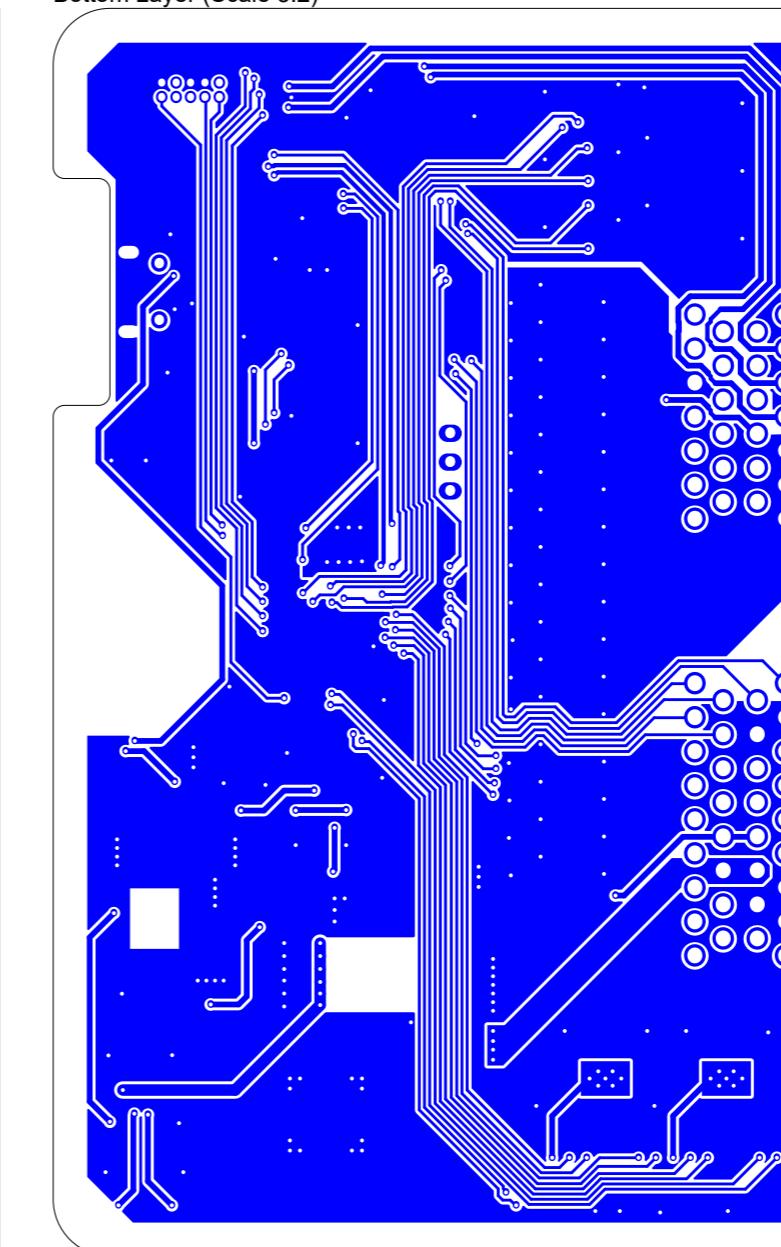
5

6

Top Layer (Scale 3:2)



Bottom Layer (Scale 3:2)



## Layer Stack Legend

Material	Layer	Thickness	Dielectric Material	Type	Gerber
Top Overlay				Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
Copper	Top Layer	0.04mm		Signal	GTL
Core		1.50mm	Core-043	Dielectric	
Copper	Bottom Layer	0.04mm		Signal	GBL
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
Total thickness: 1.59mm					

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES:		FINISH:	DEBURR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING	REVISION
DRAW	NAME	SIGNATURE	DATA		
CHK'D					
APPV'D					
MFG					
QA			MATERIAL:	DWG NO.	
					A0
			WEIGHT:	SCALE 1:1	
					SHEET 3 OF 4

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