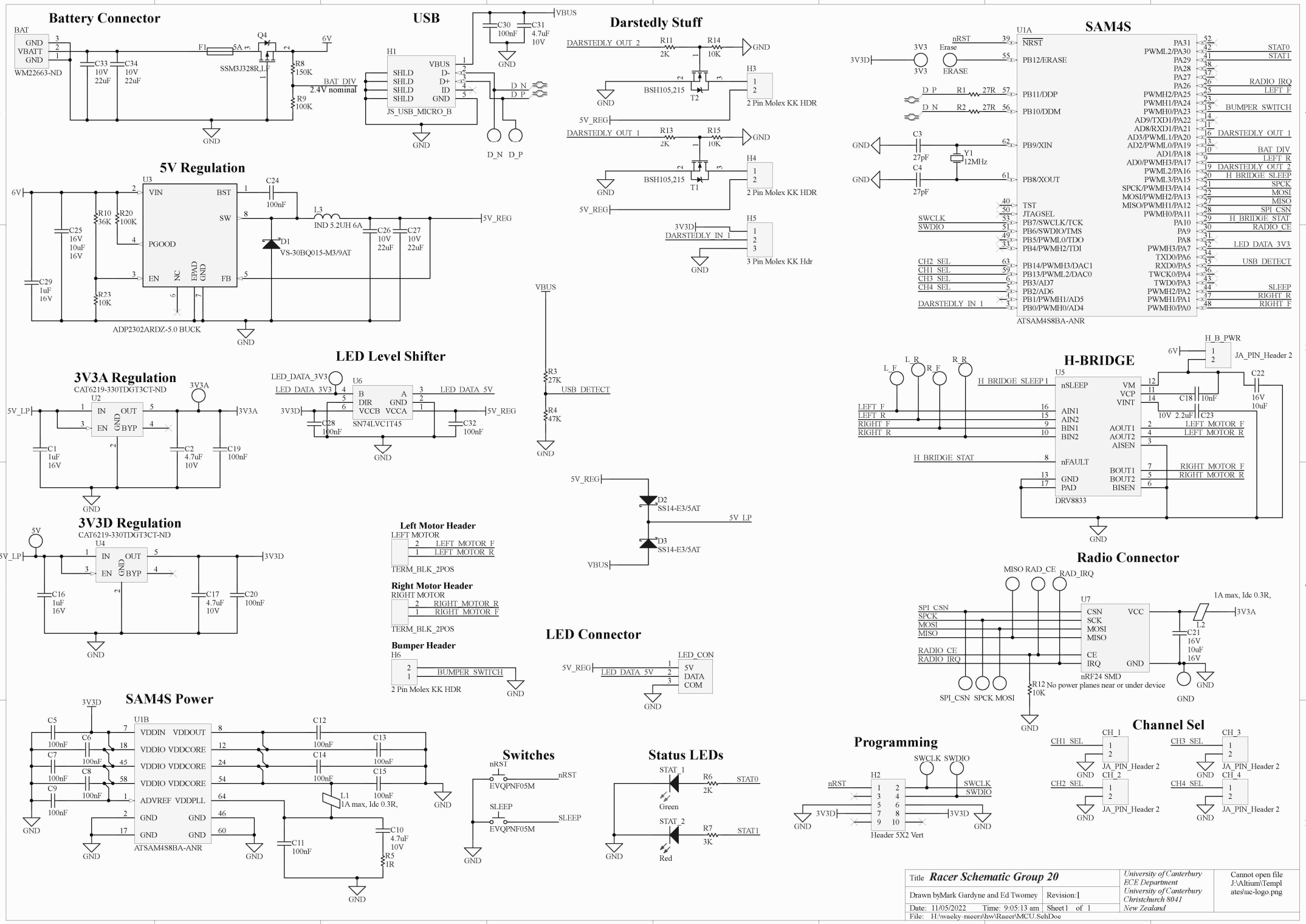
Battery Connector
BAT
GND
VBATT
GND
WM22663-ND
C33 10V 22uF
C34 10V 22uF
F1 5A
Q4
SSM3J328R,LF
6V
R8 150K
R9 100K
BAT_DIV
2.4V nominal
GND
USB
H1
VBUS
SHLD
SHLD
SHLD
SHLD
D+
D+
ID
GND
JS_USB_MICRO_B
C30 100nF
C31 4.7uF 10V
D_N
D_P
D_N D_P
Darstedly Stuff
DARSTEDLY_OUT_2
R11 2K
R14 10K
BSH105,215
T2
H3
2 Pin Molex KK HDR
5V_REG
DARSTEDLY_OUT_1
R13 2K
R15 10K
BSH105,215
T1
H4
2 Pin Molex KK HDR
H5
3V3D
DARSTEDLY_IN_1
3 Pin Molex KK Hdr
SAM4S
U1A
NRST
PB12/ERASE
PB11/DDP
PB10/DDM
PB9/XIN
PB8/XOUT
TST
JTAGSEL
PB7/SWCLK/TCK
PB6/SWDIO/TMS
PB5/PWML0/TDO
PB4/PWMH2/TDI
PB14/PWMH3/DAC1
PB13/PWML2/DAC0
PB3/AD7
PB2/AD6
PB1/PWMH1/AD5
PB0/PWMH0/AD4
PA31
PWML2/PA30
PA29
PA28
PA27
PA26
PWMH2/PA25
PWMH1/PA24
PWMH0/PA23
AD9/TXD1/PA22
AD8/RXD1/PA21
AD3/PWML1/PA20
AD2/PWML0/PA19
AD1/PA18
AD0/PWMH3/PA17
PWML2/PA16
PWML3/PA15
SPCK/PWMH3/PA14
MOSI/PWMH2/PA13
MISO/PWMH1/PA12
PWMH0/PA11
PA10
PA9
PA8
PWMH3/PA7
TXD0/PA6
RXD0/PA5
TWCK0/PA4
TWD0/PA3
PWMH2/PA2
PWMH1/PA1
PWMH0/PA0
STAT0
STAT1
RADIO_IRQ
LEFT_F
BUMPER_SWITCH
DARSTEDLY_OUT_1
BAT_DIV
LEFT_R
DARSTEDLY_OUT_2
H_BRIDGE_SLEEP
SPCK
MOSI
MISO
SPI_CSN
H_BRIDGE_STAT
RADIO_CE
LED_DATA_3V3
USB_DETECT
SLEEP
RIGHT_R
RIGHT_F
ATSAM4S8BA-ANR
3V3D
Erase
ERASE
R1 27R
R2 27R
C3 27pF
C4 27pF
Y1 12MHz
SWCLK
SWDIO
CH2_SEL
CH1_SEL
CH3_SEL
CH4_SEL
5V Regulation
U3
VIN
BST
SW
PGOOD
EN
NC
EPAD GND
FB
C24 100nF
L3 IND 5.2UH 6A
D1 VS-30BQ015-M3/9AT
C26 10V 22uF
C27 10V 22uF
C25 16V 10uF 16V
C29 1uF 16V
R10 36K
R20 100K
R23 10K
ADP2302ARDZ-5.0 BUCK
3V3A Regulation
CAT6219-330TDGT3CT-ND
U2
IN
OUT
EN
GND
BYP
3V3A
5V_LP
C1 1uF 16V
C2 4.7uF 10V
C19 100nF
LED Level Shifter
LED_DATA_3V3
U6
B
A
DIR
GND
VCCB
VCCA
SN74LVC1T45
LED_DATA_5V
C28 100nF
C32 100nF
VBUS
R3 27K
R4 47K
USB_DETECT
5V_REG
D2 SS14-E3/5AT
D3 SS14-E3/5AT
5V_LP
VBUS
H-BRIDGE
U5
nSLEEP
AIN1
AIN2
BIN1
BIN2
nFAULT
GND
PAD
VM
VCP
VINT
AOUT1
AOUT2
AISEN
BOUT1
BOUT2
BISEN
DRV8833
H_B_PWR
JA_PIN_Header 2
6V
C22 16V 10uF
C18 10nF
10V 2.2uF C23
LEFT_MOTOR_F
LEFT_MOTOR_R
RIGHT_MOTOR_F
RIGHT_MOTOR_R
H_BRIDGE_SLEEP 1
H_BRIDGE_STAT
L_F
L_R
R_F
R_R
3V3D Regulation
CAT6219-330TDGT3CT-ND
U4
5V
5V_LP
3V3D
C16 1uF 16V
C17 4.7uF 10V
C20 100nF
Left Motor Header
LEFT MOTOR
LEFT_MOTOR_F
LEFT_MOTOR_R
TERM_BLK_2POS
Right Motor Header
RIGHT MOTOR
RIGHT_MOTOR_R
RIGHT_MOTOR_F
TERM_BLK_2POS
Bumper Header
H6
BUMPER_SWITCH
2 Pin Molex KK HDR
LED Connector
LED_CON
5V
DATA
COM
5V_REG
LED_DATA_5V
Radio Connector
MISO RAD_CE
RAD_IRQ
U7
CSN
SCK
MOSI
MISO
CE
IRQ
VCC
GND
nRF24 SMD
SPI_CSN
SPCK
MOSI
MISO
RADIO_CE
RADIO_IRQ
1A max, Idc 0.3R,
L2
C21 16V 10uF 16V
3V3A
R12 10K
No power planes near or under device
SPI_CSN SPCK MOSI
SAM4S Power
U1B
VDDIN VDDOUT
VDDIO VDDCORE
VDDIO VDDCORE
VDDIO VDDCORE
ADVREF VDDPLL
GND GND
GND GND
ATSAM4S8BA-ANR
C5 100nF
C6 100nF
C7 100nF
C8 100nF
C9 100nF
C12 100nF
C13 100nF
C14 100nF
C15 100nF
L1 1A max, Idc 0.3R,
C10 4.7uF 10V
C11 100nF
R5 1R
Switches
nRST
EVQPNF05M
SLEEP
EVQPNF05M
Status LEDs
STAT_1
Green
R6 2K
STAT_2
Red
R7 3K
Programming
H2
SWCLK SWDIO
nRST
3V3D
Header 5X2 Vert
Channel Sel
CH_1
CH_2
CH_3
CH_4
CH1_SEL
CH2_SEL
CH3_SEL
CH4_SEL
JA_PIN_Header 2
Title Racer Schematic Group 20
Drawn by Mark Gardyne and Ed Twomey
Revision: 1
Date: 11/05/2022 Time: 9:05:13 am
Sheet 1 of 1
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