USB PD FW Update Fixture (For RT7880 Update)

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1. RTUniversal Programming Tool Setup



Step 1. (If NB had installed it. Skip this step.)

- NB must install RTBridgeboardUtilitiesV137.exe (It can't use old version)
- The RTBridgeboardUtilitiesV137 is USB driver.
- RTBridgeboardUtilities download path : www.richtek.com/~/media/Design%20Tools/RTBridgeboardUtilities.ashx

Step 2. Decompressed file (First time use or ProgrammingTool Version update)

- The RTUniversalProgrammingTool is firmware programming software.
- RTUniversalProgrammingTool download path : <u>www.richtek.com/~/media/Design%20Tools/RTUniversalProgrammingTool.ashx</u>
- Decompressed RTUniversalProgrammingTool file

Step 3.

• Execute RTUniversalProgrammingTool.exe



Step 4. Set Workspece (First time use or ProgrammingTool Version update)

• Execute Setting Properties

RTUniver	salProgrammingTool
Device File	e Setting
RICH	Properties FEK Richtek Technology Corporation
Main	

• Set up Workspace folder. Press Browse...

Proper	rties			×
Wor	rkspace	D:\点面\RTUniversalProgrammingTool_V16a\workspace	•	Browse
				Open Directory
			OK	Cancel

• Fine the current version Workspace and Press 確定.





Press OK



• Press 確定



- Close RTUniversalProgrammingTool
- Rerun RTUniversalProgrammingTool



2. Programming Environment Setup

Programming Environment Architecture Diagram (Photo is an example)





3. RT7880 PC OnLineUpdate Program

Step 1.

- Target PCB connect to Update Fixture V01
- Target PCB Power On

Step 2.

• Run RTUniversalProgrammingTool.exe

Step 3.

• Product select RT7880_online

🔏 RTUniversalPro	grammingTool			
Device File Se	ting			
DICHTEN	Bishisk Technology Corporation			
RICHTER	NICHIEK TECHNOLOGY CORPORATION			
Main				
Product				Auto Detect
Product	RT7202KE			Auto Detect
ID	RT7202KF RT7206_8K			Read ID
	RT7880 RT7880_online			
Program File				Load
Blank Check	Erase	Program	Verify	
Read	Dump			
Connected				



Step 4. Scanned Address

• Press Read ID (Programming tool will get update address)

RTUniversalPr	ogrammingTool					
RICHTE	etting Richtek Technology	ogy Corporation			_	
Main Setting I	nfo					
Product	RT7880_online	RTUniversa	alProgrammingTool	8	•	Auto Detect
ID Program File			Scanned Address:0x2E			Read ID Load
Blank Chec	k		確定	Verif	ý	
Read		Dump				
Connected						

Step 5. Setting Address

- Key in Scanned Address : 0x2E into SlaveAddress1 field
- OnlineUpdateAddress field = SlaveAddress1 value + 1

RTUniversalProgrammingTool
Device File Setting
RICHTEK Richtek Technology Corporation
Main Setting Info
SlaveAddress1 0x2E
OnlineUpdateAddress 0x2F
Connected



Step 6.

- Press Read ID
- If address setup correctly. Tool notification "Read ID successfully"

in Setting	Info				
	IIIO				
Product	RT7880_onl	ine			Auto Detect
ID	7880				Read ID
Program File					Load
Blank Che	dk 🗌	Erase	Program	Verify	
Read		Dump			

Step 7. Load RRF file

• Press Load to load rrf file

Step 8.

• Press Program

in Setting	KICHIEK TECHNOLOGY LOTPORATION	
Product	RT7880_online	Auto Detec
ID	7880	Read ID
Program File	D:\Custom_Project\AutoProgramFw\Verify_Data_Source\RT7880\I2COnlineUpdateLeoP(Load
Blank Che	dk Erase Program Verify	
Deed	Dump	



Step 9.

• Switch to Info sheet show File/Chip Checksum and CRC8 value



• Note : If SlaveAddress1 and OnlineUpdateAddress setting are correctly. Step 4. ~ 6. can be ignored.



4. RT7880 PC OnLineUpdate Verify

Step 1.

- Target PCB connect to Update Fixture V01
- Target PCB Power On

Step 2.

• Run RTUniversalProgrammingTool.exe

Step 3.

Product select RT7880_online

RTUniversalProgramn	ningTool		_	
Device File Setting				
RICHTEK Richt	k Technology Corporation			
Main				
				•
RT7202	жЕ		•	Auto Detect
ID RT7202 RT7206	/KF 5_8K			Read ID
Program File	_online			beol
	•••••		•••••	
]
Blank Check	Erase	Program	Verify	
				,
Read	Dump			
Connected				

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Step 4. Scanned Address

• Press Read ID (Programming tool will get update address)

Device File Sett	ing					
RICHTEK						
RICHTEK						
	Richtek Technology	Corporation				
1ain Setting Info						
Product [T7990 anline	PTUpiyara	ProgrammingTool	23		Auto Detect
Product	ci /880_oniine	I TO IIVEISE			•	Auto Detect
ID						Read ID
	-		Scanned Address:0x2E		•	
Program File				- E		Load
			確定			ſ
Blank Check					Verify	
Read	Du	ump				
Connected						

Step 5. Setting Address

- Key in Scanned Address : 0x2E into SlaveAddress1 field
- OnlineUpdateAddress field = SlaveAddress1 value + 1

A RTUniversalProgrammingTool	X
Device File Setting	
RICHTEK Richtek Technology Corporation	
Main Setting Info	
SlaveAddress1 0x2E	
OnlineUpdateAddress 0x2F	

Connected	



Step 6.

- Press Read ID
- If address setup correctly. Tool notification "Read ID successfully"

in Setting	Info				
Product	RT7880_onl	line		 	Auto Detect
ID	7880				Read ID
Program File					Load
Blank Che	dk	Erase	Program	Verify	
Read		Dump]		

Step 7. Load RRF file

• Press Load to load rrf file

Step 8.

• Press Verify

RTUniversalPro	ogrammingTool		23
Device File Se	etting		
DICHTE	Dishtek Teshnology Comparison		
RICHTER	Richtek Technology Corporation		
Main Setting Ir	ıfo		
Product	RT7880_online 🔹	Auto Detect	
ID	7880	Read ID	h
		110010	
Program File	D:\Custom_Project\AutoProgramFw\Verify_Data_Source\RT7880\I2COnlineUpdateLeoP(Load	
		4	
Blank Ched	c Erase Program Verify		
Read	Dumo		
	Comp		
			۰.
Connected	Verify successfully		



Step 9.

• Switch to Info sheet show File/Chip Checksum and CRC8 value



• Note : If SlaveAddress1 and OnlineUpdateAddress setting are correctly. Step 4. ~ 6. can be ignored.



More Information

For more information, please find the related datasheet or application notes from Richtek website <u>http://www.richtek.com</u>.

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