

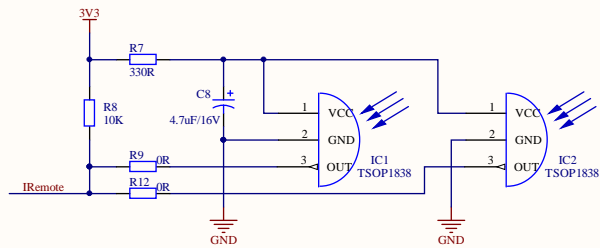
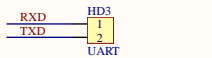
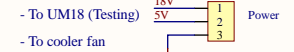
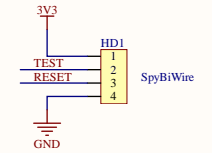
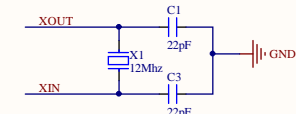
100nF = 0.1uF = 100 000pF = 104 loaì dan thi dung c0603

1nF = 1000pF = 102, or SMD 0805

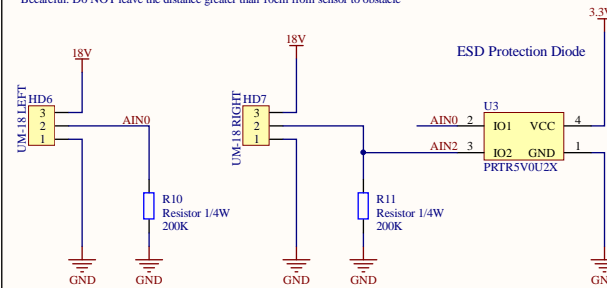
Setup ADS1115:  
- AVCC = 3.3V  
- FS = +/-2.048V


Setup UM-18:  
- DAC =  $V_{out}/3$

Setup UM-18:  
- DAC =  $V_{out}/3$   
 $\Rightarrow$  Maximum =  $10V/3 = 3.3V$



\*Becareful: Do NOT leave the distance greater than 10cm from sensor to obstacle



Title: <b>Bài 4: Mạch điều khiển từ xa</b>			LẠI PHƯỚC SƠN <a href="mailto:elec2pcb@gmail.com">elec2pcb.com</a> <a href="mailto:elec2pcb@gmail.com">elec2pcb@gmail.com</a>	
Size: <b>A3</b>	Number: *	Revision: <b>1.0</b>		
Date: <b>2016-10-09</b>	Time: <b>10:54:41 PM</b>	Sheet <b>01</b> of <b>02</b>		
File: <b>C:\Users\lpson\Google Drive\elec2pcb\khóa học Altium v2\Basic PCB\document\Mạch điều khiển từ xa\Mạch điều khiển</b>				

# Bill of Materials

UM18 - Distance Measurement

Source Data From: Mach dieu khien tu xa.PrjPcb  
Project: Mach dieu khien tu xa.PrjPcb  
Variant: None

Creation Date: 2016-10-09 10:54:44 PM  
Print Date: 42652 42652.95497

Footprint	Comment	#Column Name E	Designator	Description	Quantity
CAP_TANTA_10UF_35V	10uF/35V		C11, C18	Tantalum Capacitor	2
CAP_TANTA_10UF_16V	10uF/16V		C5, C12, C19	Tantalum Capacitor	3
PRTR5V0U2X	PRTR5V0U2X		U3	ESD protection diode	1
2N2222	2N2222		Q2, Q3	TRANS GP SS NPN LP 40V TO92	2
MSP430G22	MSP430G2553		U1	MSP430G2553 (28 pins)	1
53IPW28R					
RESC2012(0805)	Resistor 1/4W		R10, R11	Resistor 1/4W	2
LM7805	LM7818		IC6	Linear Regulator	1
LM7805	LM7812		IC4	Linear Regulator	1
LM7805	LM7805		IC3	Linear Regulator	1
LM1086	LM1086 (3.3V)		IC5, IC7	Linear Regulator	2
KSA1013	KSA1013		Q1	PNP 600mW, ECB	1
KBU1010G	KBU1010		D1	10A glass passivated bridge rectifier	1
ADS1115	ADS1115		U2	Analog to Digital Converter	1
Tu gom 104	100nF/16V		C4, C7, C15, C22	Cap np 104 => 105pF	4
Tu gom 104	100nF/25V		C14, C21	Cap np 104 => 105pF	2
Tu gom 104	100nF/50V		C13, C20	Cap np 104 => 105pF	2
CAP_10UF_16V	10uF/16V		C9	Aluminium Capacitor	1
C0805	10uF/16V		C2	Cap P 0,1uF < 22uF , 16 - 50V	1
C_FC_10UF_50V	10uF/50V		C10, C17	Aluminium Capacitor	2
CRYSTAL	12Mhz		X1	Crystal For all Crystal 2pin.	1
DOMINO2_GREEN	18VAC-3A		HD9	Header 2 (Green)	1
1N4007	1N4007		D2	Diode 1A	1
C0805	1nF		C6	Cap np 104 => 105pF	1
DOMINO2_GREEN	220VAC		HD10	Header 2 (Green)	1
C0603	22pF		C1, C3	0805-SMD Capacitor	2
CAP_3300UF_50V	3300uF/50V		C16	Cap P 0,1uF < 22uF , 16 - 50V	1
C0805	Cap Pol1		C8	Polarized Capacitor (Radial)	1
CON12	Display Port 1		HD4	Header 12	1
CON12	Display Port 2		HD5	Header 12	1
DOMINO2_GREEN	Domino		HD8	Header 2 (Green)	1
FUSE2_5A	Fuse/2.5A		F1	Fuse	1
LED3R	GREEN		LED2	LED Single colour Green and Red	1
LED3R	LED		LED3	LED Single colour Green and Red	1
CON3	Power		HD2	Header 3 (Green)	1
LED3R	RED		LED1	LED Single colour Green and Red	1
RL_10A_5V	Relay 10A/5V		RL1	Relay SPDT,10A - 12VDC 5 Pin	1
RESC2012(0805)	Res2		R1, R2, R3, R4, R5, R6, R7, R8, R9, R12	Resistor	10
CFR1WS	Res2		R13, R14	Resistor	2
R2WD	Res2		R15	Resistor	1
RES 1/4W	Res2		R16, R17	Resistor	2
CFR25					
BUTTON	RESET		SW1	Switch button 2 pin	1
2PIN TRON					
SPEAKER	Speaker		SP1	Speaker Chip	1
Header_4	SpyBiWire		HD1	Header 4 (Green)	1
TSOP1838	TSOP1838		IC1, IC2		2
Header_2	UART		HD3	Header 2 (Green)	1
CON3	UM-18 LEFT		HD6	Header 3 (Green)	1
CON3	UM-18 RIGHT		HD7	Header 3 (Green)	1
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Approved	Notes