Overview of OWCI Software

Function Blocks of OWCI Software

- **General Setting**
  - Hardware control, include pilot width and device address.

- **Test Mode**
  - Enter Test Mode, supporting different DUTs.

- **Registers Read/Write**
  - Single or burst registers read or write.

- **Fuse**
  - Support eFuse.

These operations are almost the same as last version software.

- **OTP Window**
  - OTP operation, bit by bit or byte by byte, load data from a .txt file and save data to a .txt file.

- **Script Window**
  - Load script from a .txt file and execute, edit a script and execute or save to .txt file.

- **Operation log**
  - Display all the operations include commands and return data

New Features

- ## OTP window
  - Advantages:
    - 1. Totally new designed tools for eMemery operation in md008, could be re-used in future project as well;
    - 2. For each project, software will initialize OTP window based on a default config file, no need to rebuild a new GUI.

- ## Script window
  - Advantages:
    - 1. Script operation is a simple, flexible and efficient way for both PE and designers to do validation;
    - 2. For each project, no need to rebuild a new GUI, just write new script and execute;
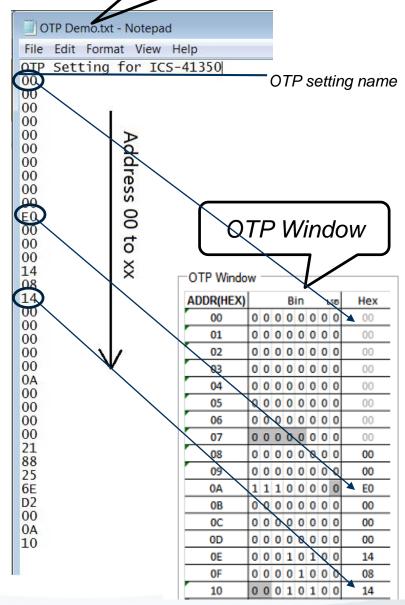   - 3. Script file is easy save and re-used between different sites.

- ## Functions of OTP Window

  - Edit the window directly, supporting edit bit by bit or byte by byte, and write OTP or blow OTP;

  - Save window data to a .txt file as right format;

  - Load data form a .txt file as right format, and write OTP or blow OTP;

  - After load, also can edit the updated window, and then save to a file, write OTP or blow OTP;

  - Command line supporting, ext. *writeotp.exe OTP Demo.txt blowotp.exe OTP Demo.txt (Note: xxxxotp.exe and OTP Demo.txt must be in same directory).*

OTP setting file

OTP Window

OTP Demo.txt - Notepad
File Edit Format View Help

OTP Setting for ICS-41350

OTP setting name

Address 00 to xx

```
00
00
00
00
00
00
00
00
00
00
E0
00
00
00
14
08
14
00
00
00
00
00
0A
00
00
00
00
21
88
25
6E
D2
00
0A
10
```

OTP Window

ADDR(HEX)	Bin	Hex
00	0 0 0 0 0 0 0 0	00
01	0 0 0 0 0 0 0 0	00
02	0 0 0 0 0 0 0 0	00
03	0 0 0 0 0 0 0 0	00
04	0 0 0 0 0 0 0 0	00
05	0 0 0 0 0 0 0 0	00
06	0 0 0 0 0 0 0 0	00
07	0 0 0 0 0 0 0 0	00
08	0 0 0 0 0 0 0 0	00
09	0 0 0 0 0 0 0 0	00
0A	1 1 1 0 0 0 0 0	E0
0B	0 0 0 0 0 0 0 0	00
0C	0 0 0 0 0 0 0 0	00
0D	0 0 0 0 0 0 0 0	00
0E	0 0 0 1 0 1 0 0	14
0F	0 0 0 0 1 0 0 0	08
10	0 0 0 1 0 1 0 0	14

Blocks Review – Script window

- ## Functions of Script Window

  – Edit a new script, and execute;

  – Edit a new script, and save to a .txt file as right format;

  – Load script form a .txt file as right format, and execute;

  – After load script, also can edit in the updated window, and then choose to save to a new file or execute.

  – Command line supporting, ext. *execute.exe Script Demo.txt (Note: xxxxotp.exe and OTP Demo.txt must be in same directory).*

```
Script Demo.txt  ×

       10        20        30        40
1 Script for DSM measurement of MD00
2
3 SetPilot: 200us;
4 SetLRasOwci;
5 Write: Addr 0x80: Data 0x0A;
6 Write: Addr 0x81: Data 0x10;
7 Write: Addr 0x83: Data 0x08;
8 Write: Addr 0x89: Data 0x03;
9 Write: Addr 0x88: Data 0x14;
10 Write: Addr 0x80: Data 0x82;
11 Write: Addr 0x81: Data 0x10;
12 BurstRead: Addr 0x80: Num 0x07;
13 Write: Addr 0x90: Data 0xE5;
14 SetPilot: 100us;
15 SetConfigasOwci;
16 BurstWrite: Addr 0x80: Num 0x10: Data 0x03;
17 Delay: 100ms;
18 Fuse: 160ns: 10ms;
19 Write: Addr 0x90: Data 0x03;
20 BurstRead: Addr 0x80: Num 0x07;
21 Write: Addr 0x90: Data 0x01;
22 BurstRead: Addr 0x80: Num 0x07;
23 Write: Addr 0x90: Data 0x00;
24 BurstRead: Addr 0x80: Num 0x07;
25 Delay: 100ms;
26 WriteOTP;
27 ReadOTP;
28 Delay: 100ms;
29 BlowOTP;
```

Script name

Commands execute from line3 to line 29

!!! Each command in single line

- WRITE: 0x80: 0x10;   *//write value 0x10 to register 0x80*

- READ: 0x80;   *//Read value of register 0x80*

- BURSTWRITE: 0x80; 0x02: 0x03 : 0xAA;   *//Burst write 0x03 and 0xAA to register 0x80 and 0x8A*

- BURSTREAD: 0x80: 0x10;   *//Burst Read values of register 0x80-0x90*

- SETPILOT: 200us   *//Set pilot as 200us*

- DELAY: 100ms   *//Delay 100ms*

- FUSE: 160ns; 10ms   *//Set fuse pulse as 160ns, fuse clock duration as 10ms, and fuse*

- WRITEOTP: *//Write OTP data to relative registers*

- READOTP: *//Read OTP data*

- BLOWOTP: *//Blow OTP, take care of POWER*

- SETLRASOWCI: *//Set LR pin on PCB as OWCI pin*

- SETCONFIGASOWCI: *// Set CONFIG pin on PCB as OWCI pin*

Description of Commands 2

WR SWR WREG WRITE WRITEREG WRITEREGISTER	→ Write Single Register
RR RD SRD RREG READREG READ READREGISTER	→ Read Single Register
FUSE	→ Fuse
SETDELAY SD DELAY	→ Set delay time
SETPILOT SP	→ Set pilot width

BWR BURSTWRITE BURSTWRITEREG BURSTWRITEREGISTER	→ Burst Write Registers
BRR BRD BURSTREAD BURSTREADREG BURSTREADREGISTER	→ Burst Read Registers
SETPILOT SP	→ Set pilot width
SETLRASOWCI SLAO	→ Set LR as OWCI
SETCONFIGASOWCI SCAO	→ Set CONFIG as OWCI
WRITEOTP WROTP	→ Write OTP
READOTP RDOTP	→ Read OTP
BLOWOTP BOTP	→ Blow OTP