核心板接口 LQ-K60P144SYS-VG

指示灯

D5V 发光二极管
D1 发光二极管
D2 发光二极管
3V3 +5
RP1 102
GND PTC18 PTC19

液晶显示屏接口 P5
CS DC RST D1 D0 VCC GND
PTC13 PTC14 PTC15 PTC16 3V3
OLED

摄像头接口 P4
PTD8 PTD9 PTD10 PTD11 PTD12 PTD13 PTD14 PTD15
PCLK PTE4 PTE6 HRF PTC6 PTC7 VSY
GND 3V3 OV7620

编码器接口 P6
GND +5
PTA24 PTA25
EC2

编码器接口 P9
GND +5
PTA26 PTA27
EC3

PTE0 PTA19 62
PTE1 PTA18 61
PTE2 PTA17 60
PTE3 PTA16 59
PTE4 PTA15 58
PTE5 PTA14 57
PTE6 PTA13 56 PTA13
PTE7 PTA12 55 PTA12
PTE8 PTA11 54
PTE9 PTA10 53
PTE10 PTA9 52
PTE11 PTA8 51 PTA8
PTE12 PTA7 50
USB0_DP PTA6 49
USB0_DM PTA5 48
VREGIN PTA4 47
ADC0_DP1 PTA3 46
ADC0_DM1 3.3V 45 3V3
ADC1_DP1 PTA0 44
ADC1_DM1 GND 43 GND
ADC1_DP3 PTA2 42 GND
ADC1_DM3 GND 41 GND
ADC0_DP3 PTA1 40
ADC0_DM3 NC 39
VREFH RESET 38
ADC1_SE16 NC 37
ADC0_SE16 PTE28 36
ADC0_SE18 PTE27 35
DAC0_OUT PTE26 34
DAC1_OUT PTE25 33
PTE24 32
BAT 31

PTA25 63 PTA25 PTD14 124 PTD14
PTA24 64 PTA24 PTD15 123 PTD15
PTA27 65 PTA27 PTD12 122 PTD12
PTA26 66 PTA26 PTD13 121 PTD13
PTA29 67 PTA29 PTD10 120 PTD10
PTA28 68 PTA28 PTD11 119 PTD11
PTB1 69 PTB1 PTD8 118 PTD8
PTB0 70 PTB0 PTD9 117 PTD9
PTB3 71 PTB3 PTD6 116 PTD6
PTB2 72 PTB2 PTD7 115 PTD7
PTB5 73 PTB5 PTD4 114 PTD4
PTB4 74 PTB4 PTD5 113 PTD5
PTB7 75 PTB7 PTD2 112
PTB6 76 PTB6 PTD3 111
PTB9 77 PTD0 110
PTB8 78 PTD1 109
PTB11 79 PTC18 108 PTC18
PTB10 80 PTC19 107 PTC19
PTB17 81 PTC16 106 PTC16
PTB16 82 PTC17 105
PTB19 83 PTB19 PTC14 104 PTC14
PTB18 84 PTB18 PTC15 103 PTC15
PTB21 85 PTB21 PTC12 102
PTB20 86 PTB20 PTC13 101 PTC13
PTB23 87 PTC10 100 PTC10
PTB22 88 PTB22 PTC11 99 PTC11
PTC1 89 PTC1 PTC8 98 PTC8
PTC0 90 PTC9 97 PTC9
PTC3 91 PTC3 PTC6 96 PTC6
PTC2 92 PTC2 PTC7 95 PTC7
PTC4 94 PTC4
PTC5 93

编码器接口 P1
GND +5
PTA12 PTA13
EC0

编码器接口 P2
GND +5
PTB18 PTB19
EC1

3V3扩展接口 P3
3V3 GND
DC3V3

5V稳压模块 U1
BAT1 IN OUT +5
GND
C1 Cap Pol1 470u/25V
C2 Cap 104
LM2940-5.0V GND

3V3稳压模块 U2
BAT1 IN OUT 3V3
GND
C3 Cap Pol1 470u/25V
C4 Cap 104
LM2937-3.3V GND

独立按键接口
K2 B22
K1
K0 B21 B20
RP2 102 3V3
PTB22 PTB21 PTB20
GND

光电接近开关 P8
+5 +5
PTA28 PTA29
ITR
GND GND

舵机可调稳压电路
BAT U3
C5 Cap Pol1 220u
GND
R3 Res1 1K CTL2
R4 Res1 2K7
IN SW SW EN FB OCSET GND
L1 Inductor 33u
D4 IN5824
R1 Res1 1K
R5 Res Tap 2K
C6 Cap Pol1 470u
GND
AS1015
VADJ
R2 Res1 3K3
D3 发光二极管
PTB19
P7 DJ
GND

4位拨码开关
S1
PTC8 PTC9 PTC10 PTC11
GND
SW DIP-4

电磁传感器接口
P10
PTB6 PTB7 PTB4 PTB5 PTB2 PTB3 PTB0 PTB1
+5 GND
ADC

电池接口、开关及电池电压检测电路
P11 +12 S2
BAT
GND
PTA8
SW-SPDT BAT
R6 Res1 2K
R7 Res1 2K
R8 Res1 1K
GND

双路电机驱动接口
3V3 P13 3V3
PTD4 PTC1 PTD5 PTC2 PTD6 PTC3 PTD7 PTC4
Motor

GPIO扩展接口
P12
GND +5
PTE7 PTE8 PTE9 PTE10 PTE11 PTE12
GPIO

Title

Size A4
Number
Revision
Date: 2019/7/12
File: D:\User\..\K60.SchDoc
Sheet of
Drawn By:

NJUST 2019 Beacon
SWT v0.0.2
github/Freed-Wu/K60
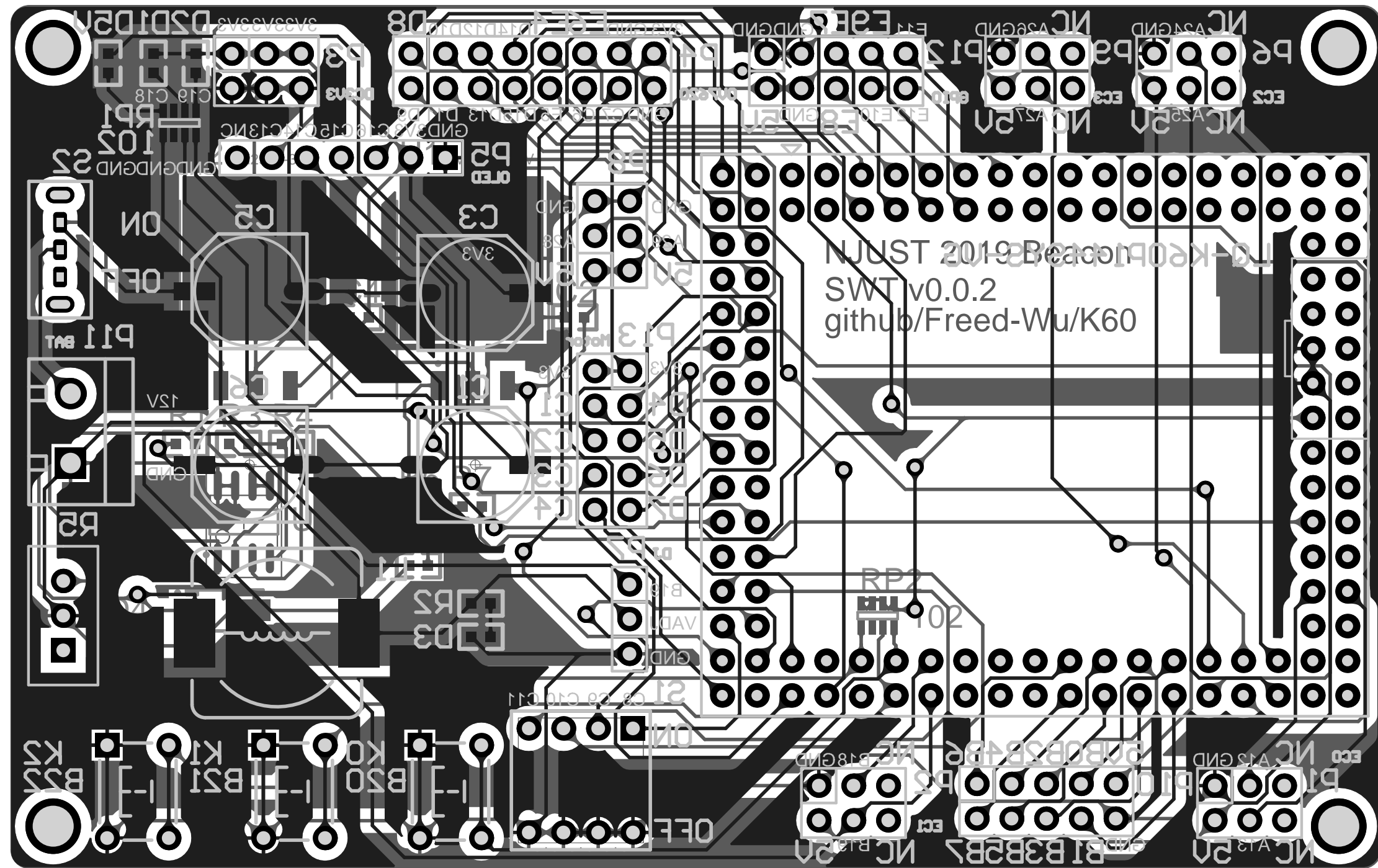
Bill of Materials

<Parameter Title not found>

Source Data From:	**K60.PrjPCB**
Project:	**K60.PrjPCB**
Variant:	**None**

Creation Date:	2019/7/12	0:43:16
Print Date:	12-Jul-19	12:43:28 AM

Footprint	Comment	LibRef	Designator	Description	Quantity
LQ_KXXP144-SYSVG		LQ_KXXP144-SYSVG	LQ-K60P144SYS-VG		1
2.54排针2X8	OV7620	Header 8X2	P4	Header, 8-Pin, Dual row	1
2.54排针2X5	ADC	Header 5X2	P10	Header, 5-Pin, Dual row	1
2.54排针2X5	GPIO	Header 5X2	P12	Header, 5-Pin, Dual row	1
2.54排针2X5	Motor	Header 5X2	P13	Header, 5-Pin, Dual row	1
NSO8_N	AS1015	AS1015	U3	可调升压芯片	1
8P4R_0603	102	Res Pak-8	RP1, RP2		2
BMKG4	SW DIP-4	SW DIP-4	S1	DIP Switch, 4 Position, SPST	1
HDR1X7	OLED	Header 7	P5	Header, 7-Pin	1
2.54排针2X3	DC3V3	Header 3X2	P3	Header, 3-Pin, Dual row	1
2.54排针2X3	EC0	Header 3X2	P1	Header, 3-Pin, Dual row	1
2.54排针2X3	EC1	Header 3X2	P2	Header, 3-Pin, Dual row	1
2.54排针2X3	EC2	Header 3X2	P6	Header, 3-Pin, Dual row	1
2.54排针2X3	EC3	Header 3X2	P9	Header, 3-Pin, Dual row	1
2.54排针2X3	ITR	Header 3X2	P8	Header, 3-Pin, Dual row	1
TSW DIP-6*6*6	B20	key	K0		1
TSW DIP-6*6*6	B21	key	K1		1
TSW DIP-6*6*6	B22	key	K2		1
TO-263-3	LM2937-3.3V	LM2940	U2	5V稳压芯片	1
TO-263-3	LM2940-5.0V	LM2940	U1	5V稳压芯片	1
2.54排针1X3	DJ	Header 3	P7	Header, 3-Pin	1
VR_A1	Res Tap	Res Tap	R5	Tapped Resistor	1
SW3-H2X3_8.6X4.5_L	SW-SPDT	SW-SPDT	S2	SPDT Subminiature Toggle Switch, Right Angle Mounting, Vertical Actuation	1
0603	Cap	Cap	C2, C4	Capacitor	2
CT 8*7 - C	Cap Pol1	Cap Pol1	C1, C3, C5, C6	Polarized Capacitor (Radial)	4
SMA	IN5824	Diode	D4	SS54	1
KF301-2P	BAT	Header 2	P11	Header, 2-Pin	1
CDRH127	Inductor	Inductor	L1	Inductor	1
0603	Res1	Res1	R1, R2, R3, R4, R6, R7, R8	Resistor	7
0603	发光二极管	发光二极管	D1, D2, D3, D5V		4
					44

Approved	Notes	