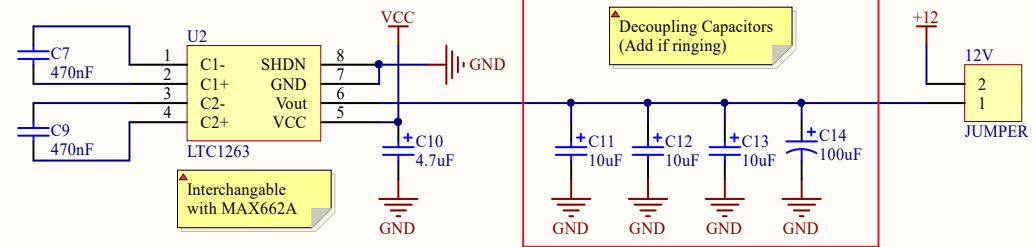
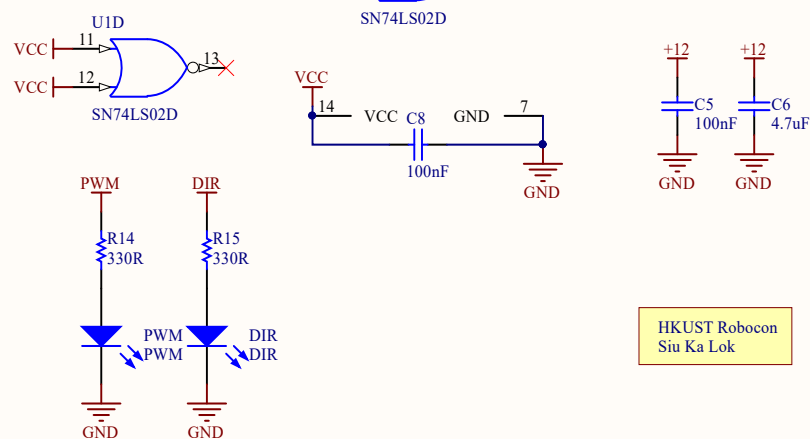


Inverted Truth Table of H-Bridge Input

DIR	PWM	HinL	HinR	LinL	LinR
1	1	0	0	1	0
1	0	0	1	1	0
0	1	0	0	0	1
0	0	1	0	0	1

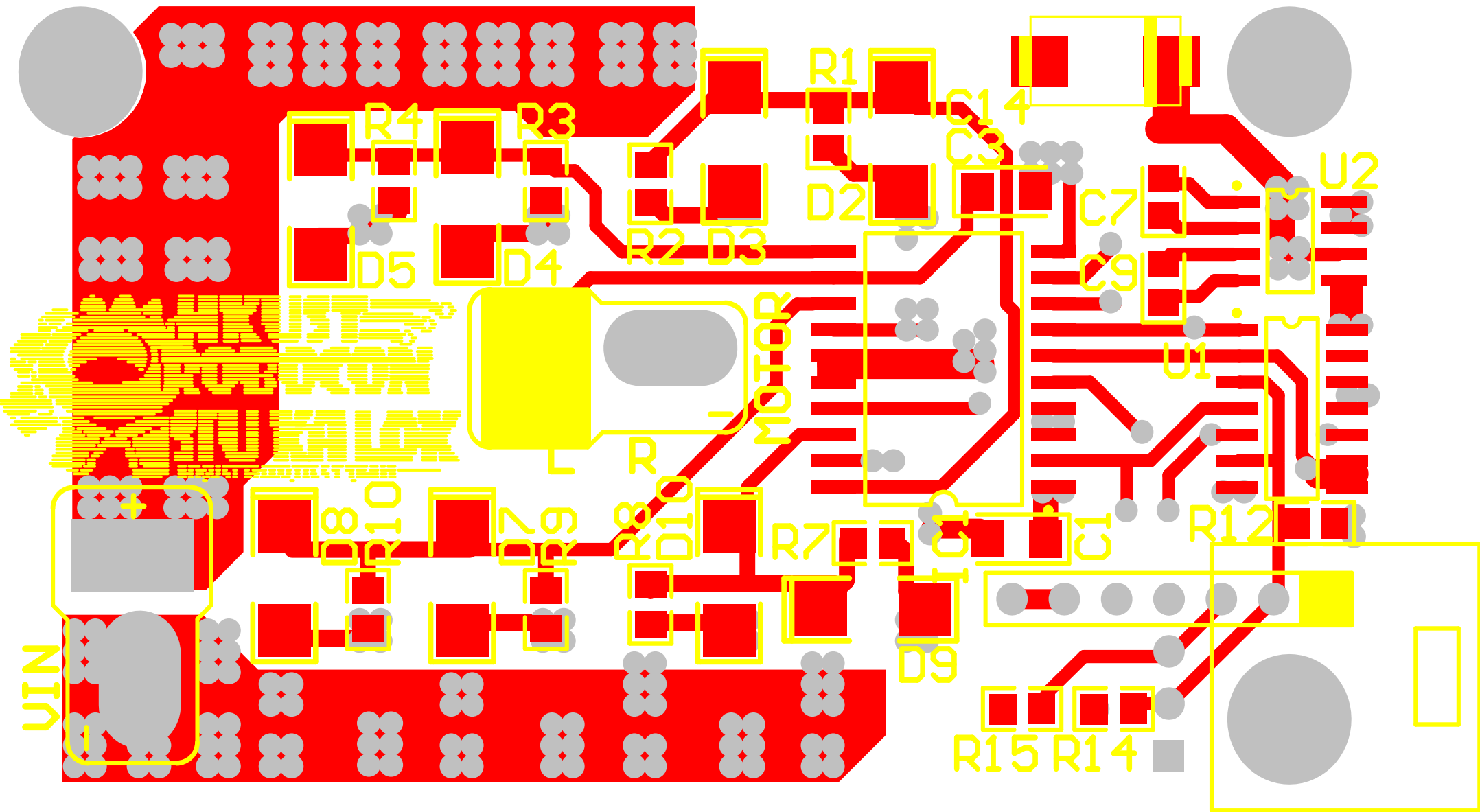
Truth table input inverted for addition of optocouplers, caution when developing

Limited hardware braking supported
To apply hardware braking, invert DIR after deasserting PWM

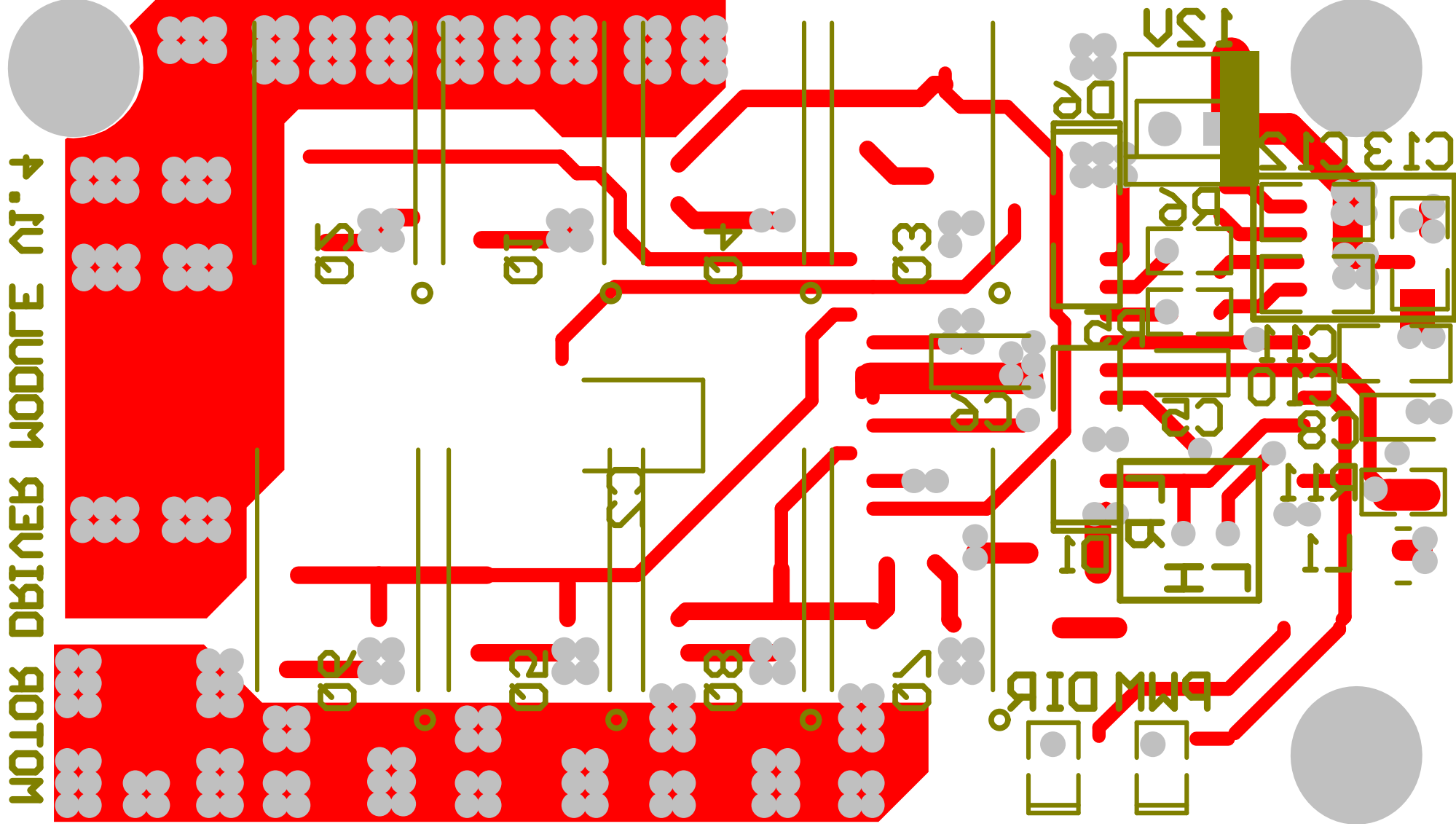


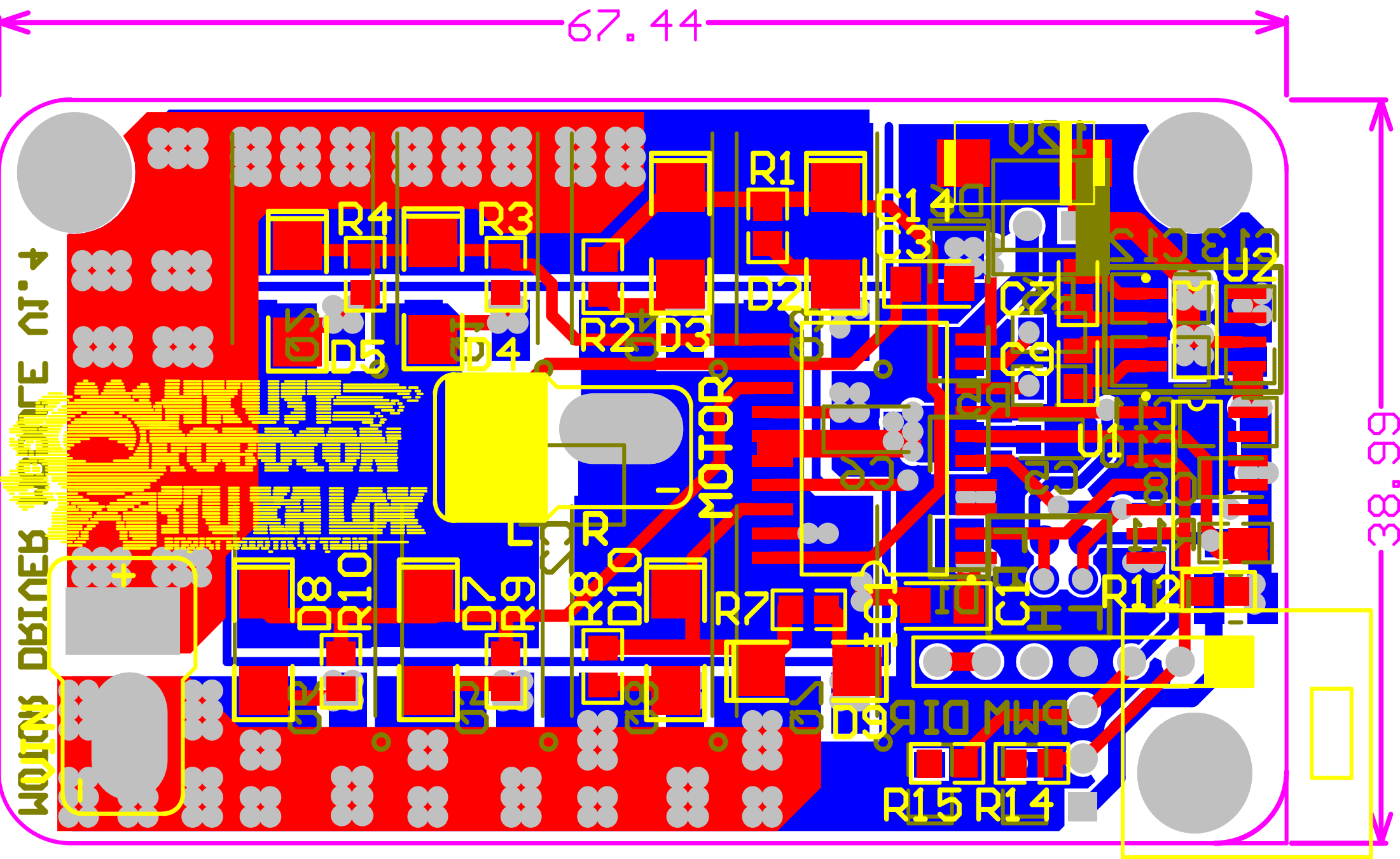
HKUST Robocon
Siu Ka Lok

Title		
Size	Number	Revision
A4		
Date:	23/2/2017	Sheet of
File:	C:\Users\...HIP4081 Motor Board.SchDoc	Drawn By:



4.1U JUCOM REV1A0 ROTOM





67.44

38.99

Comment	Description	Designator	Footprint	LibRef	Quantity
JUMPER	Header, 2-Pin	12V	6410-02	Header 2	1
2uF	Capacitor (Semiconductor SIM Model)	C1, C3	CC3216-1206	Cap Semi	2
3n3F	Capacitor (Semiconductor SIM Model)	C2	CC3225-1210	Cap Semi	1
100nF	Capacitor (Semiconductor SIM Model)	C5, C8	CC2012-0805	Cap Semi	2
4.7uF	Capacitor (Semiconductor SIM Model)	C6	CC3216-1206	Cap Semi	1
470nF	Capacitor (Semiconductor SIM Model)	C7, C9	CC2012-0805	Cap Semi	2
4.7uF	Polarized Capacitor (Surface Mount)	C10	CR3216-1206	Cap Pol3	1
10uF	Polarized Capacitor (Surface Mount)	C11, C12, C13	CR3216-1206	Cap Pol3	3
100uF	Polarized Capacitor (Axial)	C14	EIA7343	Cap Pol2	1
1N4148	High Conductance Fast Diode	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10	MURS120	Diode 1N4148	10
DIR	Typical RED GaAs LED	DIR	SMD_LED	LED	1
HIP4081	80V/2.5A Peak, High Frequency Full Bridge FET Driver	IC1	SOP-20	HIP4081	1
MOTOR	Header, 2-Pin	JP3	T-CONNECTOR(F)	Header 2	1
Inductor	Inductor	L1	CR3225-1210	Inductor	1
MOTOR	Header, 2-Pin	MOTOR	LOCKEDPWRHDR	Header 2	1
SIG	Header, 6-Pin	P1	HDR1X7	Header 7	1
SIG	Header, 4-Pin	P2	LOCKEDHDR-4W	Header 4	1
Robocon Logo		Project1	Robocon_Logo	Robocon Logo	1
PWM	Typical RED GaAs LED	PWM	SMD_LED	LED	1
IRLR3705Z	HEXFET N-Channel Power MOSFET	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8	TO-252AA	IRLR3705	8
33R	Semiconductor Resistor	R1, R2, R3, R4, R7, R8, R9, R10	CR2012-0805	Res Semi	8
100k	Semiconductor Resistor	R5, R6	CR2012-0805	Res Semi	2
1k	Semiconductor Resistor	R11, R12	CR2012-0805	Res Semi	2
330R	Semiconductor Resistor	R14, R15	CR2012-0805	Res Semi	2
SN74LS02D	Quadruple 2-Input Positive-NOR Gate	U1	D014	SN74LS02D	1
LTC1263	5V to 12V	U2	SO-8	MAX662A	1
12-24V	Header, 2-Pin	VIN	T-CONNECTOR(M)	Header 2	1