
iChip CO2144 with EBI Flash 10/100BaseT LAN (SMsC Phy) and External Modem

Revision History

Version	Date	Description
1.0	January 2009	Initial version
1.1	Nov. 2009	Updated Schematics

Introduction

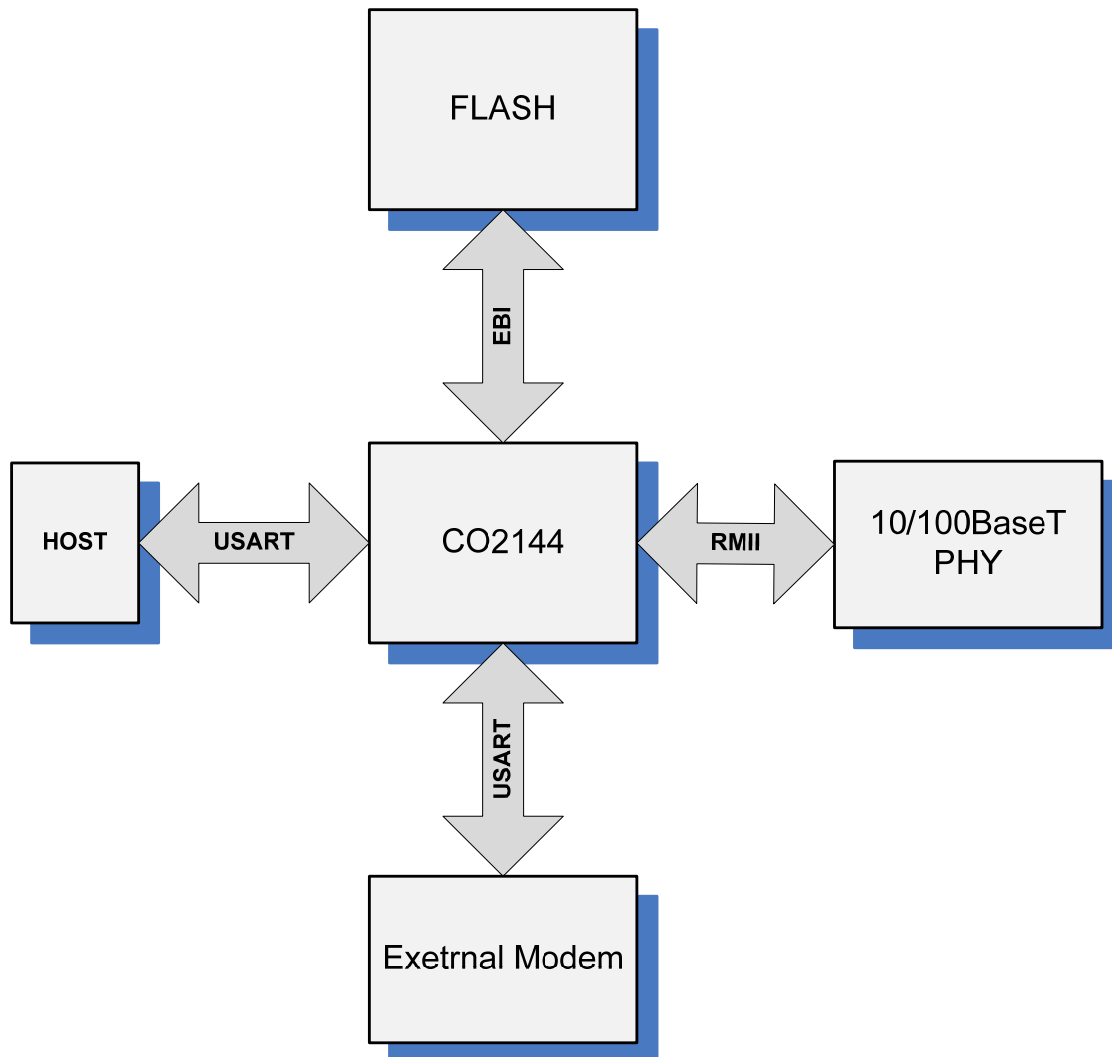
This Reference Design demonstrates the iChip™ CO2144 IP Controller™ connected to a host processor via USART, to a flash memory chip via EBI interface, to 10/100BaseT LAN (SMsC Phy) via RMII, and to an external modem via USART.

Connect One's AT+i™ commands are accepted at baud rates of up to 3Mbps.

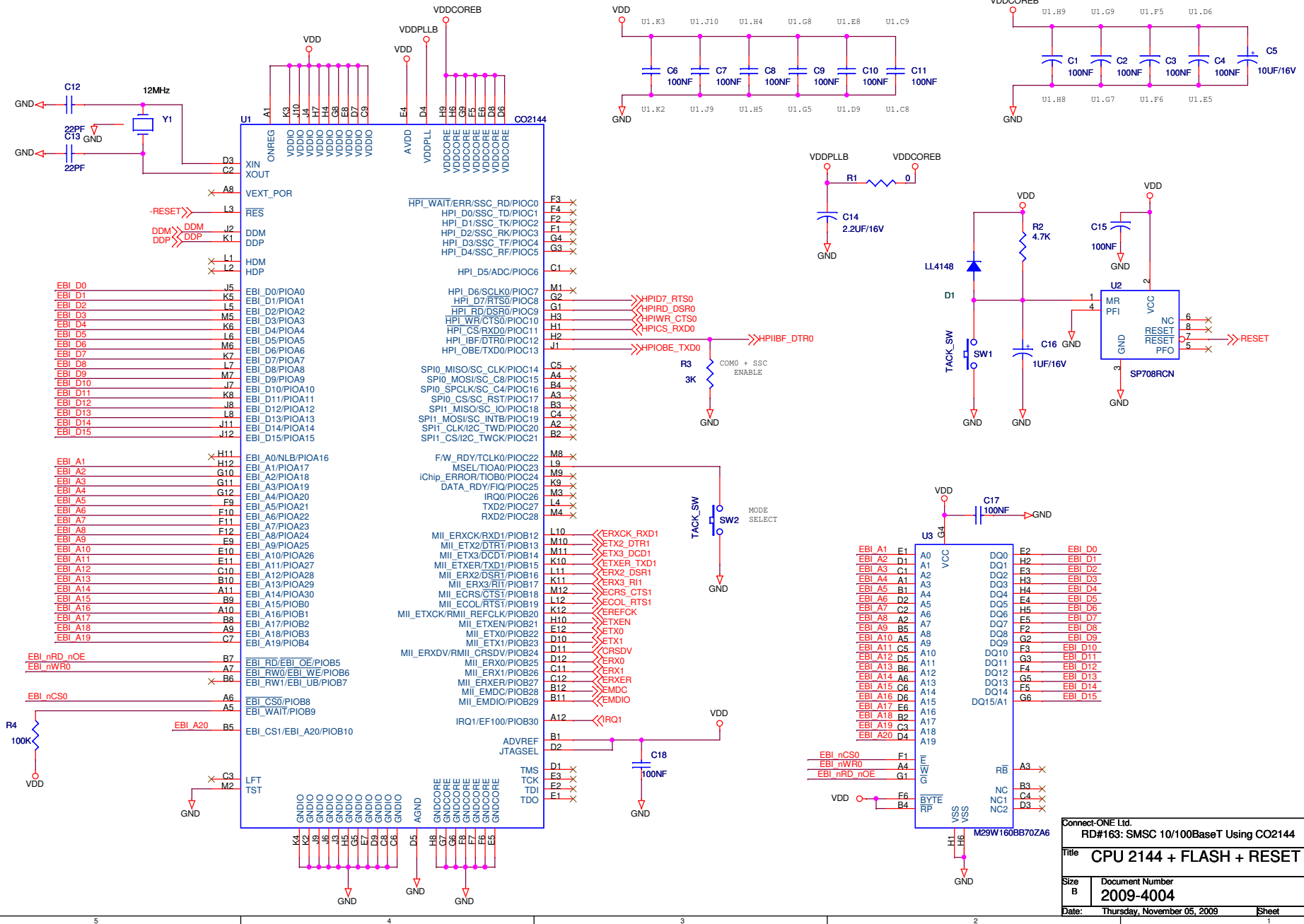
Features

- Supports serial host interface speeds of up to 3Mbps (250K, 1M, 1.5M, 3M)
- SSL3/TLS1 security implemented in hardware provides better performance
- Data and Internet connection through a 10/100BaseT Ethernet controller and any cellular or dial-up modem
- Operates at the industrial temperature range
- RoHS-compliant

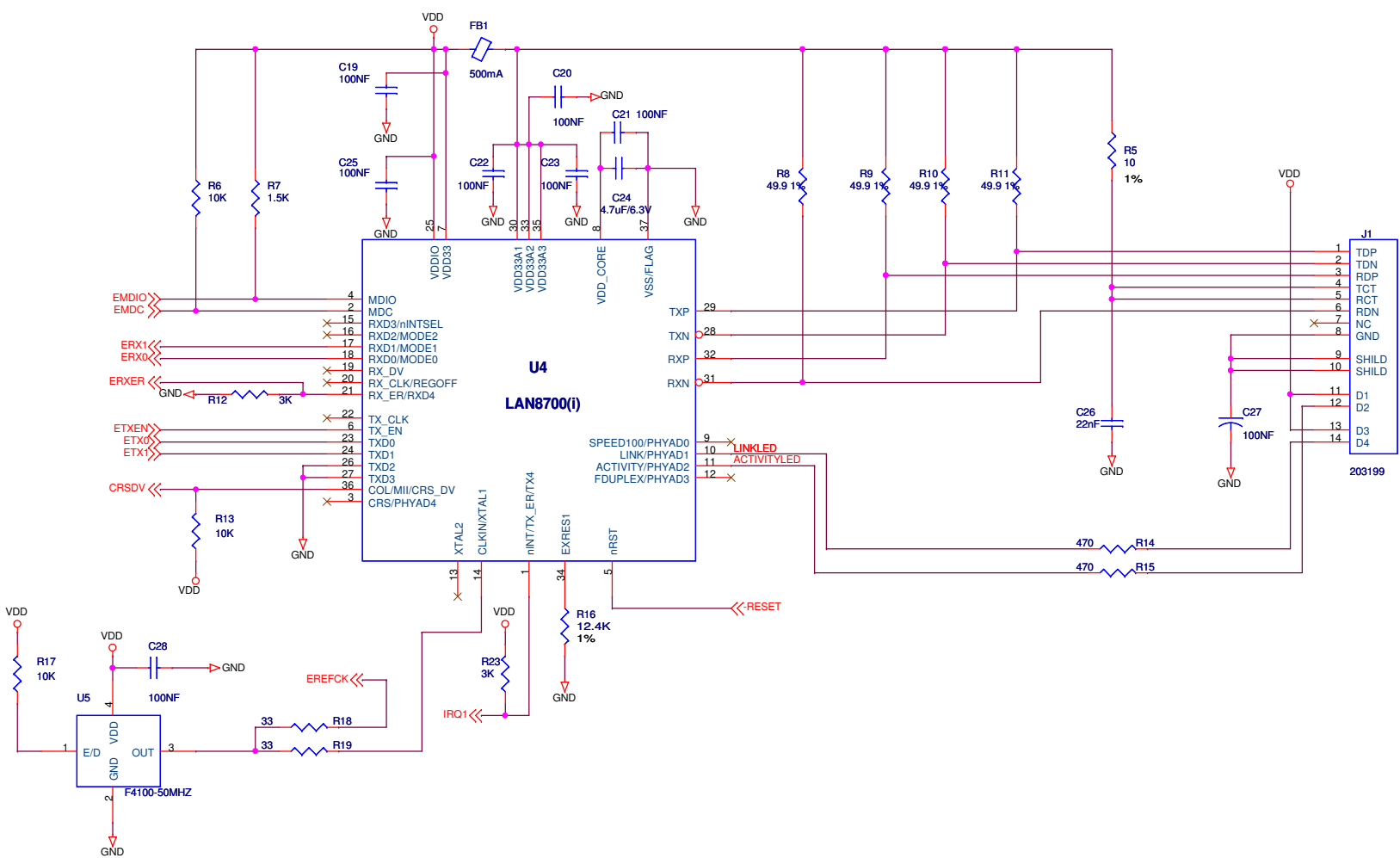
Block Diagram



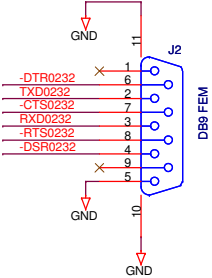
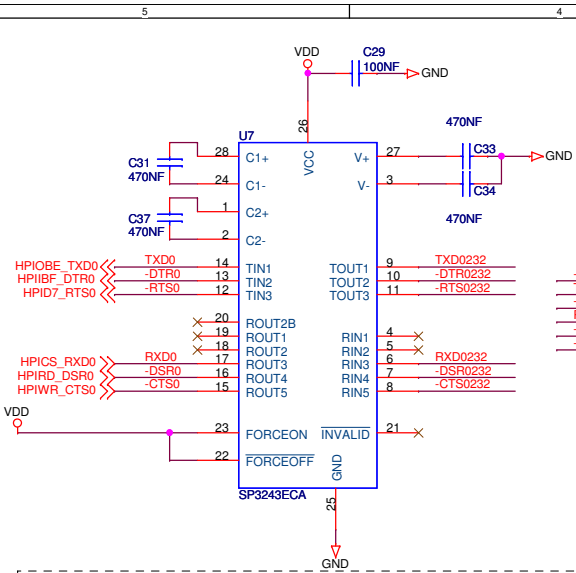
Schematics



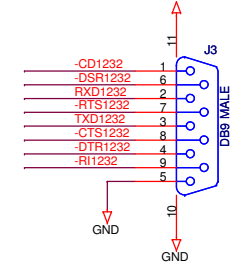
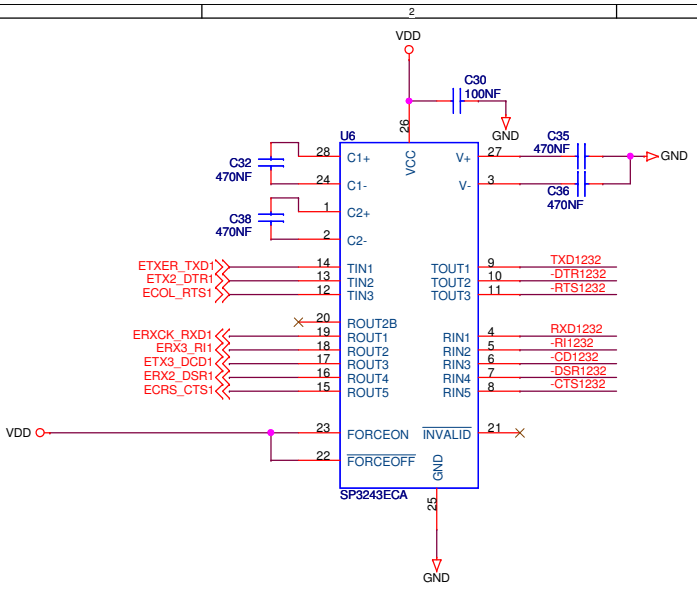
Connect-ONE Ltd.		
RD#163: SMSC 10/100BaseT Using CO2144		
Title CPU 2144 + FLASH + RESET		
Size B	Document Number 2009-4004	Rev 1.1
Date: Thursday, November 05, 2009	Sheet 1	of 3



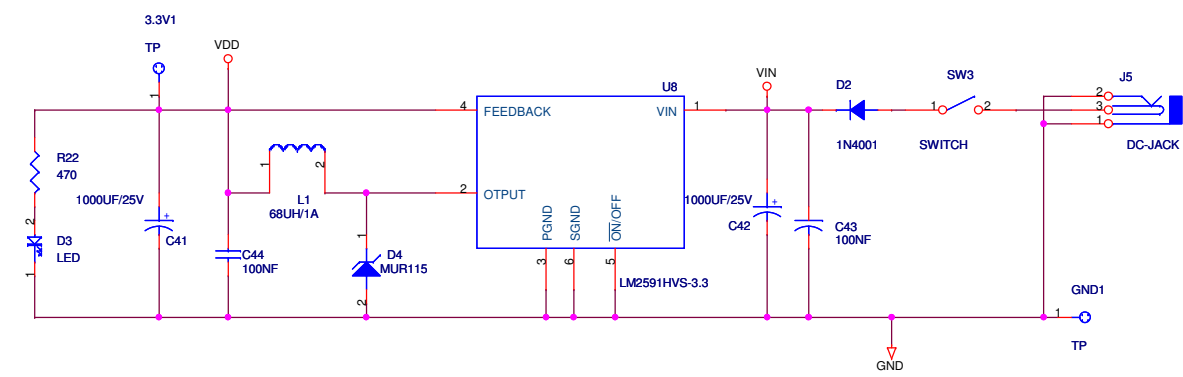
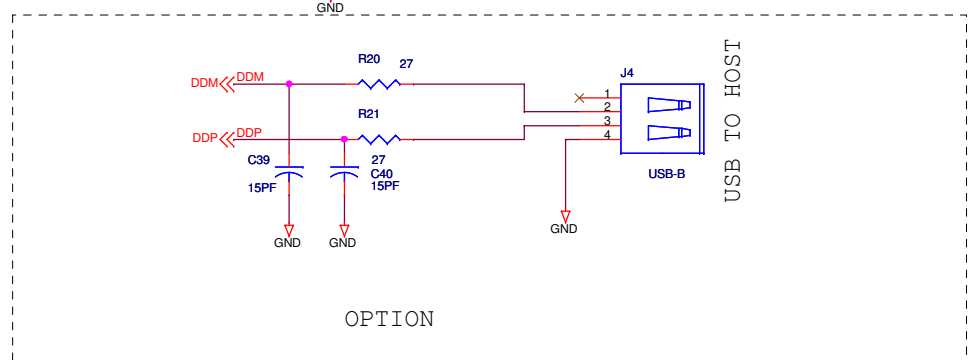
Connect-ONE Ltd.	
RD#163: SMSC 10/100BaseT Using CO2144	
Title RMI INTERFACE	
Size B	Document Number 2009-4004
Date:	Thursday, November 05, 2009
Sheet	2 of 3
Rev	1.1



RS232 TO HOST



RS232 TO MODEM



Connect-ONE Ltd.		
RD#163: SMSC 10/100BaseT Using CO2144		
Title		
UART0 + UART1 + POWER +USB DEVICE		
Size	Document Number	Rev
B	2009-4004	1.1
Date:	Thursday, November 05, 2009	Sheet 3 of 3

Bill of Materials

Item	Qty	Reference	Part	Manufacturer
1	25	C1,C2,C3,C4,C6,C7,C8,C9,C10,C11,C15,C17,C18,C19,C20,C21,C22,C23,C25,C27,C28,C29,C30,C43,C44	100NF	Any
2	1	C5	10UF/16V	Any
3	2	C12,C13	22PF	Any
4	1	C14	2.2UF/16V	Any
5	1	C16	1UF/16V	Any
6	1	C24	4.7uF/6.3V	Any
7	1	C26	22nF	Any
8	8	C31,C32,C33,C34,C35,C36,C37,C38	470NF	Any
9	2	C39,C40	15PF	Any
10	2	C41,C42	1000UF/25V	Any
11	1	D1	LL4148	Any
12	1	D2	1N4001	Any
13	1	D3	LED	Any
14	1	D4	MUR115	Any
15	1	FB1	BLM18EG471SN1D (500mA)	Murata
16	2	GND1,3.3V1	TP	Any
17	1	J1	203199(RJ45)	Erni
18	1	J2	DB9 FEM	Any
19	1	J3	DB9 MALE	Any
20	1	J4	USB-B	Any
21	1	J5	DC-JACK	Any
22	1	L1	68UH/1A	Any
23	1	R1	0	Any
24	1	R2	4.7K	Any
25	3	R3,R12,R23	3K	Any
26	1	R4	100K	Any
27	1	R5	10	Any
28	3	R6,R13,R17	10K	Any
29	1	R7	1.5K	Any
30	4	R8,R9,R10,R11	49.9 1%	Any
31	3	R14,R15,R22	470	Any
32	1	R16	12.4K	Any
33	2	R18,R19	33	Any
34	2	R20,R21	27	Any

35	2	SW1,SW2	TACK_SW	Any
36	1	SW3	SWITCH	Any
37	1	U1	CO2144	Connectone
38	1	U2	SP708RCN	Sipex
39	1	U3	M29W160BB70ZA6	ST Microelectronics
40	1	U4	LAN8700	SMsC
41	1	U5	F4100-50MHZ	Foxonline
42	2	U6,U7	SP3243ECA	Any
43	1	U8	LM2591HVS-3.3	Sipex
44	1	Y1	12MHZ	Any