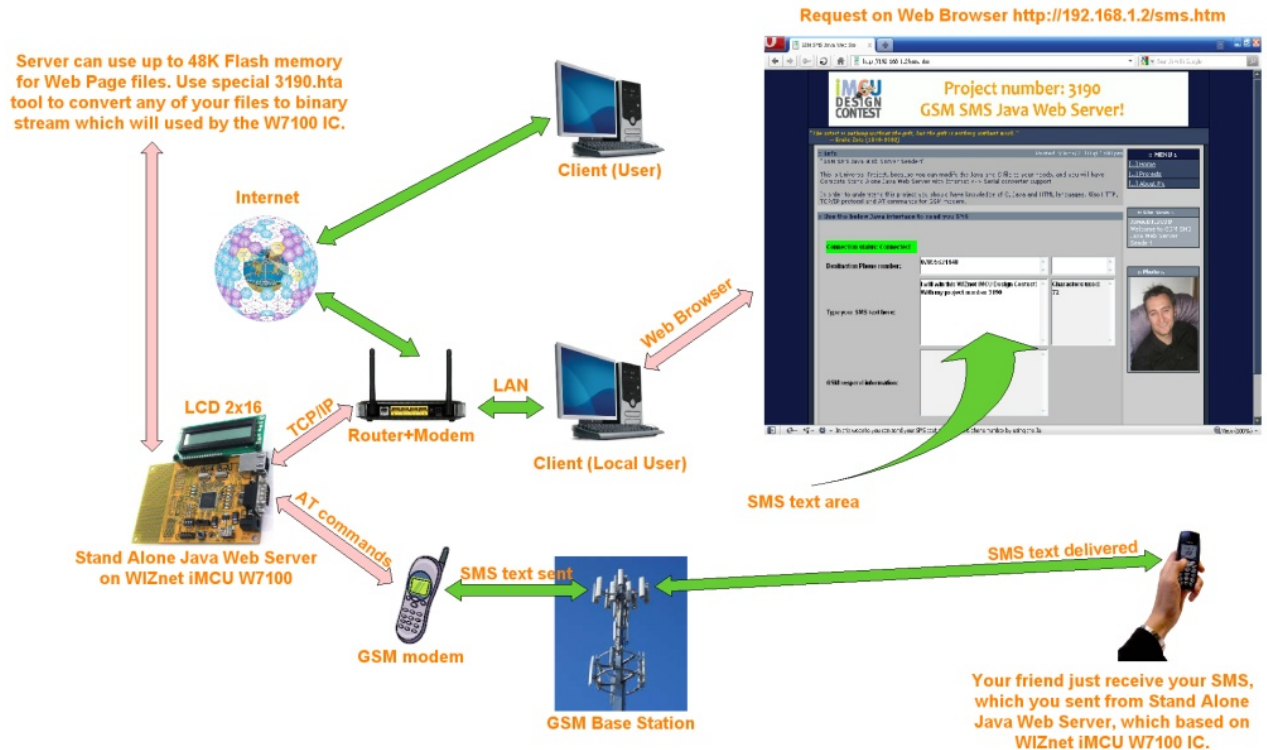


"GSM SMS Java Web Server!"

(The Complete Stand Alone Java Web Server)

Project number: 3190

Date: 12/June/2010



In nowadays the Internet and mobile phones in most cases is one part with each of us. We use Internet and also mobile phone almost every day if not every hour.

Did your company send many SMS text to their clients? Or have you ever had friend in different country and keep very close contact with him or her by sending SMS text very often? If yes, then you know that it cost a lot of money. I know that, because my girl friend is in other country than me, and for another 2 years we will be in distance, because of my PhD study, and she will still send me SMS text very often. To help her to reduce the cost to **zero**, I decide to create this project. How it will cost her nothing to send SMS text to me? Very simple, I will explain that below.

I bought SIM card with unlimited SMS text for one month, in the country where I am, put that SIM card in GSM modem. Connect that GSM text modem to WIZnet iMCU 7100EVB board through the Serial cable, and then connect the Ethernet cable to

Wireless Router + ADSL modem. Next I created DDNS account for the IP 192.168.1.2 on my router for have an access from Internet to it all the time. And give her the DDNS address. Now every time when she want to send me SMS text, she open the Web Browser type the proper web page address on it, for local machine is **192.168.1.2/sms.htm** and the Web Server which I create on W7100EVB send her the respond of the **sms.htm** page with all other relevant files, which Client Web Browser had request. To protect the access from anyone to that **sms.htm** page, small Java script was added, where the username and password will required. For that she has to type for **username: WizNET** and for **password: 3190**, in order to be granted to have access to Java applet interface. After that she can type SMS text and any mobile phone number and send her text message anywhere, from that Java applet GUI interface. Now, as you can see, she can send SMS text with no cost at all for her. 😊

In order to understand this project and make any further development or modification you should have knowledge of C, Java and HTML languages. Also HTTP and TCP/IP protocol and few AT commands for GSM modem control. But, do not worry too much; I design it in the way that actually you do not need to have deep knowledge of all of that. Please refer to Complete.doc file for more details.

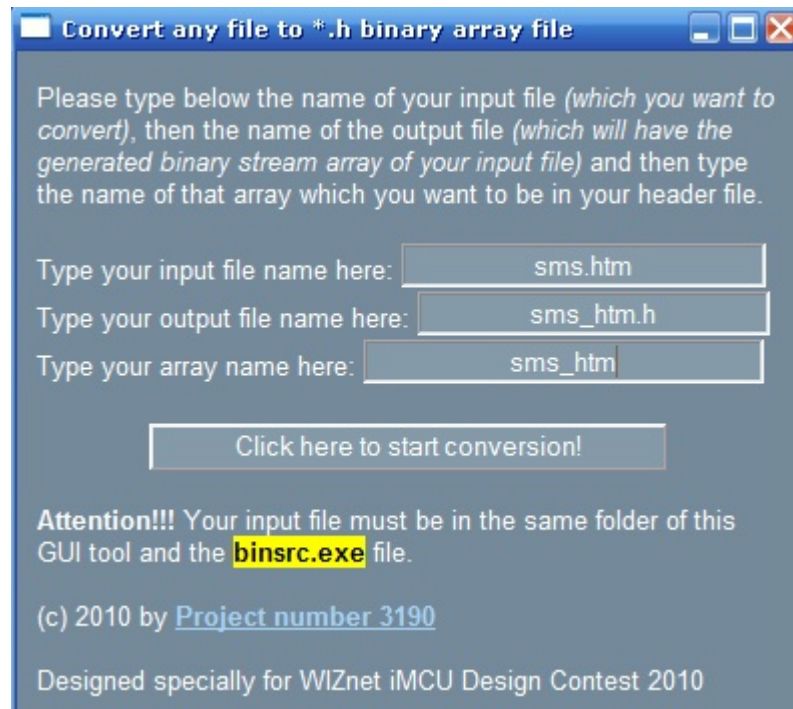
The Web Server pages are stored in internal Flash memory of the W7100, so it is not require any external memory, just single W7100 IC. The size of whole C code + Web Server Pages must not exceed **64K**.

The Web Server listens to port **80**. When the Client (user) request the **sms.htm** page, then the Server reply to client with the proper data of array **sms_htm[]** by this port. When the client Web Browser will received all web page files, then the Java applet start running and open new port **10001**, which will be used to send SMS text.

The Web Server use TCP <-> Serial protocol and deliver the received SMS text from TCP Ethernet buffer to Serial buffer, where GSM modem is listen to Serial port. The SMS text send by using 'at+cmgs' AT command and return to Java GUI the respond of GSM modem, where we can see if SMS text was delivered or not.

Finally, to summarize I want to say that this is universal project, because everyone can make few modification or create a complete new Web Server pages based on this project and the special tool which I wrote. Yes, this project include 2 files of one program which will help you to convert (generate) any kind of input file to header file .h, where this header .h file will have an array of HEX data of supplied input file.

The tool is look like that:



For example below is a very small HTML page file sms.htm:

```
<HTML><BODY>Test</BODY></HTML>
```

By the end of conversion with 3190.hta tool the generated file will be sms_htm.h and it will have the below data on it, as we can see with any text editor.

```
#define sms_htm_SIZE 30
```

```
code const uint8 sms_htm[] = {
```

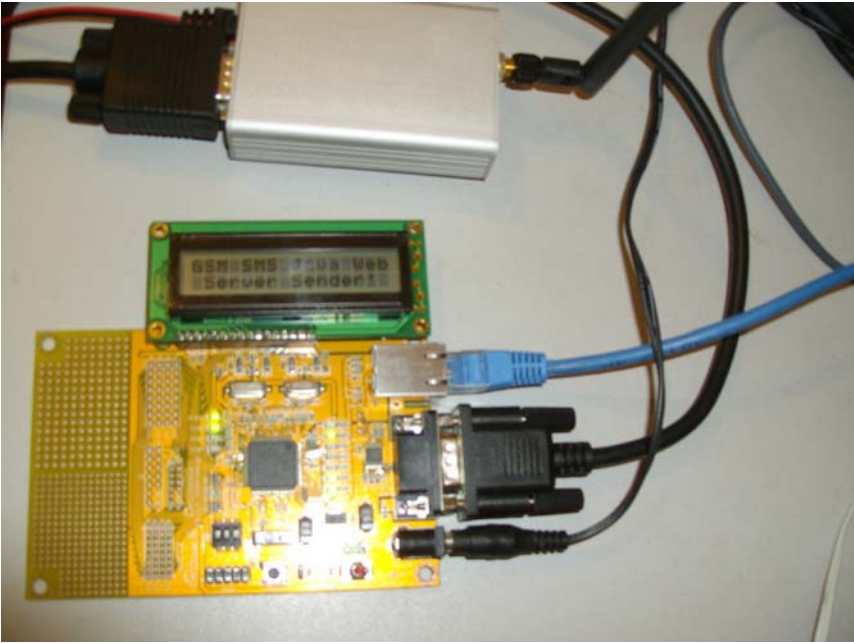
```
    0x3C, 0x48, 0x54, 0x4D, 0x4C, 0x3E, 0x3C, 0x42, 0x4F, 0x44, 0x59, 0x3E,
```

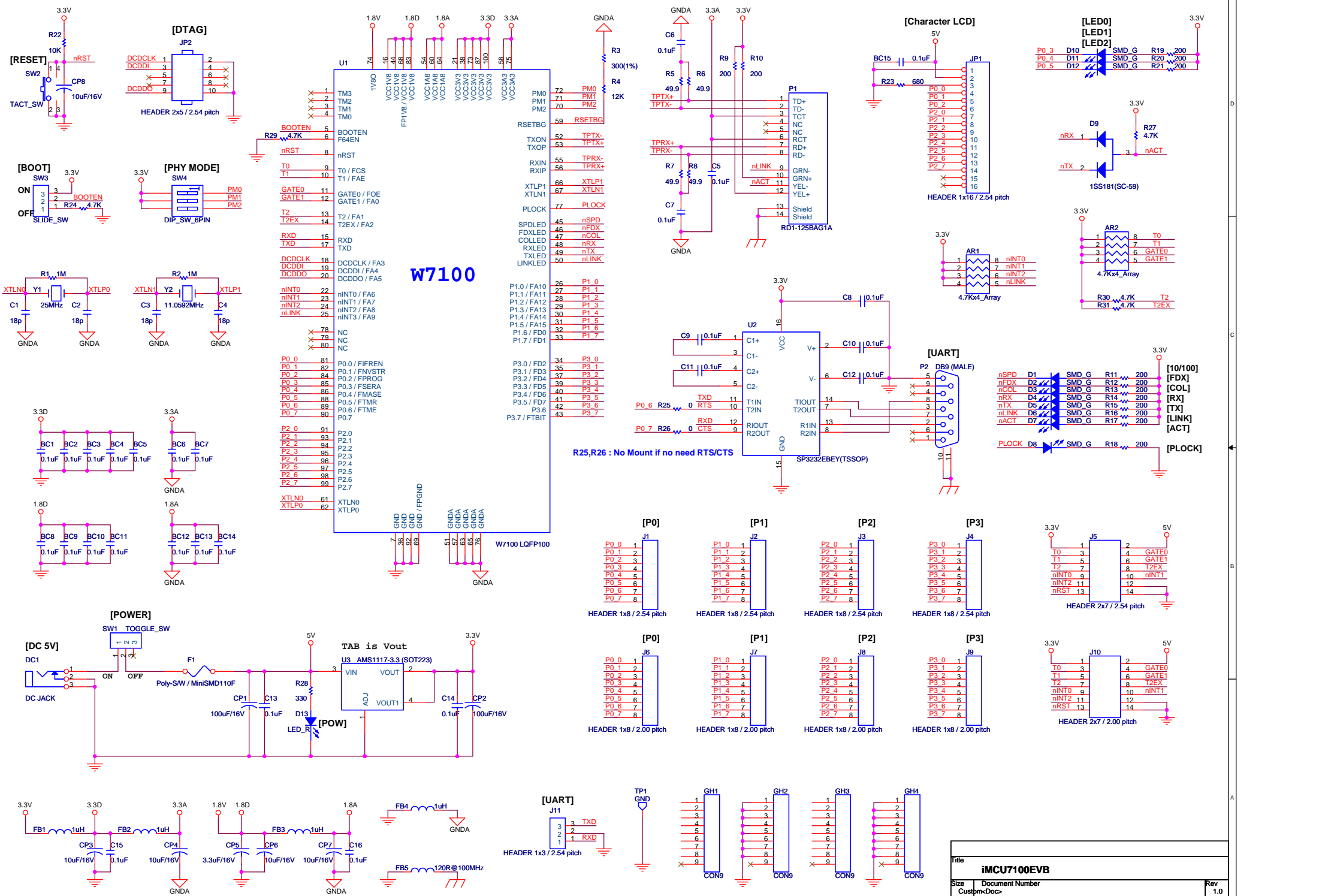
```
    0x54, 0x65, 0x73, 0x74, 0x3C, 0x2F, 0x42, 0x4F, 0x44, 0x59, 0x3E, 0x3C,
```

```
    0x2F, 0x48, 0x54, 0x4D, 0x4C, 0x3E };
```

Enjoy this amazing project with special 3190.hta tool, for your Web Server pages design. I am sure 100%, that you will find it very useful in commercial or hobbyist projects, because with very simple modification you can adjust it to your personal requirements. Have you ever think that now you can have Stand Alone Java Web Server with almost no cost? Then the answer is 'Yes' and this project prove it to you!







Title		
iMCU7100EVB		
Size	Document Number	Rev
Custom<Doc>		1.0
Date:	Tuesday, August 11, 2009	Sheet 2 of 3

iMCU7100EVB Rev1.0 Partlist

Item	Q.ty	Reference	Part	Tech. Characteristics	Package
1	27	BC1,BC2,BC3,BC4,C5,BC5,C6,BC6,C7,BC7,C8,BC8,C9,BC9,C10,BC10,C11,BC11,C12,BC12,C13,BC13,C14,BC14,C15,BC15,C16	0.1uF	50V-20% Ceramic	CASE 0603
2	4	C1,C2,C3,C4	18pF	50V-20% Ceramic	CASE 0603
3	2	CP1,CP2	100uF / 16V_D	16Vmin 10%	EIA/IECQ 7343
4	5	CP3,CP4,CP6,CP7,CP8	10uF / 16V_A	16Vmin 10%	EIA/IECQ 3216
5	1	CP5	3.3uF / 16V_A	16Vmin 10%	EIA/IECQ 3216
6	1	DC1	DC-JACK		DIP
7	11	D1,D2,D3,D4,D5,D6,D7,D8,D10,D11,D12	CHIP LED, GREEN	Green color LED (SMD type)	CASE 0805
8	1	D13	CHIP LED, RED	Red color LED (SMD type)	CASE 0805
9	1	D9	1SS181	Switching DIODE	SC-59
10	4	FB1,FB2,FB3,FB4	1uH	1uH Chip Ferrite Inductor	CASE 0805
11	1	FB5	HH-1M2012-121JT	Chip Ferrite BEAD	CASE 0805
12	1	F1	MiniSMD110F	Poly Fuse	4532
13	1	JP1	1x16 16PIN 2.54mm DIP Header (Female)	2.54mm pitch PIN_HEADER(F)	DIP 16Pin (1x16)
14	1	JP2	2x5 10PIN 2.54mm DIP Header (Male)	2.54mm pitch PIN_HEADER(M)	DIP 10Pin (2x5)
15	1	P1	RD1-125BAG1A	Transformer + RJ45	DIP
16	1	P2	DSUB-9Pin MALE Right Angle	RS-232 Serial Connector	DIP
17	2	AR1,AR2	4.7K x 4 Array (0603 x 4)	1/10W-5% SMD	CASE 1206
18	2	R1,R2	1M	1/10W-5% SMD	CASE 0603
19	1	R3	300 / 1%	1/10W-1% SMD	CASE 0603
20	1	R4	12K / 1%	1/10W-1% SMD	CASE 0603
21	4	R5,R6,R7,R8	49.9 / 1%	1/10W-1% SMD	CASE 0603
22	13	R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R21	200	1/10W-5% SMD	CASE 0603
23	1	R22	10K	1/10W-5% SMD	CASE 0603
24	1	R23	680	1/10W-5% SMD	CASE 0603
25	5	R24,R27,R29,R30,R31	4.7K	1/10W-5% SMD	CASE 0603
26	2	R25,R26	0	1/10W-5% SMD	CASE 0603
27	1	R28	330	1/10W-5% SMD	CASE 0603
28	1	SW1	AT1D2M3	3Pin Toggle Switch (Straight)	DIP
29	1	SW2	1102A	4Pin Tact Switch (Straight)	DIP
30	1	SW3	1204	3Pin Slide Switch (Straight)	DIP

Item	Q.ty	Reference	Part	Tech. Characteristics	Package
31	1	SW4	KSD32	6Pin Dip Switch (Straight)	DIP
32	1	U1	W7100	8051 + TCP/IP	LQFP100
33	1	U2	SP3232EBEY	RS-232 Transceiver	TSSOP16
34	1	U3	AMS1117-3.3	3.3V / 1A OUTPUT LDO	SOT-223
35	1	Y1	25MHz Crystal (SMD)	SMD type CRYSTAL	SX-1
36	1	Y2	11.0592MHz Crystal (SMD)	SMD type CRYSTAL	SX-1
37	1	Character LCD	LC1624	16 Character * 2 Line	DIP
38	1	Character LCD	1x16 16Pin 2.54mm Straight Pin Header (Male)	2.54mm Pitch Pin Header (M)	DIP 16Pin (1x16)
39	1		Printed Circuit Board	FR4, 1.6T, 2-Layer / Yellow color	