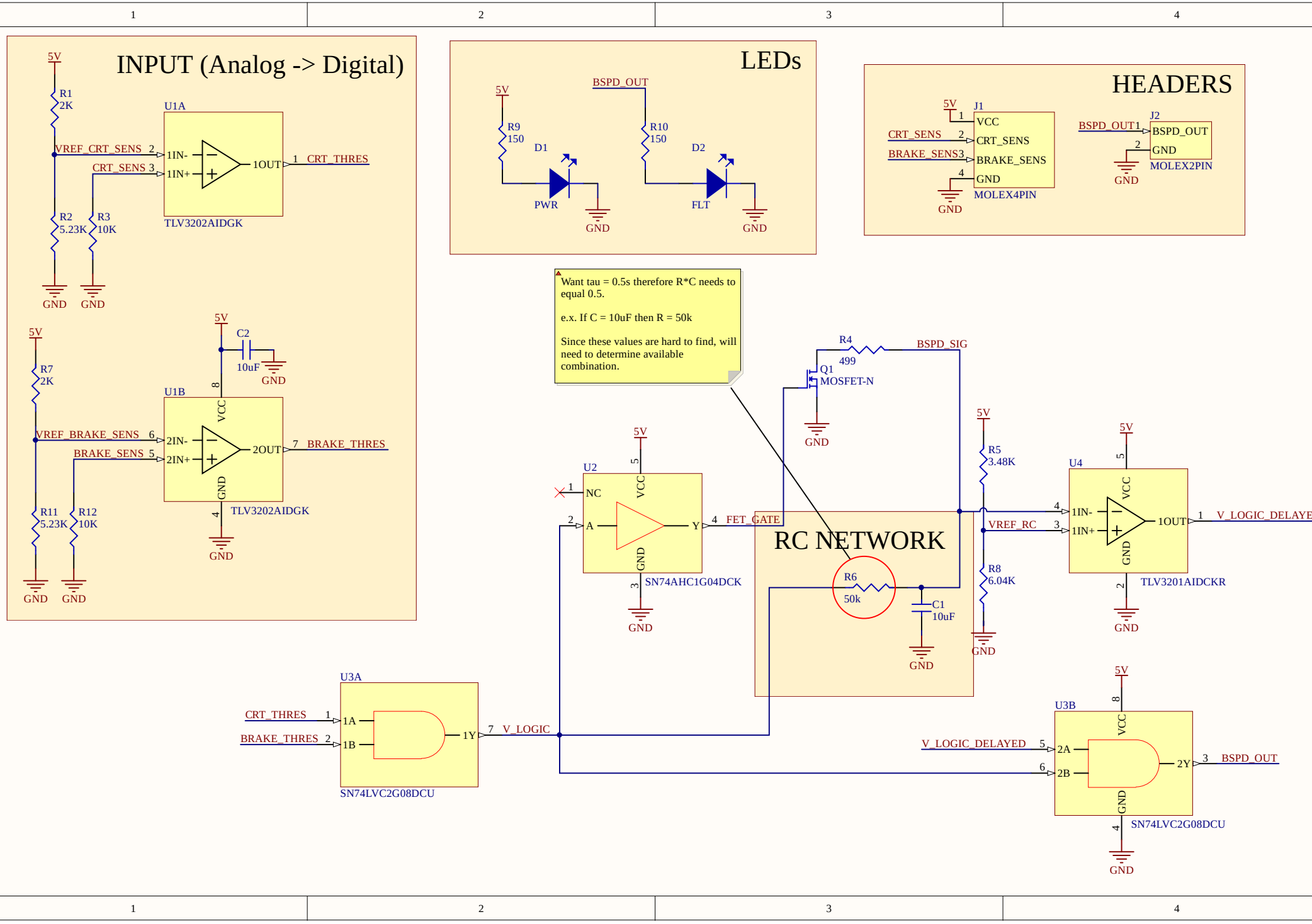
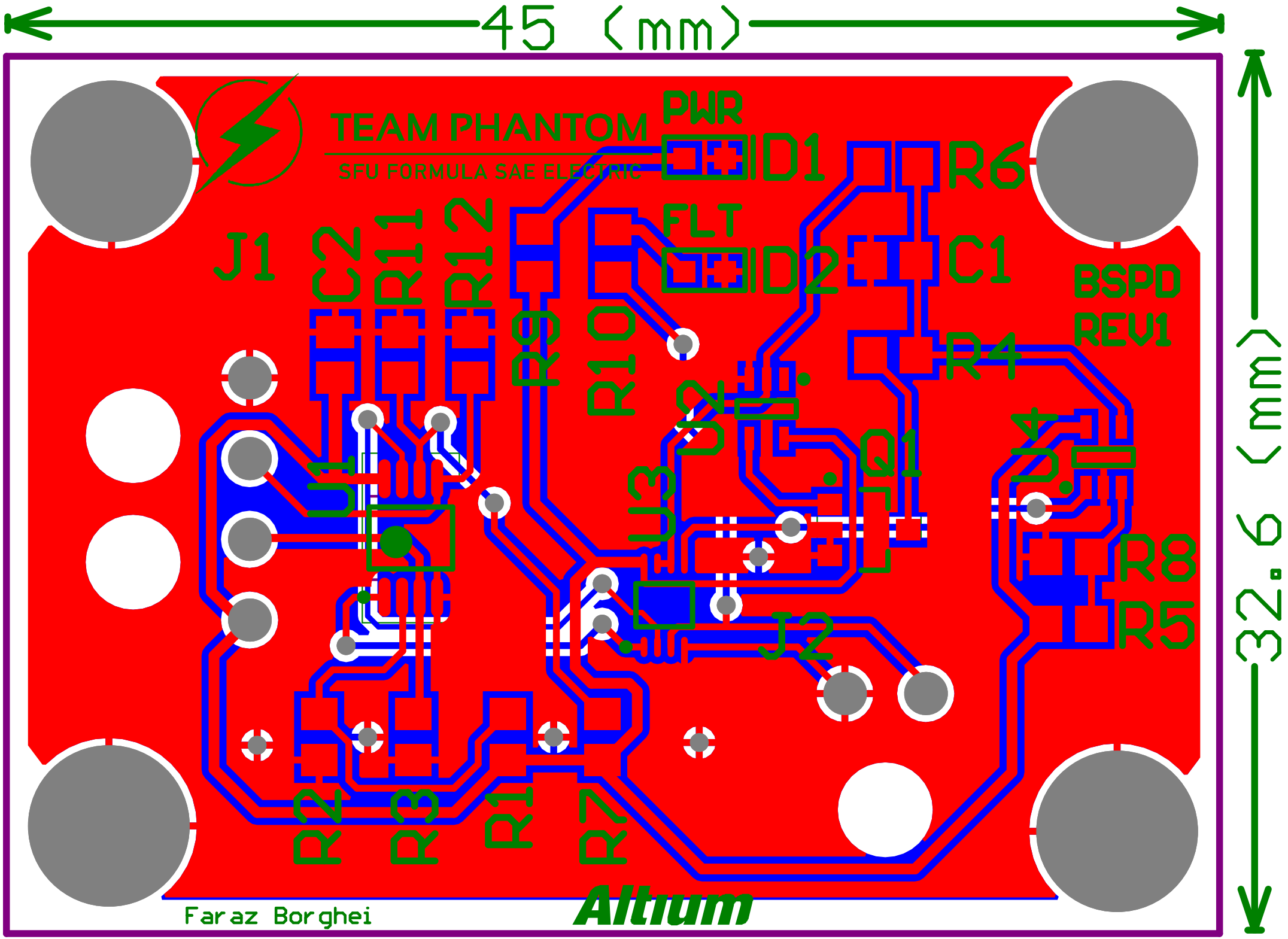

INPUT (Analog -> Digital)
5V
R1
2K
U1A
VREF_CRT_SENS 2
CRT_SENS 3
1IN-
1IN+
1OUT
1 CRT_THRES
TLV3202AIDGK
R2
5.23K
R3
10K
GND
GND
5V
C2
10uF
GND
R7
2K
U1B
VCC
8
VREF_BRAKE_SENS 6
BRAKE_SENS 5
2IN-
2IN+
2OUT
7 BRAKE_THRES
GND
4
TLV3202AIDGK
R11
5.23K
R12
10K
GND
GND
LEDs
5V
R9
150
D1
PWR
GND
BSPD_OUT
R10
150
D2
FLT
GND
HEADERS
5V
J1
1
VCC
CRT_SENS 2
CRT_SENS
BRAKE_SENS3
BRAKE_SENS
4
GND
MOLEX4PIN
GND
BSPD_OUT1
J2
BSPD_OUT
2
GND
MOLEX2PIN
GND
Want tau = 0.5s therefore R*C needs to equal 0.5.
e.x. If C = 10uF then R = 50k
Since these values are hard to find, will need to determine available combination.
R4
499
BSPD_SIG
Q1
MOSFET-N
GND
5V
U2
5
VCC
1
NC
2
A
Y
4 FET_GATE
GND
3
SN74AHC1G04DCK
GND
RC NETWORK
R6
50k
C1
10uF
GND
5V
R5
3.48K
R8
6.04K
GND
VREF_RC
3
5V
U4
5
VCC
4
1IN-
1IN+
1OUT
1 V_LOGIC_DELAYED
GND
2
TLV3201AIDCKR
GND
U3A
CRT_THRES 1
BRAKE_THRES 2
1A
1B
1Y
7 V_LOGIC
SN74LVC2G08DCU
5V
U3B
8
VCC
V_LOGIC_DELAYED 5
6
2A
2B
2Y
3 BSPD_OUT
GND
4
SN74LVC2G08DCU
GND


45 (mm)
32.6 (mm)
TEAM PHANTOM
SFU FORMULA SAE ELECTRIC
PWR
LED1
R6
FLT
LED2
C1
BSPD
REV1
J1
C2
R11
R12
R9
R10
R4
Q1
R8
R5
J2
R2
R3
R1
R7
Faraz Borghei
Altium

Item #	Designator	Description	Name	Quantity	Manufacturer 1	Manufa
1	C1, C2	Cap Ceramic 10uF 10V X5R 10% SM	10uF	2	Sams	CL
2	U4	Comparator Single R-R I/P 5.5V 5-P	TLV3201AIDCKR	1	Texas Instruments	T
3	U3	Dual 2-Input Positive-AND Gate	SN74LVC2G08DCU	1	Texas Instruments	SN
4	J2	Headers & Wire Housings R/A HEAD	MOLEX2PIN	1	Molex	
5	U1	IC COMPAR PWR RRI DL PP 8VSS	TLV3202AIDGK	1	Texas Instruments	T
6	D1	LED GREEN CLEAR SMD	PWR	1	Vishay Lite-On	L
7	D2	LED RED CLEAR SMD	FLT	1	Vishay Lite-On	L
8	J1	MOLEX 43650-0400 Wir	MOLEX4PIN	1	Molex	
9	Q1	MOSFET N-CH 50V 200MA SOT-23	MOSFET-N	1	ON Semiconductor	
10	R6	RES 50K OHM 0.1% 1/5W 0805	50k	1	Vishay	PT
11	R1, R7	RES SMD 2K OHM 0.1% 1/8W 0805	2K	2	Panasonic	
12	R2, R11	RES SMD 5.23K OHM 0.1% 1/8W 0	5.23K	2	Panasonic	E
13	R8	RES SMD 6.04K OHM 0.1% 1/8W 0	6.04K	1	Panasonic	E
14	R3, R12	RES SMD 10K OHM 0.1% 1/8W 080	10K	2	Panasonic	