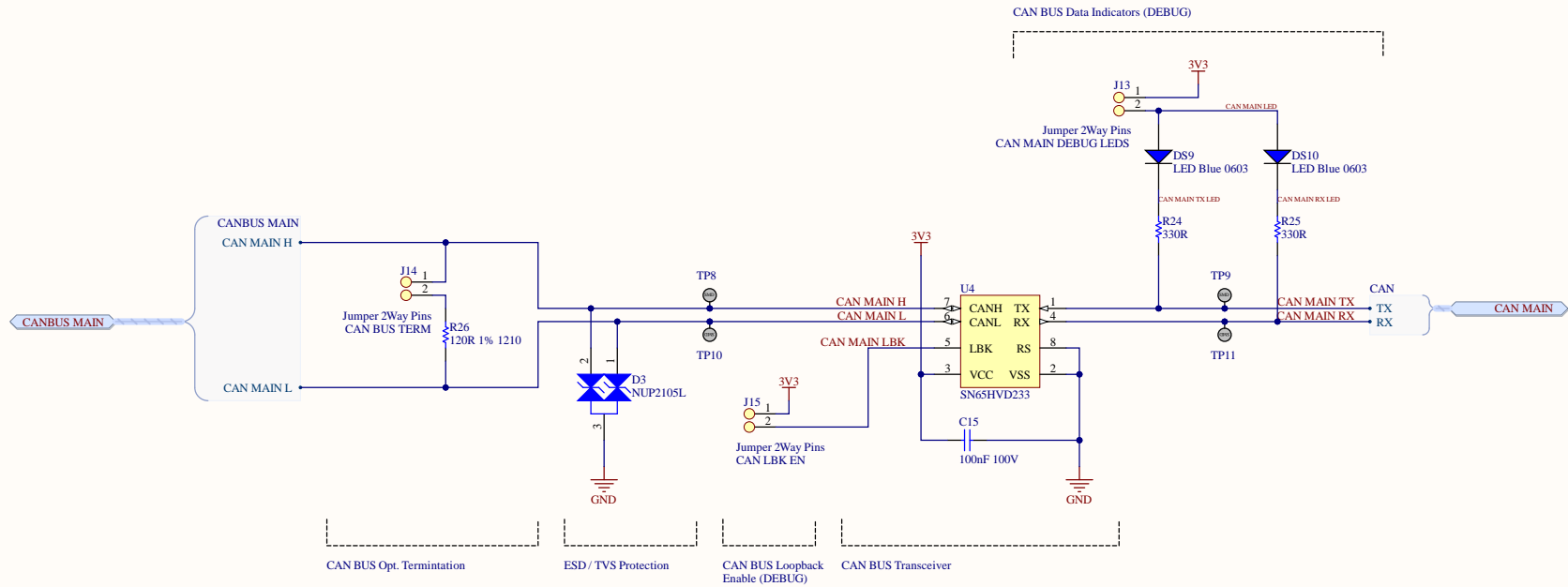
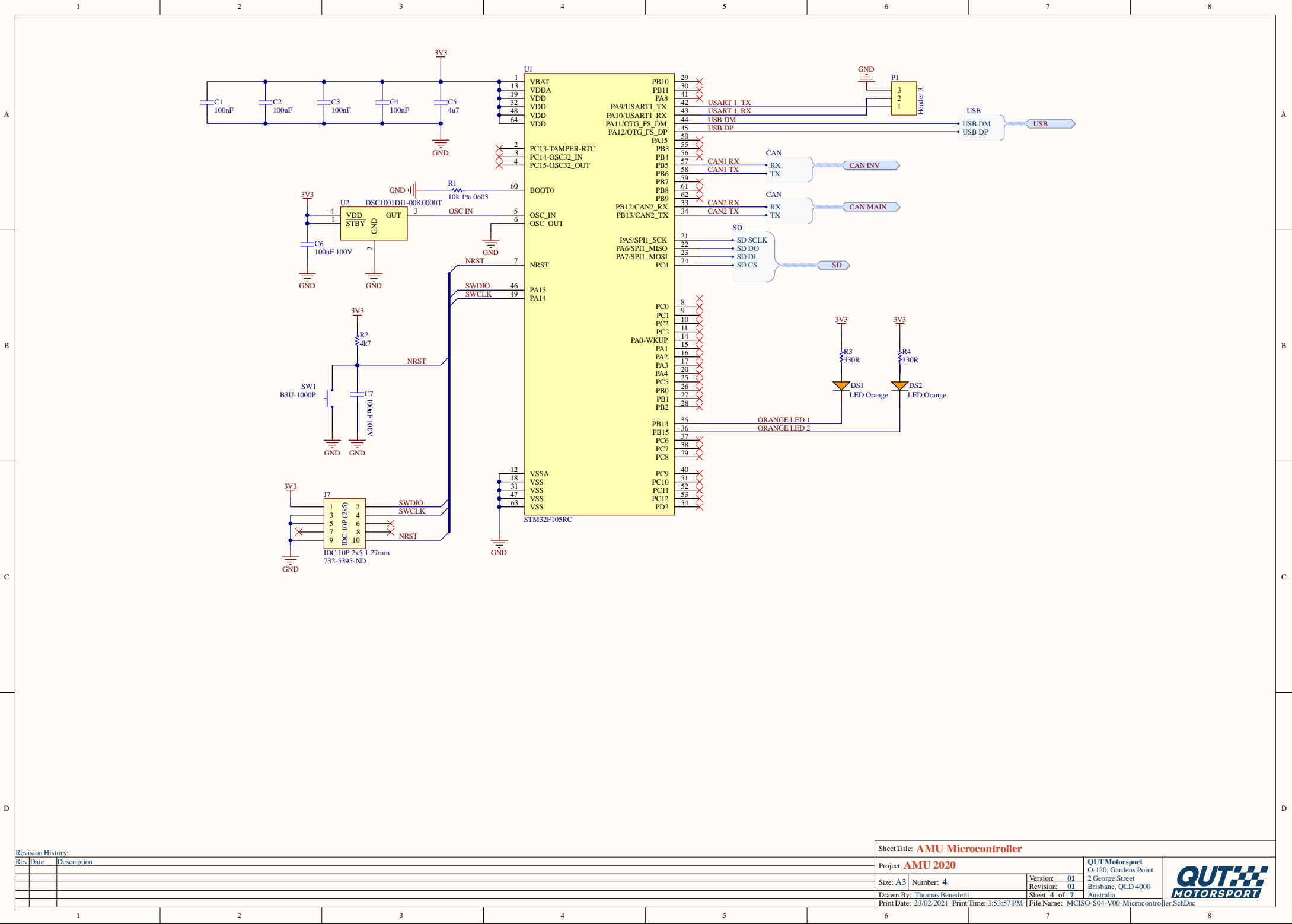


Title		
Size	Number	Revision
A3		
Date:	2/23/2021	Sheet of
File:	C:\Users\j\MCISO-S01-V00-Master.SchDoc	Drawn By:



Title		
Size A3	Number	Revision
Date: 2/23/2021	Sheet of	
File: C:\Users\j\MCISO-S03-V00-CAN MAIN	Schematic By:	



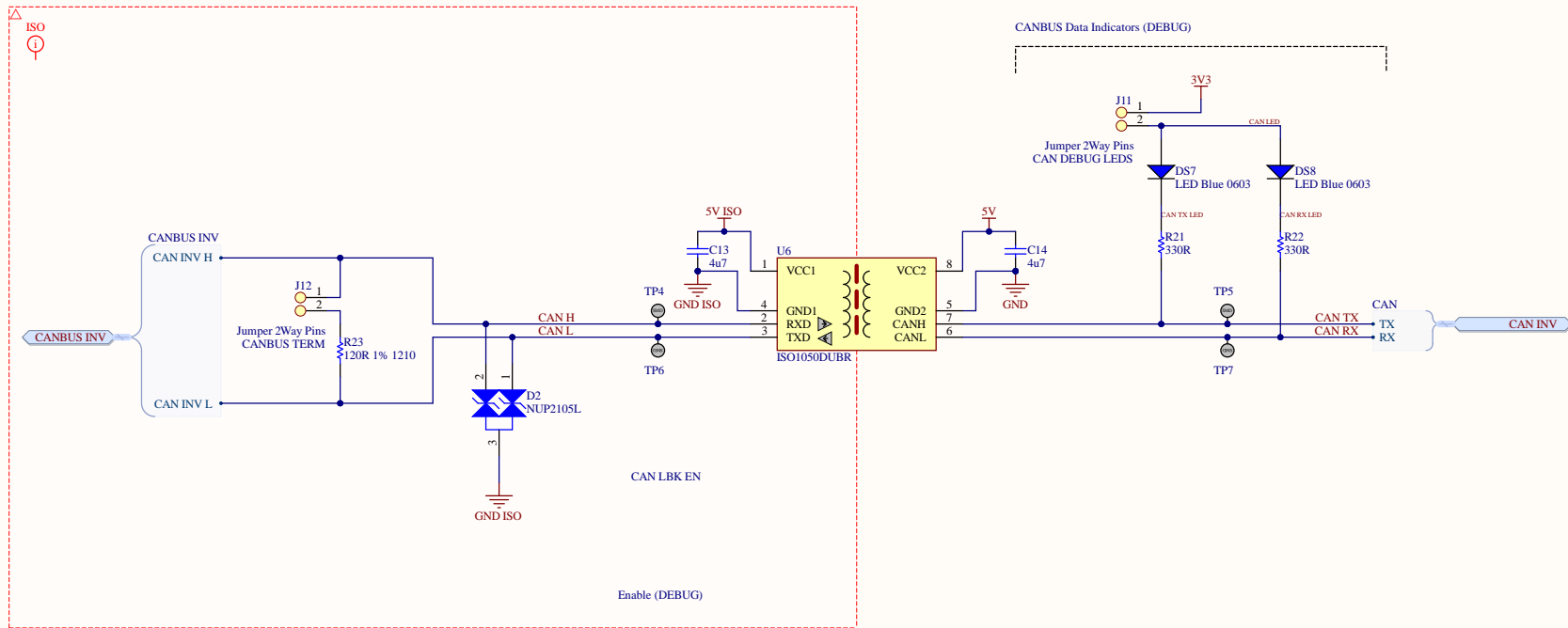
Revision History:

Rev	Date	Description

Sheet Title: AMU Microcontroller	
Project: AMU 2020	
Size: A3	Number: 4
Drawn By: Thomas Benedetti	Version: 01
Print Date: 23/02/2021	Revision: 01
Print Time: 3:53:57 PM	Sheet 4 of 7
File Name: MCISO-S04-V00-Microcontroller.SchDoc	

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

QUT
MOTORSPORT

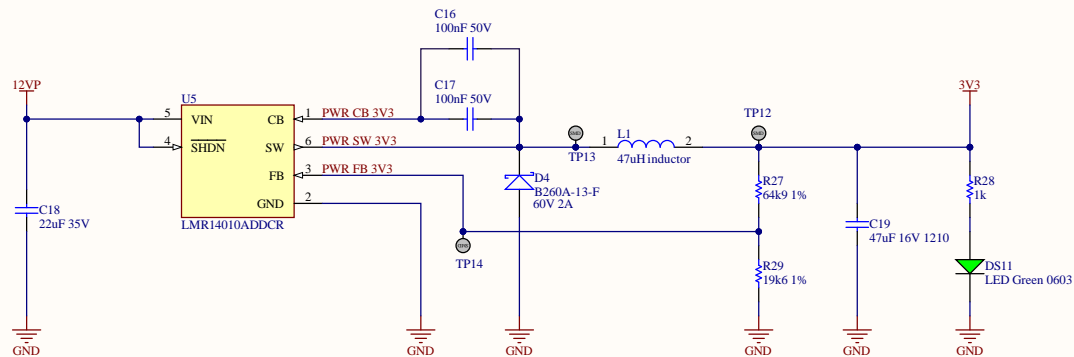


Title		
Size	Number	Revision
A3		
Date:	2/23/2021	Sheet of
File:	C:\Users\jmciso\S05-V00-CANIsolation\DCBDR	Drawn By:

Properties

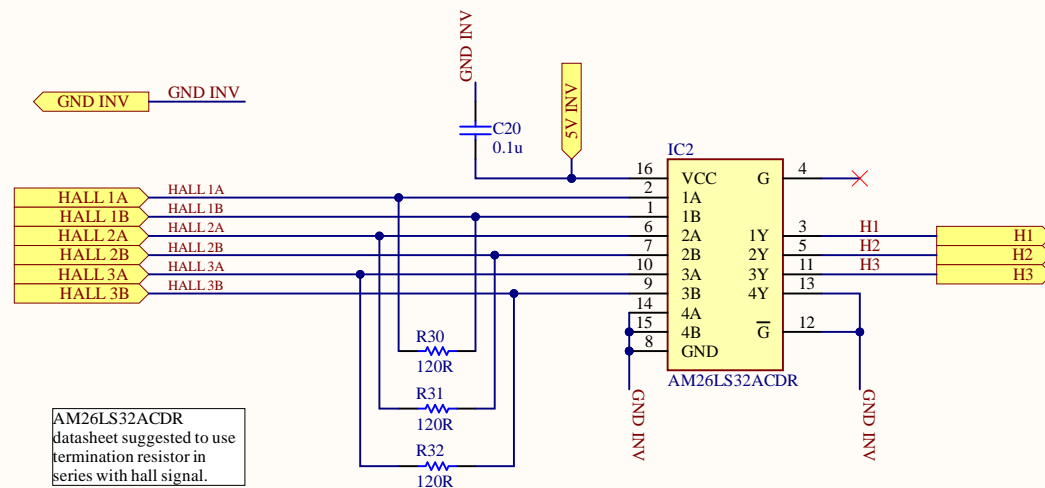
Input voltage range: 9V - 16V
Output voltage: 3V3
Output current: 300mA
Estimated efficiency: 88%
Price estimate (Feb 2021): \$1.64USD

[TI Webench Interactive Model](#)

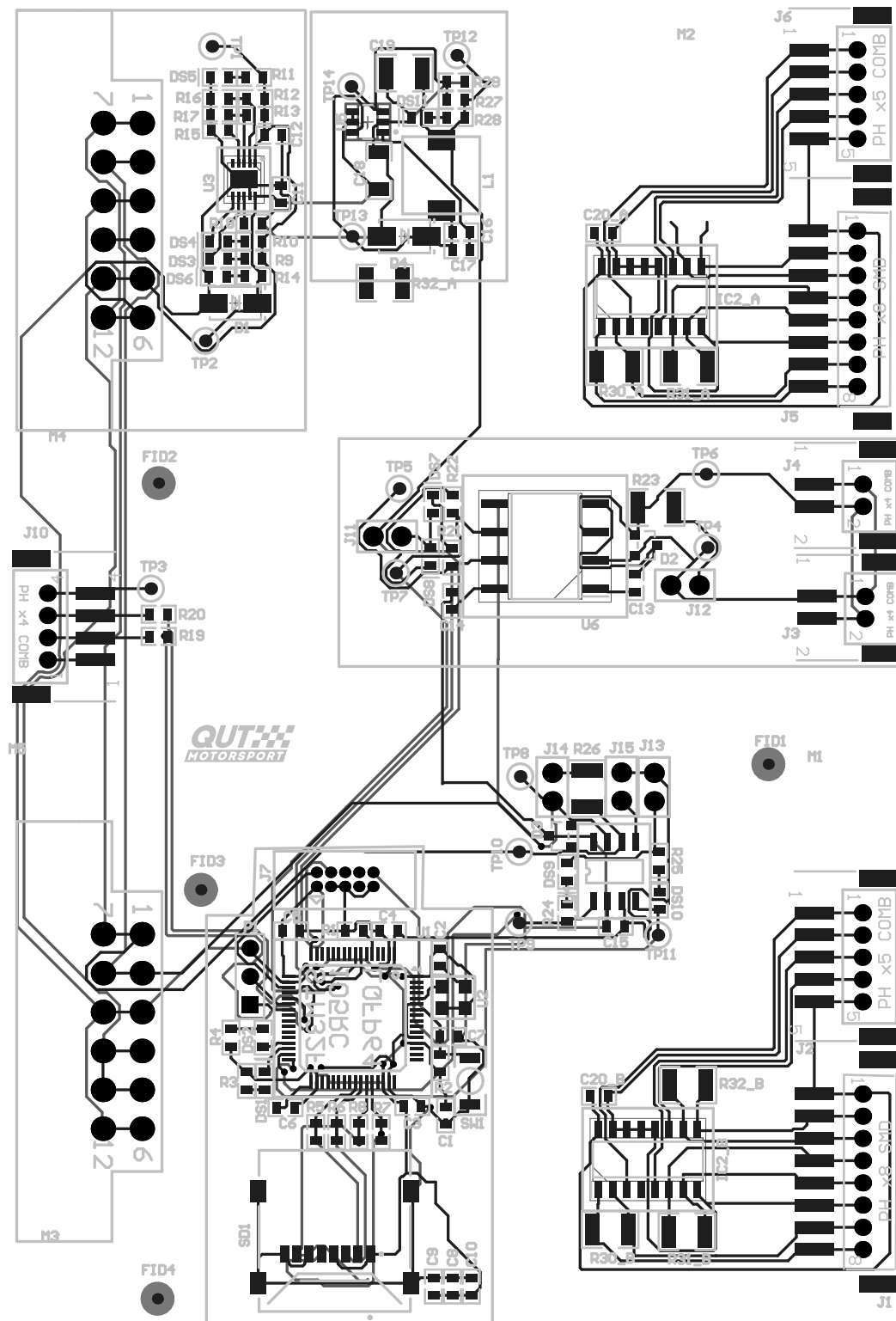


Title Power Supply (20-40V to 3v3 @ 0.1-0.6A)		
Size: A3	Number: 2	Revision: 01
Date: 23/02/2021	Time: 3:53:58 PM	Sheet 6 of 7
File: C:\Users\bishw\Downloads\MCI50-S07-V00-Master-PSU3V3-300mA_SchDoc		





Title		
Size A4	Number	Revision
Date: 2/23/2021	Sheet of	
File: C:\Users\...\MCISO-S06-V00-HALL_DIFF_SCH.DOC	Drawn By:	



Comment	Description	Designator	Footprint	LibRef	Quantity
100nf	Capactor, Ceramic, SMD, 100nf, 50V, 5%, XTR, 0603	C1, C2, C3, C4, C10	Cap_Ceramic_0603	100nf 50V 5% XTR 0603	5
4u7	Capactor, Ceramic, SMD, 4u7, 50V, 5%, XTR, 0603	C5, C8, C13, C14	Cap_Ceramic_0603	4u7 50V 5% XTR 0603	4
100nf 100V	Capactor, Ceramic, SMD, 100nf, 100V, 5%, XTR, 0603	CA, C7, C15	Cap_Ceramic_0603	100nf 100V 5% XTR 0603	3
1uF	Capactor, Ceramic, SMD, 1uF, 25V, 5%, XTR, 0603	C9	Cap_Ceramic_0603	1uF 25V 5% XTR 0603	1
4u7 50V 5%	Capactor, Ceramic, SMD, 4u7, 50V, 5%, XTR, 0603	C11	Cap_Ceramic_0603	4u7 50V 5% XTR 0603	1
470nf 50V 5%	Capactor, Ceramic, SMD, 470nf, 50V, 5%, XTR, 0603	C12	Cap_Ceramic_0603	470nf 50V 5% XTR 0603	1
100nf 50V	Capactor, Ceramic, SMD, 100nf, 50V, 5%, XTR, 0603	C16, C17	Cap_Ceramic_0603	100nf 50V 5% XTR 0603	2
22uF 35V	22uF 35V Ceramic Capacitor XSR 1206 (3216 Metric)	C18	Cap_Ceramic_1206	22uF 35V 20% XSR 1206	1
47uF 16V 1210	Capactor, Ceramic, SMD, 47uF, 16V, 5%, XTR, 1210	C19	Cap_Ceramic_1210	47uF 16V 10% XTR 1210	1
0.1u	Capactor, Ceramic, SMD, 4u7, 50V, 5%, XTR, 0603	C20, A, C20_B	Cap_Ceramic_0603	4u7 50V 5% XTR 0603	2
1N4448WQ 7-F	Diode, SMD, 75V, 5%, 250mA, SOD123	D1	SMA	1N4448WQ 7-F	1
NUP2105L	NUP2105L	D2, D3	NUP2105L	NUP2105L	2
B260A-13-F	Diode, Schottky Barrier Rectifier, 40 V, 2 A, B260A-13-F	D4	SMA	B260A-13-F	1
LED Orange		D51, D52	LED ORANGE 0603	LED ORANGE 0603	2
LED Red 0603	LED Red 0603	D53, D54	LED RED 0603	LED Red 0603	2
LED Green 0603	LED Green 0603	D55, D56, D511	LED GREEN 0603	LED Green 0603	3
LED Blue 0603		D57, D58, D59, D510	LED BLUE 0603	LED BLUE 0603	4
AM26LS32ACDR	Integrated Circuit	IC2_A, IC2_B	SOIC127P600X175- 1AN	AM26LS32ACDR	2
JST PH 6 Right Comb		J1, J5	JST PH 6 Right SMD	JST PH 6 Right Comb	2
JST PH 5a RIGHT COMB		J2, J6	JST PH 5a RIGHT COMB	JST PH 5a RIGHT COMB	2
JST PH 2x RIGHT COMB		J3, J4	JST PH 2x RIGHT COMB	JST PH 2x RIGHT COMB	2
IDC 10P 2x5 1.27mm	IDC 10P 2x5 1.27mm	J7	IDC 1.27MM 10P	IDC 10P 2x5 1.27mm	1
MX120G	MX120G with standard connector layout	J8, J9	MX120G	MX120G	2
JST PH 6x RIGHT COMB		J10	JST PH 6x RIGHT COMB	JST PH 6x RIGHT COMB	1
Jumper 2Way Side Pins	Jumper 2Way Side Pins	J11, J12, J13, J14, J15	Jumper_2Way_Pin	Jumper 2Way Side Pins	5
47uH Inductor	Inductor	L1	SDR7045-470K	SDR7045-470K	1
Hole M3 Tight Unplated	M3 2 Hole, No Plating	M1, M2, M3, M4, M5	M3 2 UNPLATED	Hole M3 Tight Unplated	5
Header 3	Header, 3-Pin	P1	HDR1X3	Header 3	1
10k 1% 0603	Resistor, SMD, 20k, 0.1W, 5%, 0603	R1	Res_ThinFilm_0603	20k 1% 0603	1
4k7	Resistor, SMD, 4k7, 0.1W, 5%, 0603	R2	Res_ThinFilm_0603	4k7 5% 0603	1
330R	Resistor, SMD, 330R, 0.1W, 5%, 0603	R3, R4, R21, R22, R24, R25	Res_ThinFilm_0603	330R 5% 0603	4
220R	Resistor, SMD, 220R, 0.1W, 5%, 0603	R5, R6, R7, R8	Res_ThinFilm_0603	220R 5% 0603	4
4k7 5% 0603	Resistor, SMD, 4k7, 0.1W, 5%, 0603	R9, R10, R11, R14	Res_ThinFilm_0603	4k7 5% 0603	4
2M2 1%	Resistor, SMD, 2M2, 0.125W, 1%, 0603	R12, R13	Res_ThinFilm_0603	2M2 1% 0603	2
150k 5% 0603	Resistor, SMD, 150k, 0.1W, 5%, 0603	R15	Res_ThinFilm_0603	150k 5%, 0603	1
390k 5%	Resistor, SMD, 390k, 0.1W, 5%, 0603	R16	Res_ThinFilm_0603	390k 5% 0603	1
240k 5%	Resistor, SMD, 240k, 0.1W, 5%, 0603	R17	Res_ThinFilm_0603	240k 5% 0603	1
1k 5% 0603	Resistor, SMD, 1k, 0.1W, 5%, 0603	R18	Res_ThinFilm_0603	1k 5% 0603	1
22R	Resistor, SMD, 22R, 0.1W, 1%, 0603	R19, R20	Res_ThinFilm_0603	22R 1% 0603	2
120R 1% 1210	Resistor, SMD, 120R, 0.25W, 1%, 1210	R23, R26	Res_ThinFilm_1210	120R 1% 1210	2
64k9 1%	Resistor, SMD, 64k9, 0.1W, 5%, 0603	R27	Res_ThinFilm_0603	64k9 1% 0603	1
1k	Resistor, SMD, 1k, 0.1W, 5%, 0603	R28	Res_ThinFilm_0603	1k 5% 0603	1
19k6 1%	Resistor, SMD, 19k6, 0.1W, 5%, 0603	R29	Res_ThinFilm_0603	19k6 1% 0603	1
120R	Resistor, SMD, 120R, 0.25W, 1%, 1210	R30_A, R30_B, R31_A, R31_B, R32_A, R32_B	Res_ThinFilm_1210	120R 1% 1210	4
47219-2001	MicroSD Card Connector, Hinge Type, -40 to 85 degC, 8-Pin SMD, RoHS, Tape and Reel	SD1	47219-2001	47219-2001	1
B3U-1000P	Omron B3U-1000P Ultra Miniature Switch	SW1	BTN B3U-1000P	BTN B3U-1000P	1
TestPoint		TP1, TP2, TP3	TestPointSMD	TestPoint	3
TestPoint_SMD		TP4, TP5, TP6, TP8, TP9, TP10, TP11, TP12, TP13, TP14	TestPointSMD	TestPoint_SMD	11
STM32F105RC	ARM® Cortex®-M3 STM32F1 Microcontroller IC 32- Bit 72MHz 256KB (256K x 8) FLASH 64- GPIO (10x10) on 88Pin XO	U1	STM32F105RC	STM32F105RC	1
OSC1001D1-008.0000T	(Standard) CMOS Oscillator 1.8 - 3.3V Standby (Power Down) 4-SMD, No Lead	U2	OSC1001D1- 008.0000TCT-ND	OSC1001D1- 008.0000T	1
MAX17612A	4.5V to 40V, 250mA Current-Limiter with OV, UV, and Reverse Protection	U3	MAX17612A	MAX17612A	1
SN65HVD23	SN65HVD23	U4	SN65HVD233DR	SN65HVD233	1
LMR140GADDCR	IC REG BUCK ADJ 1A SOT23-6	U5	FP-DCDC06A-A/F/G	CMAP-04918-000056-1	1
ISO1050DUBR	Integrated Circuit	U6	SOP254P1040X485-8N	ISO1050DUBR	1