

Application circuit for RED



Revision History

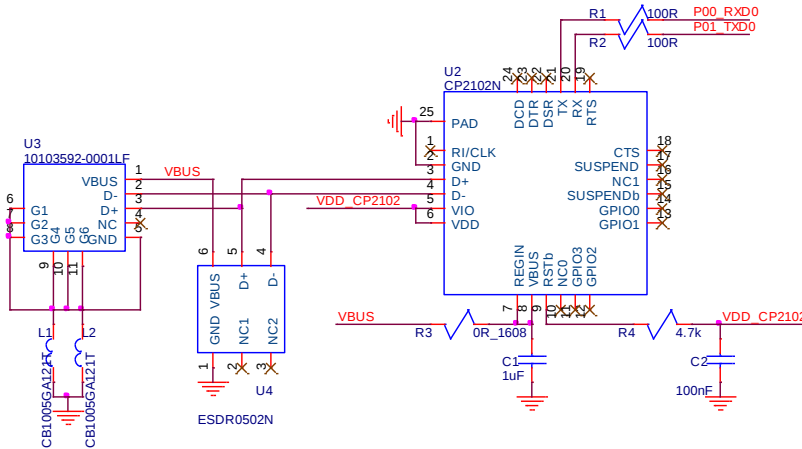
Version	Date	Description	Person in charge
01	2018-03-29	Initial Release	
02	2020-04-01	Update	KJ Min

Introduction

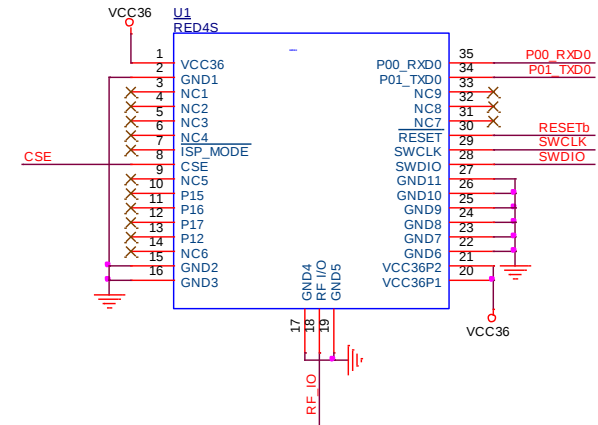
- This document contains the application circuit for RED
- All circuits are based on UART communication through PC USB.
- These are the reference schematics for RED4S and RED5 users.
You can modify these circuits for the purpose of your application.

Application circuit for RED4S : Schematic

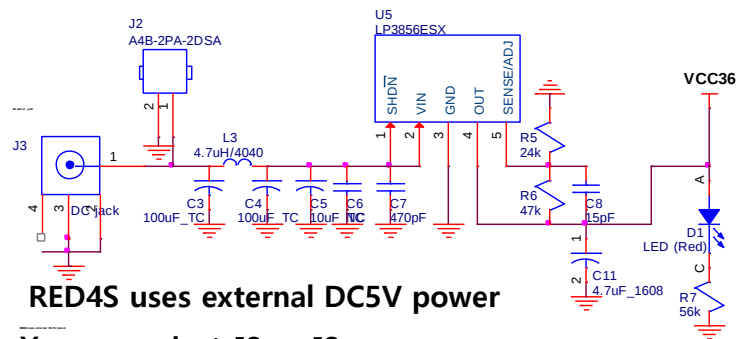
USB-to-UART



RED4S



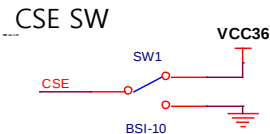
DC power



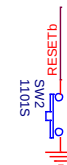
RED4S uses external DC5V power

You can select J2 or J3

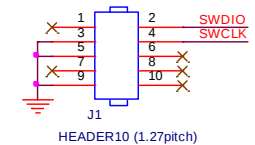
CONTROL



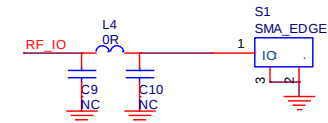
RESET SW



Debug port



RF port



PHYCHIPS

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Wednesday, April 01, 2020

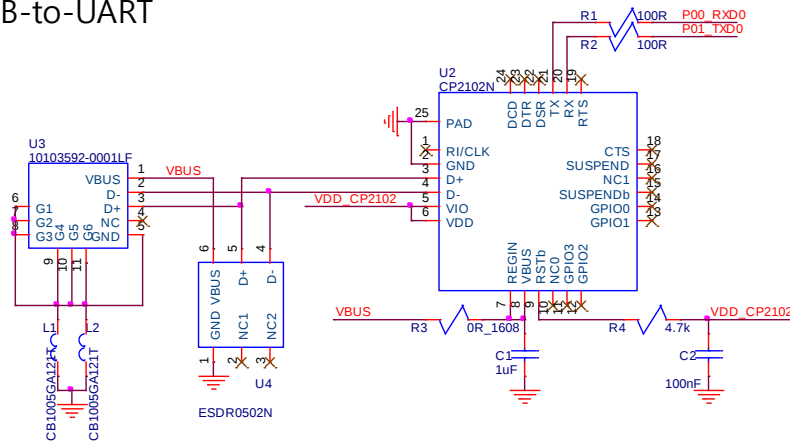
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Application circuit for RED4S : BOM

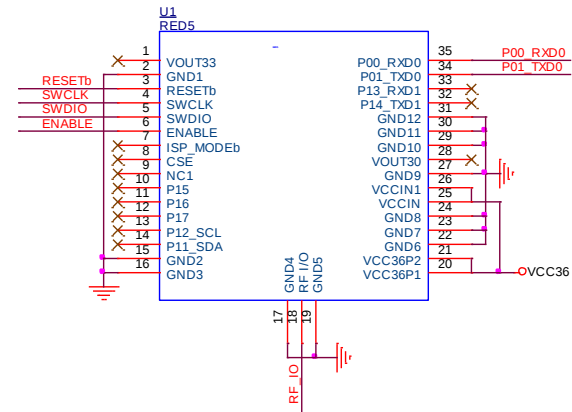
Item	Part(Schematic)	Manufacture	Function	Size [mm]	Qty	Reference
1	1uF	-	Capacitor	1005	1	C1
2	100nF	-	Capacitor	1005	1	C2
3	100uF_TC	-	Tantal Capacitor	7343	2	C3,C4
4	10uF_TC	-	Tantal Capacitor	1608	1	C5
5	NC	-	NC	-	3	C6,C9,C10
6	470pF	-	Capacitor	1005	1	C7
7	15pF	-	Capacitor	1005	1	C8
8	4.7uF_1608	-	Capacitor	1608	1	C11
9	LED (Red)	-	LED	1608	1	D1
10	HEADER10 (1.27pitch)	-	1.27Pitch pin header	2*5	1	J1
11	A4B-2PA-2DSA	Hirose Electric	2mm pin header	0	1	J2
12	DC jack	-	DC Power Jack	-	1	J3
13	CB1005GA121T	Samwha	Bead	1005	2	L1,L2
14	4.7uH/4040	Coil Craft	Shielded High SRF Inductors	4040	1	L3
15	0R	-	Resistor	1005	1	L4
16	100R	-	Resistor	1005	2	R1,R2
17	0R_1608	-	Resistor	1608	1	R3
18	4.7k	-	Resistor	1005	1	R4
19	24k	-	Resistor	1005	1	R5
20	47k	-	Resistor	1005	1	R6
21	56k	-	Resistor	1005	1	R7
22	BSI-10	Sungmoon technology	Mini slide switch	-	1	SW1
23	1101S	-	Tact Switch	-	1	SW2
24	SMA_EDGE	-	SMA Connector	-	1	S1
25	RED4S	PHYCHIPS	RFID Module	24x24	1	U1
26	CP2102N	Silicon Lab	USB TO UART BRIDGE	QFN24	1	U2
27	10103592-0001LF	FCI	MicroUSB Connector	-	1	U3
28	ESDR0502N	ON Semiconductor	ESD	-	1	U4
29	LP3856ESX	TI	LDO	-	1	U5

Application circuit for RED5 : Schematic

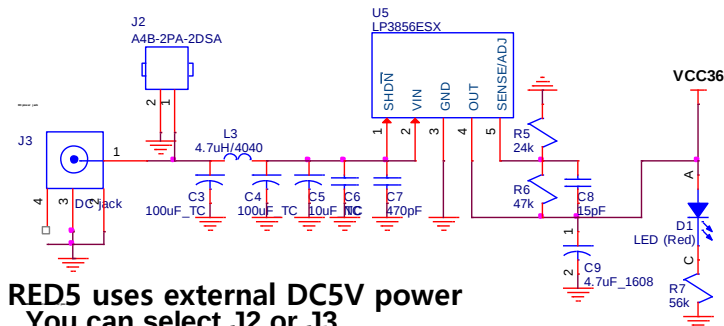
USB-to-UART



RED5



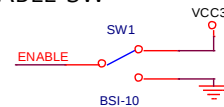
DC power



RED5 uses external DC5V power

CONTROL

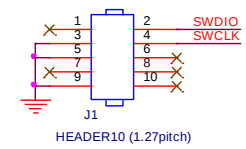
ENABLE SW



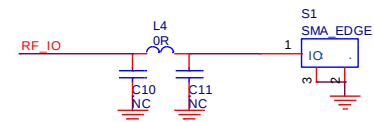
RESET-SW



Debug port



RF port



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Application circuit for RED5 : BOM

Item	Part(Schematic)	Manufacture	Function	Size [mm]	Qt'y	Reference
1	1uF	-	Capacitor	1005	1	C1
2	100nF	-	Capacitor	1005	1	C2
3	100uF_TC	-	Tantal Capacitor	7343	2	C3,C4
4	10uF_TC	-	Tantal Capacitor	1608	1	C5
5	NC	-	NC	-	3	C6,C9,C10
6	470pF	-	Capacitor	1005	1	C7
7	15pF	-	Capacitor	1005	1	C8
8	4.7uF_1608	-	Capacitor	1608	1	C11
9	LED (Red)	-	LED	1608	1	D1
10	HEADER10 (1.27pitch)	-	1.27Pitch pin header	2*5	1	J1
11	A4B-2PA-2DSA	Hirose Electric	2mm pin header	0	1	J2
12	DC jack	-	DC Power Jack	-	1	J3
13	CB1005GA121T	Samwha	Bead	1005	2	L1,L2
14	4.7uH/4040	Coil Craft	Shielded High SRF Inductors	4040	1	L3
15	0R	-	Resistor	1005	1	L4
16	100R	-	Resistor	1005	2	R1,R2
17	0R_1608	-	Resistor	1608	1	R3
18	4.7k	-	Resistor	1005	1	R4
19	24k	-	Resistor	1005	1	R5
20	47k	-	Resistor	1005	1	R6
21	56k	-	Resistor	1005	1	R7
22	BSI-10	Sungmoon technology	Mini slide switch	-	1	SW1
23	1101S	-	Tact Switch	-	1	SW2
24	SMA_EDGE	-	SMA Connector	-	1	S1
25	RED5	PHYCHIPS	RFID Module	24x24	1	U1
26	CP2102N	Silicon Lab	USB TO UART BRIDGE	QFN24	1	U2
27	10103592-0001LF	FCI	MicroUSB Connector	-	1	U3
28	ESDR0502N	ON Semiconductor	ESD	-	1	U4
29	LP3856ESX	TI	LDO	-	1	U5

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