

# **T-Link-EV2268** User Manual Rev 0.90

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# **AMENDMENT HISTORY**

Version	Date	Description
V0.90	Nov, 2016	New release.



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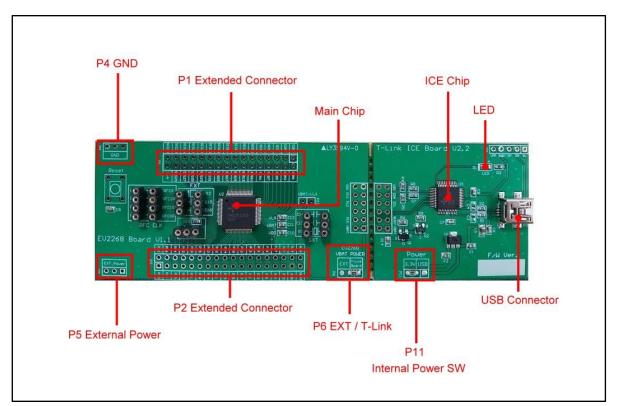


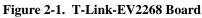
# 1. Outline

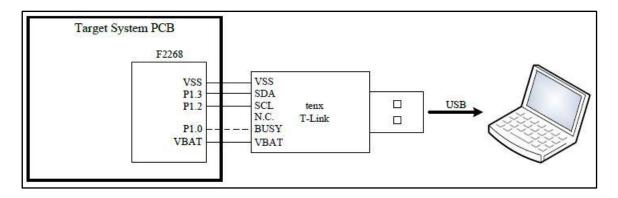
Tenx (tenx technology) F51 & L51 Series single-chip is compatible with 8051, the user can use Keil uVision series of software as a development environment, this article will introduce the software and hardware configuration in Keil C.

# 2. Introduction

Figure 2-1 is T-Link-EV2268 development board, the left portion is called EV2268 Board and the right portion is called T-Link ICE Board to connect PC to use, the user can simulate TM52F2268 through this development board, please refer to TM52F2268 datasheet in detail.









# 3. T-Link-EV2268 Hardware Description

#### **3.1 Power Setting**

- P5: Connect to external power (EV2268 Board)
- P6: Internal or external power source selection (EV2268 Board)
- P11: Internal power selection (T-Link Board)

MCU Power	P11	Р5	P6	
External Power	USB or 3.3V	EXT_Power	EXT	
Internal Power	USB or 3.3V	Х	T-Link Board	

#### 3.2 USB Connecter

• P3: Mini USB connector to PC (T-Link Board)

#### 3.3 Reset Button

• Reset: Reset Button (EV2268 Board)

#### **3.4 External Power Connecter**

- P5: External VBAT connecter (EV2268 Board)
- P4: External GND connecter (EV2268 Board)

#### 3.5 MCU External Frequency-RFC

- R10: RFC0R (EV2268 Board)
- R11: RFC1R (EV2268 Board)
- R12: RFC2R (EV2268 Board)
- C17: RFCX (EV2268 Board)

#### 3.6 MCU External Frequency-FXT

- X2: crystal FXT(1~8M) (EV2268 Board)
- C15: matching capacitor (EV2268 Board)
- C16: matching capacitor (EV2268 Board)

#### 3.7 MCU External Frequency-SXT

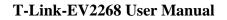
- X1: crystal SXT(32.768K) (EV2268 Board)
- C13: matching capacitor (EV2268 Board)
- C14: matching capacitor (EV2268 Board)



#### 3.8 PIN Assignment & Description

EV2268 Board contains TM52F2268 main chip, packaged is LQFP 80-pin as shown below table for the pin assignment instructions.

Pin Number	Pin Name	Pin Number	Pin Name
1	N.A	41	N.A
2	N.A	42	N.A
3	SEG29	43	SX2/P2.0
4	SEG30	44	SX1/P0.7
5	SEG31/P2.3	45	VSS
6	FX2/SEG32/P2.2	46	VDD
7	FX1/SEG33/P2.1	47	VBAT
8	<b>SEG34/P0.6</b>	48	VLX
9	SEG35/P0.5	49	COM0/SEG0
10	SEG36/P0.4	50	COM1/SEG1
11	RFC2R/SEG37/P0.3	51	COM2/SEG2
12	RFC1R/SEG38/P0.2	52	COM3/SEG3
13	RFC0R/SEG39/P0.1	53	COM4/SEG4
14	<b>RFCX/SEG40/P0.0</b>	54	COM5/SEG5
15	MISO/SEG41/P2.6	55	COM6/SEG6
16	SCK/SEG42/P2.5	56	COM7/SEG7
17	MOSI/TK15/SEG43/P2.4	57	SEG8
18	RXD/TK14/SEG44/P3.0	58	SEG9
19	N.A	59	N.A
20	N.A	60	N.A
21	N.A	61	SEG10
22	N.A	62	SEG11
23	TXD/TK13/SEG45/P3.1	63	SEG12
24	INT0/TK12/SEG46/P3.2	64	SEG13
25	INT1/TK11/SEG47/P3.3	65	SEG14
26	T0/CLD/P3.4	66	SEG15
27	T1/PWMP/TK10/P3.5	67	SEG16
28	PWMN/TK9/P3.6	68	SEG17
29	TCO/TK8/P3.7	69	SEG18
30	T2/T2O/TK7/P1.0	70	SEG19
31	T2EX/AD1/TK6/P1.1	71	SEG20
32	AD2/TK5/P1.2	72	SEG21
33	TK4/P1.3	73	SEG22
34	TK3/P1.4	74	SEG23
35	TK2/P1.5	75	SEG24
36	AD6/TK1/P1.6	76	SEG25
37	<b>TK0/P1.7</b>	77	SEG26
38	VPP/RSTn/INT2/P2.7	78	SEG27
39	N.A	79	SEG28
40	N.A	80	N.A

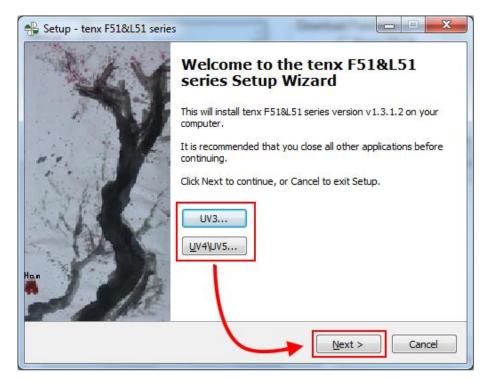




# 4. How to start using T-Link-EV2268 simulation

First, Install the tenx TM52Dll IDE file to follow steps to complete the installation, the IDE & Keil C version must be installed in the same path, the default path is C: \Keil:

#### 4.1 Select Keil C version, click "Next>"





#### **4.2** And then click "Next>"

Setup - tenx F51&L51 series	
Information Please read the following important information before continuing.	<b>H</b>
When you are ready to continue with Setup, dick Next.	
<pre>    ===== Tenx DLL Modify List ====== 72. Version 1.1.9.2 on 2014/09/18 ~2014/09/18 Add and modify list:    (1) Modify CFGW check in TM52P5216/TM52P5214.    (2) Modify TM52P5214/5216 Download to flash error. 71. Version 1.1.9.1 on 2014/09/17 ~2014/09/17</pre>	
Add and modify list: (1) Update t51.cdb.(0x36->0x3B) (2) Modify parameters in Touch key AP.	-
< <u>B</u> ack Next >	Cancel

**4.3** The default path is C: \Keil, click "Next>"

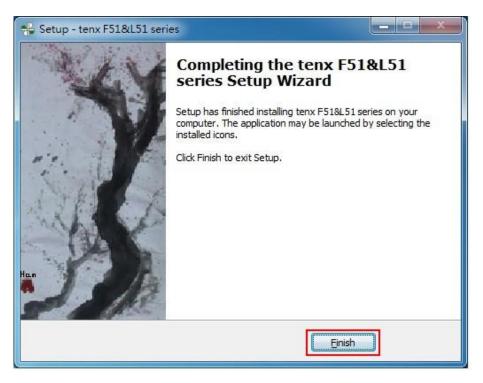
Setup - tenx F51&L51 series	
Select Destination Location	
Where should tenx F51&L51 series be installed?	7
Setup will install tenx F51&L51 series into the follow	wing folder.
To continue dide Next Tf you would like to select a different	t folder, did Prouse
To continue, dick Next. If you would like to select a differen	
CHYNCH CHYNCH	Browse
At least 2.7 MB of free disk space is required.	
< <u>B</u> ack	Next > Cancel



#### 4.4 Click "Install"

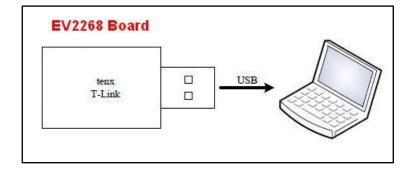
Setup - tenx F51&L51 series	
Ready to Install	
Setup is now ready to begin installing tenx F51&L51 series or	your computer.
Click Install to continue with the installation, or click Back if yo change any settings.	u want to review or
Destination location: C: Keil	*
*	
< Back	Install Cancel

4.5 Click "Finish" to complete the installation

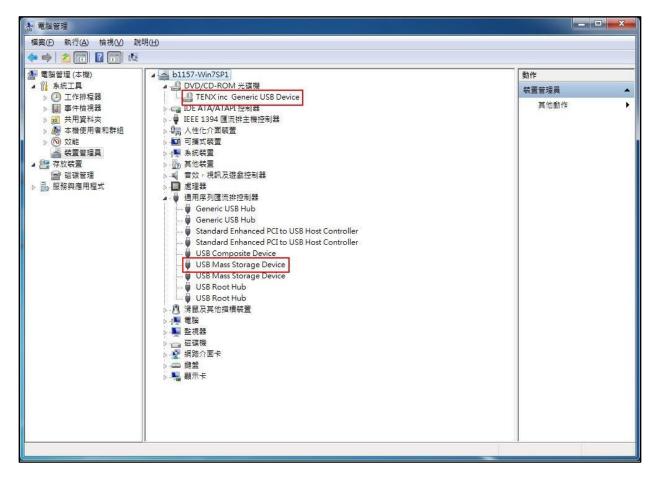




4.6 Connect T-Link-EV2268 Board of USB (mini type) connector to PC

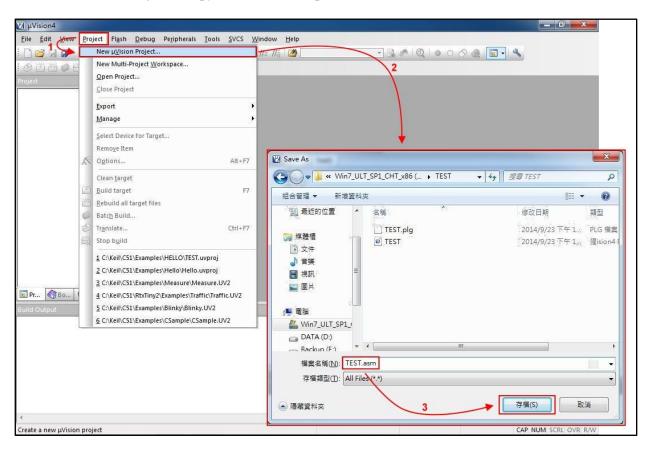


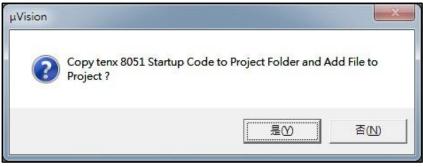
#### **4.7** Confirm Device Manger





**4.8** Open the KEIL C→Click the Project menu and select New Project window→Fill in the project name and click Save Project→Copy tenx 8051 Startup Code or not ?







**4.9** CPU Data Base selection dialog box will be show up→Select the tenx F8051 Devices and click on OK button→Select a CPU model (for EV Board model), refer to Note (1) and the right window shows some of the parameters of this single chip model.

Se	elect a CPU Dat	a Base File			
	tenx F8051 Devid Generic CPU Dat terox F8051 Devid	ta Base			
Se	elect a CPU Dat	ces	ncel		
😗 Options for Target 'Target 1'					×
Device   Target   Output   Listin	ng User  C51	A51 BL51 I	Locate   BL51 Misc	Debug Utilities	;]
tenx F8051 Devices Vendor: tenx Device: TM52F2268 Toolset: C51 Search:			<b>tended <u>Linker (LX51)</u> tended <u>A</u>ssembler (/</b>		51
<ul> <li>tenx</li> <li>TM52F2230</li> <li>TM52F2230B</li> <li>TM52F2234</li> <li>TM52F2234B</li> <li>TM52F2260</li> <li>TM52F2261</li> <li>TM52F2264</li> <li>TM52F2264</li> <li>TM52F2268</li> <li>TM52F2280</li> <li>TM52F2280F</li> <li>TM52F280F</li> <li>TM</li></ul>		Target name : EV226 8051 based MCU cor 512 bytes on-chip XR 11 Interrupts/4 priority (Code range (with De (Code range (with Do (XRAM range : 0xfe00	itains 16K bytes Flas AM,8051 standard Ti levels,16 channels T bug mode) : 0x00-0x3 wnload mode) : 0x00-	mer0/1/2,UART, F Touch Key, Watch 82,0x3b-0x1cff,0x20	Real time Timer Dog Timer anc J00-0x3ffb)
2	OK	Cancel	Defaults		Help

Note (1): TM52F2268 (For EV Board model)

Chip Model	EV Board Model
TM52F2268	EV2268



**4.10** Option for Target dialog box settings: Click the "Option for Target" button in the main menu, the project file is created must also be relevant to the project file settings as shown below.

🔀 TEST - µVision4				- 0 ×
	Qebug Perjipherals Iools SVCS Window Help	: 🗟 🖋 🍕 🖕	ି 🔗 🍓 🔳 🔦	
	TEST.asm			<b>▼</b> ×
G Source Group 1 └ G Source Group 1 └ ① TEST.asm	Options for Target Target 1' Device Target   Output   Listing   User   C51   A51 terx TM52F261 Xal (MH2): 60 Memory Model: Small vertables in DATA	BL51 Locate   BL51 Mise   Debug	3FFE)	
	Off-chip Code memory Start: Size: Eprom Eprom Eprom	Off-chip Xdata memory Start: Ram Ram Ram	Size:	
E Pr 《 Bo { Fu 0., Te ] Build Output		∃ "far' memory type support □ Save address extension SFR in interru	ots	• •
	OK Cente	l Defaults	Help	
*				÷.
	ten	F8051 Driver	L:4 C:21 CAP 1	NUM SCRL OVR R/W

**4.11** Output dialog box settings: To confirm "Create HEX File" option is checked, as shown below.

Device   Target Output Listing   User   C51   A51   BL Select Folder for Objects	
Create Executable: .\TEST     ✓ Debug Information     ✓ Browse Information     ✓ Create HEX File     HEX Format: HEX-80     ✓	
C Create Library: .\TEST.LIB	Create Batch File



**4.12** BL51 Locate dialog box settings: Unchecked "Use Memory Layout from Target Dialog" in BL51 Locate option and fill in Code & Xdata Range (Note: The chip code available range has divided into download mode and debug mode , please refer to Note (2) )

💘 Options for T	farget 'Target	1'							×
Device   Targ	et   Output	Listing User	C51	ADI	BL51 Locat	te BL51 Misc   Del	bug Utilities		
1		emory Layout from Te	eraat Diel	09					
4				_	v00-0×32 0×35	-0x1cff,0x2000-0x3ffk			
		2					2		
Space	Base	Segments.	Xd <u>a</u> ta	a Range: 0	xieuu-uxiili				
<u>C</u> ode:									
⊻data									
<u>P</u> data:									
P <u>r</u> ecede:									
<u>B</u> it:									
<u>D</u> ata:		-							
<u>I</u> data:						3			
<u>S</u> tack:									
<u>L</u> inker control		5 IAP TEST"						<b>_</b>	
string	RAMSIZE(2 CODE( 0x0	256) 0-0x32,0x3b-0x1cff,0)	x2000-0x31	ffb)				<b>•</b>	
		OK		Cano	el	Defaults		Help	

#### Note (2): TM52F2268 (EV2268) Code Range area (Program ROM)

	Code	e Range	XRAM Range
Chip Model	Download Mode	Debug Mode	
<b>TM52F2268</b> (EV2268)	0x00-0x32, 0x3b-0x3ffb	0x00-0x32, 0x3b-0x1cff, 0x2000-0x3ffb	0xfe00-0xffff



**4.13** Debug dialog box settings: Click on "Use: " option, and then select "tenx F8051 Driver" as shown below.

tions for Target 'Target 1'			1
Device   Target   Output   Lis	ting User   C51   .	A51 BL51 Lo	cate   BL51 Misc Debug Utilities
C Use <u>Simulator</u> □ Limit Speed to Real-Time	Settings		Monitor-51 Driver
Load Application at Startup Initialization File:	Run to main()	Initializatio	330: Dallas Contiguous Mode 300 EPM Emulator/Programmer PSD ULINK Driver son XC800 ULINK Driver Monitor Driver
Restore Debug Session Settin F Breakpoints Watchpoints & PA F Memory Display	2	- Restore Infine	son DAS Client for XC800 LPC95x ULINK Driver F8051 Driver oints
CPU DLL: Parameter:		Driver DLL:	Parameter:
S8051.DLL		S8051.DLL	
Dialog DLL: Parameter:		Dialog DLL:	Parameter:
Dialog DLL. Farameter.		TP51.DLL	-0552

**4.14** Utilities dialog box settings: Click on "Use Target Driver for Flash Programming" option and select "tenx F8051 Driver" as shown below.

Options for Target 'Target 1'
Device   Target   Output Listing   User   C51   A51   BL51 Locate   BL51 Misc   Debug   Utilities
Configure Plash Menu Command
2     ✓     Settings     Update Target before Debugging       Init File:     LPC300-EPM Emulator/Programmer      Edit       ST-uPSD ULINK Driver      Edit       Infineon XC800 ULINK Driver     3       XPL PC95x ULINK Driver     3
Command: terx F8051 Driver
Run Independent
OK Cancel Defaults Help



**4.15** Click on "settings" button and the "Flash Download Setup" window will be show up, check the "Download Function" desired option as shown below.

Device : TM52F2268 Option Reset Option Ma	→ Download Function ✓ Erase Flash ike *.tenx ✓ Program Flash ✓ Verify Flash
ption Number(hex) : 00400000	QTP Form Generator
🛛 Don't Show ICE Message 🛛 🔽 Do	on't Show AP Message
em Description	Selected Function
PRUT(1:7):	Disable
	Disable Pin Reset Enable
2. XRSTE (1:6) :	
2. XRSTĚ (1:6) : 3. MVCLOCK (1:5) :	Pin Reset Enable
2. XRSTÈ (1:6) : 3. MVCLOCK (1:5) : 4. WDTE (1:4) : 5. Address range of IAP (2:3~0) :	Pin Reset Enable MOVC Unlock
1. PROT (1:7) : 2. XRSTE (1:6) : 3. MVCLOCK (1:5) : 4. WDTE (1:4) : 5. Address range of IAP (2:3~0) : 6. ICE Mode(2:4) :	Pin Reset Enable MOVC Unlock WDT Disable
2. XRSTE (1:6) : 3. MVCLOCK (1:5) : 4. WDTE (1:4) : 5. Address range of IAP (2:3~0) :	Pin Reset Enable MOVC Unlock WDT Disable No use
2. XRSTE (1:6) : 3. MVCLOCK (1:5) : 4. WDTE (1:4) : 5. Address range of IAP (2:3~0) : 6. ICE Mode(2:4) :	Pin Reset Enable MOVC Unlock WDT Disable No use 5-Wire

**4.16** Click on "Option" button, and the "Smart Option" will be show up, about the option configuration, please refer to TM52F2268 datasheet.

Flash Download Setup V1.4.4.1	<u>)</u>	<li></li>
General Edit LCD Online check		
	Download Function	
1 Device : TM52F2268	Erase Flash	
Option Reset Option Make *.:	enx Program Flash	
	Smart Option	? ×
Option Number(hex) : 00400000	01. PROT (1:7) : Disable 💌	<u> </u>
🔽 Don't Show ICE Message 🛛 🖓 Don't S	02. XRSTE (1:6) : Pin Reset Enable 💌	
	03. MVCLOCK (1:5): MOVC Unlock 💌	
Item Description 01. PROT (1:7) :	04. WDTE (1:4): WDT Disable 💌	
02. XRSTE (1:6) :	05. Address range of IAP (2:3 <sup>°</sup> 0) : No use	<b>_</b>
04. VVD1E (1.4).	06. ICE Mode(2:4) : 5-Wire 💌	_
05. Address range of IAP (2:3~0) : 06. ICE Mode(2:4) :	07. Operating Voltage(3:0) : 3V mode 💌	
07. Operating Voltage(3:0) :	OK	Cancel
and a second sec		
OF		
	•	



**4.17** Click on "OK" to return to "Flash Download Setup" window, and then click on "OK" to return to "Utilities" window, this all new project configuration is complete and click on "OK" to exit the "Option for Target" window, the user can start programming now. (Note: To change chip model ,user needs to confirm "Code Range" and "Option" settings, the "Open Project" will save the settings and the "New Project" will be default settings in the "Option" dialog box)

Device : TM52F2268	Download Function	
Option Reset Option Make	e *.tenx	
Dption Number(hex) : 00400000	QTP Form Generator	
✓ Don't Show ICE Message ✓ Don	't Show AP Message	
tem Description	Selected Function	
1. PROT (1:7) :	Disable	
2. XRSTE (1:6) :	Pin Reset Enable	
3. MVCLOCK (1:5) :	MOVC Unlock	
4. WDTE (1:4) :	WDT Disable	
<ol> <li>Address range of IAP (2:3~0) : ICE Mode(2:4) :     </li> </ol>	No use 5-Wire	
7. Operating Voltage(3:0) :	3V mode	
Ĩ		
	OK	
for Target 'Target 1'		

	 dit
h Programming	
endent	



# 5. How to use four wires to program or simulate by T-Link Board

The T-Link ICE Board can use four wires (VBAT, VSS, P1.2, P1.3) or five wires (VBAT, VSS, P1.2, P1.3, P1.0) to program, user must to select 4-wire in "Utilities dialog box settings".

5.1 Utilities dialog box settings: Click on "Option" button, and select 4-Wire, as shown below.

Smart Option	? ×
01. PROT (1:7) : Disable 💌	-
02. XRSTE (1:6) : Pin Reset Enable 💌	
03. MVCLOCK (1:5) : MOVC Unlock 💌	
04. WDTE (1:4) : WDT Disable 💌	
05. Address range of IAP (2:3"0) : No use	
06. ICE Mode(2:4) : 5-Wire ▼	
07. Operating Volta 4-Wire V mode ▼ 5-Wire	
OK Cancel	
	•

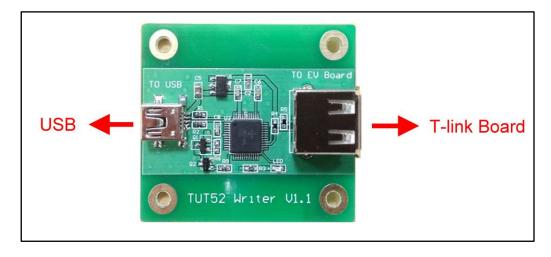


# 6. How to update tenx IDE & T-Link F/W

**6.1** Update tenx IDE: Click on "Online check" button, and Update the TM52Dll IDE in Utilities dialog box, as shown below.

Online update	23
General Edit LCD Online check Version Infomation : V1.3.0.0 F/W Version: Update T-link ICE Board	
New Version Is : v1.3.0.2build000 If you want to update, please press "Execute" or "Save as" else press "Cancel".	
Execute Save as Cancel	
ОК	

6.2 Update T-Link F/W: Connect TUT52 Writer to USB and T-Link Board, as shown below.





23 Online update General Edit LCD Online check Version Infomation : V1.3.1.2 F/W Version: 1 Update T-link ICE Board х tenx F/W Update Notification 2 Original F/W version is v3.b7 ---New F/W version is v3.b8 ---Upgrade F/W to a new version! OK X SampTarg Update FW Success!! 3 OK ок

**6.3** Click on "Update T-Link ICE Board" button to update T-Link Board F/W, as shown below.



# 7. How to use Touch Key Application

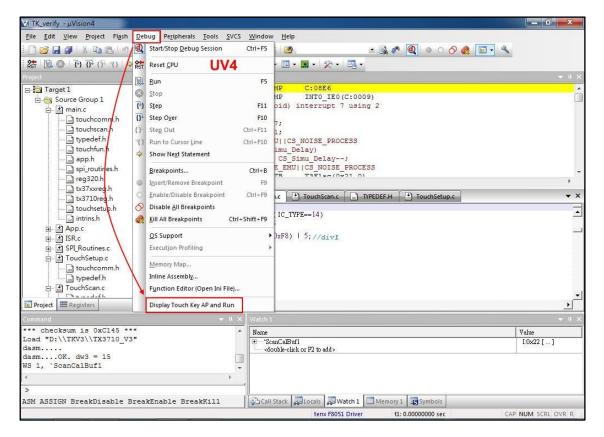
The Touch Key Application work in Debug Mode, user can use application to view the results of TK Data. The TK Data must be stored in XRAM and IRAM range, as shown below.

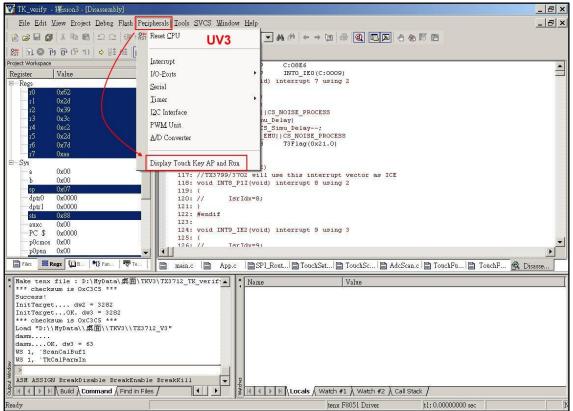
#### 7.1 Click on "Debug" into Debug mode.

👿 TEST - µVision4				
	Debug Pe <u>r</u> ipherals <u>T</u> ools <u>S</u> VCS <u>W</u> indow <u>H</u>			
	>   ⇔ ⇒   № ₿ ₿ ₿   律 津 //: //:	🛎 🔺 💌 🖉	🗕 O 🔗 🍓 🔳 🔦	
🛛 🥙 🎦 🛗 🥔 🧮 🙀 Tauget 1	· 🐔 📥	/		
Project 🗢 🖛 🗙	TEST.asm			<b>▼</b> ×
⊡ :	O1         ORC         00H           02         JMP         START           03         ORG         1D00H           05         ORG         1D00H           06         START:         NOP           07         NOP         09           10         END         11			<
E Pr (♂Bo {} Fu 0, Te Build Output	1			× ×
Build Odipor				
4				*
		tenx F8051 Driver	L:4 C:21 CAP I	NUM SCRL OVR R/W



7.2 Click the Debug menu and select "Display Touch Key AP and Run".



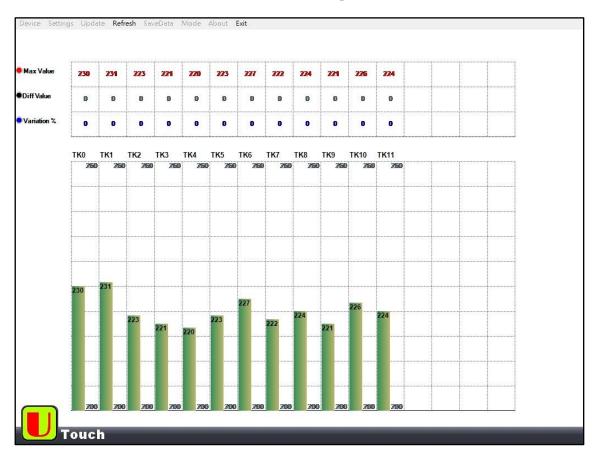




7.3 Fill in TK Data, ex: TK name (address) and TK Bits and Total TK Channels.

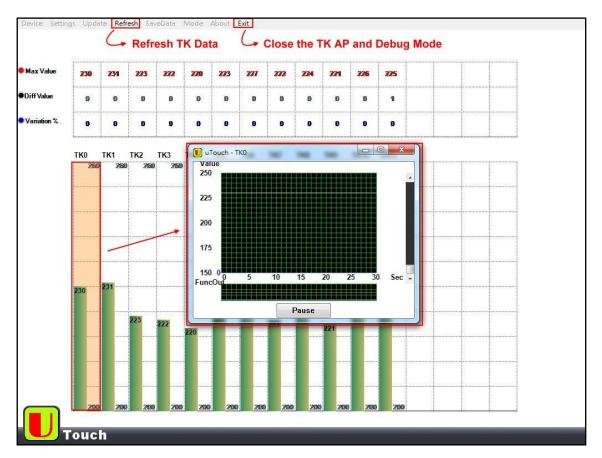
Key-in symbol name for watch	
TK Name or Address (Ex: "i:0x20" ; "x:0xFF00	"): i:0x22
TK data bits(8 or 11) : 11	Total TK channels : 0x10
Example1:	Example2:
TK data address = i:0x22	TK data address = i:0x22
TK data bits = 8	TK data bits = 11
Total TK channels = 0×3	Total TK channels : 0×2
User must:	User must:
Copy {TKDL[7:0]} of 1st TK into i:0×22	Copy {5'b00000, TKOVF, TKDH} of 1st TK into i:0x22
Copy {TKDL[7:0]} of 2nd TK into i:0×23	Copy {TKDL[7:0]} of 1st TK into i:0x23
Copy {TKDL[7:0]} of 3rd TK into i:0x24	Copy (5'b00000, TKOVF, TKDH) of 2nd TK into i:0x24
	Copy {TKDL[7:0]} of 2nd TK into i:0x25
Note:	
	n ICE pins(maybe P1.2/P1.3) cannot be enabled.
	auto freerun and ignore any break point.
Cancel	OK

7.4 Click on "OK" button, and the "TK AP" will be show up.





7.5 The TK AP Function, as shown below.





## 8. How to use LCD Application

The LCD Application can edit and work in Debug Mode, user can use application to simulator LCD Module, please refer to UM-EV22\_52XX\_LCDAP\_SV090 User Manual for more information.

**8.1** Click on "Option for Target" button in the main menu, as shown below.

Control of the c	🕐 TEST - µVision4		- 0 ×
Code memory     Stat:	<u>File Edit View Project Flash D</u>	ebug Peripherals Iools SVCS Window Help	
Code memory     Stat:	🗋 💕 🖬 🖉 l X 🖬 🖻 l 9 🗠	- (4 - +) 🖗 熟 熟 課 罪 進 版 🙋 🔹 🔹 🔍 🔹 🔍 🔹 🔍	
Codett     Code Terget 1     Concerner Group 1     Options for Target 1     Options for Tar	😵 🏦 🎬 🥔 🔛 🙀 Target 1		
Coptions for Target 1'  Coptions for Target Target 1'  Coptions for Target Target 1'  Device Target 1  Device Target 1'  Device Target 1'			<b>▼</b> ×
Lenx TM52F5284     Yeld (MH2):     6.0     Use On-chip ROM (0x0-0x32.0x38.0x3FFD)       Memory Model:     Small: variables in DATA	🗄 🔄 Source Group 1	Options for Target 1'	*
Yeal (MHz):     6.0 <ul> <li>Use On-chip ROM (0x0-0x32,0x38-0x3FD)</li> <li>Memory Model:</li> <li>Strait: variables in DATA variables in DA</li></ul>	🖳 🔛 TEST.asm	Device Target Output Listing User   C51   A51   BL51 Locate   BL51 Misc   Debug   Utilities	
Memory Model:     Smalt: variables in DATA       Code Rom Size:     Large: 64K program       Operating system:     None       Off-chip Code memory     Start:       Size:     Eprom       Eprom     Ram       Ram     Ram       Eprom     Ram		tenx TM52F5284	
Code Rom Size: Large: 64K program Ulee On-chip XRAM (0xFF00-0xFFFF) Operating system: None Ulee On-chip XRAM (0xFF00-0xFFFF) Operating system: None   Off-chip Xdata memory Start: Size: Eprom Ram		Xal (MHz): 6.0	
Operating system: None		Memory Model: Small: variables in DATA	
Off-chip Code memory Start: Size: Eprom Eprom Ram Ram Ram Ram Ram Ram Ram Ram Ram Ra		Code Rom Size: Large: 64K program	
Stat: Size: Slat: Size: Eprom Ram Ram Ram Ram Ram Ram Ram Ram Ram Ra		Operating system: None	
Eprom Ram Ram		Stat: Size: Stat: Size: Eprom	
		Code Banking Stat: End: Ta' memory type support	• n ×
OK Cencel Defaults Help		OK Cancel Defaults Help	
			Ŧ
tenx F8051 Driver  L4 C:21 CAP NUM SCRL OVR R	4	tany 52651 Driver Ld CO1 CAR N	

8.2 Click on "setting" Button in "Utilities" Digital box, as shown below.

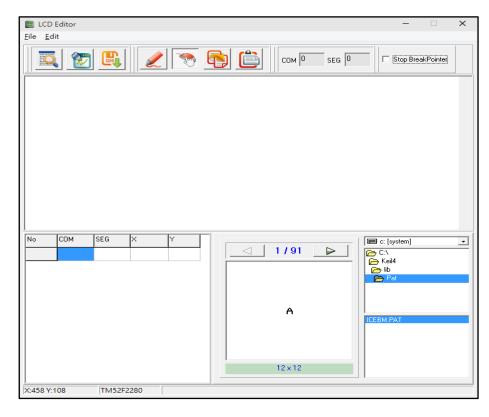
Options for Target 'Target 1'	×
Device   Target   Output   Listing   User   C51   A51   BL51 Locate   BL51 Miss   Debug   Utilities	
Configure Flash Menu Command	-  I
Use Target Driver for Flash Programming	
tenx F8051 Driver Settings Update Target before Debugging	
Init File: Edit	
C Use External Tool for Flash Programming	
Command:	
Arguments:	
🔲 Run Independent	
OK Cancel Defaults Help	



**8.3** Click on "Edit LCD" Button and check "show LCD in debug" option, as shown below.

LCD Setting X
General Edit LCD Online check
Edit LCD F
Free run timer set (ms):
LCD File Name :
C:\Users\rd\Documents\123.LCD
PAT file path:
C:\Keil4\lib\Pat\ICEBM.PAT
OK

8.4 Click on "Debug" into Debug mode and the LCD Application will be show up, as shown below.





# 9. Q & A

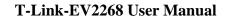
#### Q1: How to program a user file on TWR98 Writer ?

A1: The User must make "\*.tenx" file to program in "Utilities dialog box settings", or enter "Download Mode" and "Debug Mode", as shown below.

Flash Download Setup V1.3.1.2		
General No LCD Device Online check		
Device : Option Reset Option Make *.	■ Download Function	
Option Number(hex) : 00420000		
Don't Show ICE Message Don't S     Item Description	Show AP Message Coverwrite FRCF	
01. FIRC(When CLKPSC=11 and select		
02. PROT (1:7) :	Not Protected	
03. XRSTE (1:6) :	Pin Reset Enable	
04. MOVCLOCK (1:5) : 05. WDTE (1:4) :		
06. LVRE (1:1) :	WDT Disable Low Voltage Reset Enable	
07. Address range of IAP (2:3~0) :	No use	
08. ICE Mode(2:4) :	5-Wire	
09. Operating Voltage(3:0) :	3V mode	
<		
ОК		

#### Q2: How to use UV3 and UV4 version in the same time ?

A2: If user wants to install UV3 and UV4 version in the default path (UV3 & UV4 version in C: \Keil) in the same time, the user musts to change C51 folder name(because there will be two C51 folders), and then install tenx F51 & L51 IDE file, if user needs to use UV3 version, the UV4 version must to change C51 folder name. However, the user wants to install UV3 and UV4 version in the different path (UV3 version in C: \Keil, UV4 version in D: \Keil), the tenx F51 & L51 IDE & Keil C version (UV3 or UV4) must be installed in the same path.





Q3: Why the user clicks on "Debug" button as shown below window ?

AP Note :	×
<ol> <li>System Clock frequency Suggestion:         <ul> <li>A. TM52F2268 — less than 8MHz.</li> <li>Code range:</li></ul></li></ol>	
☐ Do not show next time OK	
ICE Mode Note : X 1. In ICE mode, don't use (P12/P13) ICE pins or change its pin mode.	
Do not show next time	

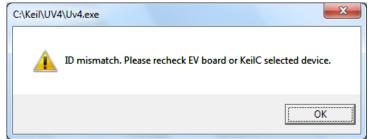
A3: When the user writes program file must be avoid to control P1.2 > P1.3 pin (For example: P1 Mode configuration change), if do not show this window in the next time ' please check "Do not show next time" option, or to confirm "Don't Show ICE/AP Message " is checked in the "Flash Download Setup " window.

neral Edit LCD Online check Device : TM52F2268	Download Function
Option Reset Option Mak	ke * tenx
Option Number(hex) : 00400000	QTP Form Generator
🔽 Don't Show ICE Message 🛛 🔽 Do	n't Show AP Message
Item Description	Selected Function
01. PROT (1:7) :	Disable
02. XRSTE (1:6) :	Pin Reset Enable
	Pin Reset Enable MOVC Unlock
02. XRSTE (1:6) : 03. MVCLOCK (1:5) : 04. WDTE (1:4) :	
03. MVCLOCK (1:5) : 04. WDTE (1:4) :	MOVC Unlock
03. MVCLOCK (1:5) :	MOVC Unlock WDT Disable
03. MVCLOCK (1:5) : 04. WDTE (1:4) : 05. Address range of IAP (2:3~0) :	MOVC Unlock WDT Disable No use
03. MVCLOCK (1:5) : 04. WDTE (1:4) : 05. Address range of IAP (2:3~0) : 06. ICE Mode(2:4) :	MOVC Unlock WDT Disable No use 5-Wire
03. MVCLOCK (1:5) : 04. WDTE (1:4) : 05. Address range of IAP (2:3~0) : 06. ICE Mode(2:4) :	MOVC Unlock WDT Disable No use 5-Wire

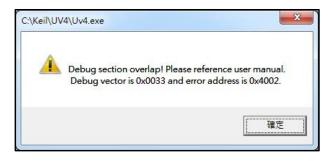
UM-T-Link-EV2268\_E



Q4: Why the user clicks on "Debug" button as shown below window, and then exit the "Debug Mode"?



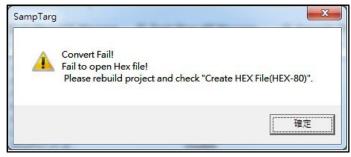
- A4: Because the user selects chip model and EV Board model does not match, please recheck chip model and EV Board model.
- Q5: Why the user clicks on "Debug" button or "Download" button as shown below window, and then exit the "Debug Mode" or "Download Mode" ?



A5: Because the user writes program file is out of "ROM code" range, please refer Note (2) in Page 14.



Q6: Why the user clicks on "Debug" button as shown below window, and then exit the "Debug Mode" ?



A6: Because the "Create HEX File" is not checked in "Output" option, please refer below figure.

Device   Target 'Target 1' Device   Target Output Listing   User   C51   A51   BL51 Loca Select Folder for Objects   <u>N</u> ame of Executable: TEST	
Create Executable: \TEST     I     I     Debug Information     I     Create HEX_File     HEX Format: HEX-80     I	
C Create Library: \TEST.LIB	Create Batch File