Intel USB4 Evaluation Dock Update Manual

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Important: Intel USB4 Evaluation Dock should be Powered off (No Power Supply must be Connected to the Board) when updating FW

1. Equipment:

1.1 **Dediprog SF600** (used to update the following components on the Intel USB4 Evaluation Dock):

Goshen Ridge:U8 – GR NVMDelta Bridge:UB10 – DB NVMUSB2.0 Hub:UB6 – USB2 HUB NVM



Figure 1: Dediprog SF600

SF600 SPI NOR Flash Programmer

- Reference Link: <u>https://www.dediprog.com/product/SF600</u>
- Link for downloading software: <u>https://www.dediprog.com/download?productCategory=SPI+Flash+Solution&productName=SF600+SPI+NOR+Flash+Programmer&fileType=10</u>



Figure 2: Test Clip

ISP Testclip (SO8) (Compatible with SF100)

Model Name: ISP-TC-8 ISP Testclip (SO8) (Compatible with SF100)

Reference Link: https://www.dediprog.com/product/ISP-TC-8

1.2 Cypress MiniProg4 Program and Debug Kit CY8CKIT – 005 (used for updating the following components):

Cypress DMC (J5) Cypress CCG5(J4).



Figure 3: Cypress MiniProg4 Program and Debug Kit CY8CKIT – 005

- Reference Link: <u>https://www.digikey.com/product-detail/en/CY8CKIT-005/428-4713-</u>

ND/10314122?utm_medium=email&utm_source=oce&utm_campaign=3103_OCE20 RT&utm_content=productdetail_US&utm_cid=457843&so=64303907&mkt_tok=ey JpIjoiTURjNVIXVTBOekV4TW1aaSIsInQiOiJabjNuUjdzczgxZ0NCdWJBbExnR2k 3czkxNjhhZUVRcEFRdjIGSEZzeVZNNzdHcDRBSnEyYzhwa1F4QUJWS1NUeTJ wcEtXV1Z6d2tlbnpQbHUxamJCU1hqUHNhd3I4c1ZBaEd0WWtBUklLc0VsZ3F5T nc2eVRsYkZubXJrTm14dyJ9

- Link for downloading software (Name of software: Download PSoC Programmer 3.x.x.exe):

https://www.cypress.com/documentation/software-and-drivers/psoc-programmerarchive

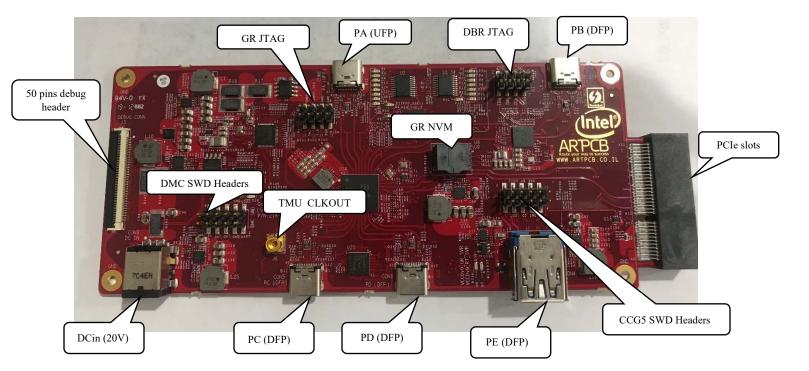
Note: You need to create an account to able to download software Note: You need buy 5 Female to Male External Jumper for connecting.





Figure 4: Female To Male Jumper

Reference Link: <u>https://www.amazon.com/GenBasic-Female-Solderless-Breadboard-Prototyping/dp/B077N7J6C4/ref=sr_1_7?dchild=1&keywords=male+to+female+jumper+wires&qid=1600894633&sr=8-7
</u>



2. Component Side and Back Side of Intel USB4 Evaluation Dock

Figure 5: Intel USB4 Evaluation Dock Component Side

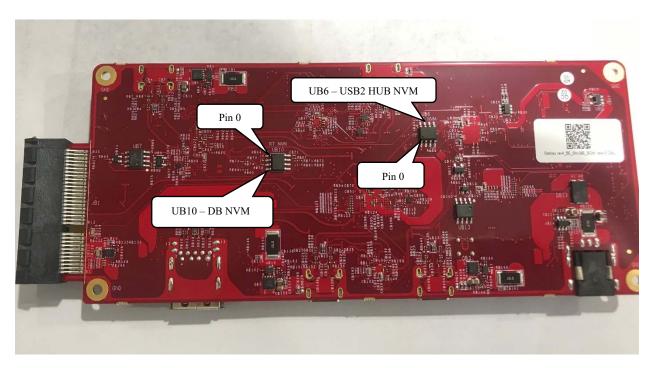


Figure 6: Intel USB4 Evaluation Dock Back Side

Intel USB4 Evaluation Dock BKC File example

Goshen Ridge: GR_4C_A0_rev9_GATKES_BOARD.bin

Delta Bridge: DBR_CDR_ON_BOARD_rev1_NOSEC_sign.bin

Fresco Hub: UB6_RegisterOnly_AddHeader_Merged_INTEL_1U5D_FL5801_1Q1_V02

Cypress PD: DMC: CY7C65219-40LQXIT_dmc_gatkex_creek_sha_3_3_0_1746_1_3_19_120W.hex CCG5: CYPD5235-96BZXI_gatkex_3_3_1_39_2_8_0_nb.hex

3. GoshenRidge FW Update

Example file: GR_4C_A0_rev9_ GATKES_BOARD.bin

- Step 1: Plug Dediprog SF600 flasher to PC
- Step 2: Open Dediprog Engineering Application:
 - Go to Config Menu at the Top→Select Batch Operations(Top Left)→Check the Batch Operation Options is the same as Yellow Hightlight (see Figure 7) -→everything else leave as default

dvanced Settings		
	Batch Operation Options	
Batch	O Download a whole file to chip (With Blank Check), Fill Unused Space with(Hex): 00	
Batch Operations	Download a whole file to chip (Without Blank Check), Fill Unused Space with(Hex): 00	
	O Update memory only on sector locations with content difference. O Update start from address (Hex)	
Prog	O Update up to address (Hex) 1FFFFF	
Program Configuration	O Update memory and keep one protected area unchanged. Protect area at address(Hex) 0 for 0 bytes	
Eng.	O Update memory according to Region configuration Region 2 V From(Hex) 0 to FFF	
Engineering Mode	Erase the rest of the selected but not updated region	
400	Without Erase for item 1 and tiem 2	
SR	Enable Freescale EzPort MCU & Send the DIV value (Hex) 0	
Modify Status Register	Send Specific Data. File path: V Find	
	Identify Chip	
89	Reload file each time	
Aiscellaneous Settings	Require Verification after completion	
	Auto update second memory with file:	
	Verify only for project saving and using on Production mode and Standalone mode	
lash Options	Standalone start mode: Start from Programmer Button	
	Current File in Buffer: C:\Users\Dai Ho\Desktop\Tiger_Lake_folder\TigerLake Silicon\TigerLake BKC\09_15_2020\	
	OK Cancel Apply	
	Un Cance Appry	,

Figure 7: Batch Operation Options

- Step 3: Open U8 – NVM and take out the chip inside (see Figure 8)



Figure 8: Chip inside U8 NVM

- Step 4: Connect the SPI flash component to flasher (chip inside U8). Note: Make sure pin 0 of the chip is at the white line of the clip (see Figure 9)

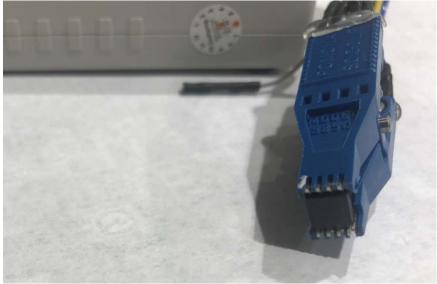


Figure 9: Connect the SPI Flash component to flasher (U8)

- Step 5: Detect \rightarrow choose First Chip number in the Memory list. (See Figure 10)
- Note: If you do not see Memory list after Detect Chip→ Please check the Connection between Chip and Test Clip-→Make sure they are connected correctly

-	-	Load Prj Save Prj Download Prj	Powered by	
urrently working on: Application Memory Chip urrently working region: Region 1 <l< th=""><th></th><th>O Region 5</th><th>X S Info indows Version: Windows 10 ogrammer Info ype: ype: SF600 indware Version: 7.2.49 PGA Version: 0X100E ardware Version: 2.2 CC Status: 3.5V / OFF PP Acc: Not Applicable PI Clock: 12 MHz ual/Quad IO: Single 10 emory Info ype: ype: W2SQ16 anufact: Winbond Electronics Corp ze(KB): 2048 anu. ID: 0xef DEC ID: 0xef4015 hip VCC: 3.3V age size(B): 256 sctor size(B): 4096</th><th></th></l<>		O Region 5	X S Info indows Version: Windows 10 ogrammer Info ype: ype: SF600 indware Version: 7.2.49 PGA Version: 0X100E ardware Version: 2.2 CC Status: 3.5V / OFF PP Acc: Not Applicable PI Clock: 12 MHz ual/Quad IO: Single 10 emory Info ype: ype: W2SQ16 anufact: Winbond Electronics Corp ze(KB): 2048 anu. ID: 0xef DEC ID: 0xef4015 hip VCC: 3.3V age size(B): 256 sctor size(B): 4096	
		OK Cancel	e Info ime : ze: jecksum(File size) : Checksum(Chip size) : CRC32 Checksum(file size): CRC32 Checksum(chip size):	
			Batch Config setting	

Figure 10: Choose the chip from memory list

Note: Majority of the time, the first component in the list is the correct chip.

Step 6: File → load Goshen Ridge FW from BKC file bin file (See Figure 11), Select OK

t File Blank Erase Prog Ve	rify Batch Edit Config Load Prj Save Prj Prj	Powere	al by our
rently working on: Application Memory Chip 1 rently working region: Region 1 Region			
2020-Sep-23 11:21:17: Welcome to DediProg SF6.0 2020-Sep-23 11:21:17: Start logging		OS Info Windows Version:	Windows 10
2020-Sep-23 11:21:17: Checking Windows version . 2020-Sep-23 11:21:17: Windows version: Windows 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 11:21:28: Current Type: W25Q16 2020-Sep-23 11:21:28: VCC 3.5V a soplied.	10	Programmer Info Type: Firmware Version: FPGA Version: Hardware Version: VCC Status:	SF600 7.2.49 0X100E 2.2 3.5V / OFF
2020-Sep-23 11:21:36: Detecting chip 2020-Sep-23 11:26:46: Type W25Q16 is applied	Load File File Path: C:\Users\SWZ-14\Desktop\Gatkex BKC Kit 136872 Posted 8-2i Program as Data Format: @Raw Binary OIntel Hex OMotorola S19		Not Applicable 12 MHz Single IO 16 nd Electronics Corp
	Truncate file to fit in the target area.	Cancel	015
		File Into Name : Size: Checksum(File size) Checksum(Chip size CRC32 Checksum(fil CRC32 Checksum(cl	e) : le size):
		Batch Config setting	Full Chip update

Figure 11: Load Intel USB4 Evaluation Dock bin file

- Step 7: Batch
- Step 8: Wait for all stages are PASS(see Figure 12), and Operation Completely

• 💮 O etect File Bland	(7) (3) (100) (200) (Powered by
Currently working on: Currently working region:	Application Memory Chip 1 Application Memory Chip 2 Update Stand Alone Project Region 1 Region 2 Region 3 Region 4 Region 5	
① 2020-Sep-23 11:33:15: ① 2020-Sep-23 11:33:15: ① 2020-Sep-23 11:33:15: ① 2020-Sep-23 11:33:16: ① 2020-Sep-23 11:33:16: ① 2020-Sep-23 11:33:12: ② 2020-Sep-23 11:33:12: ② 2020-Sep-23 11:33:12: ① 2020-Sep-23 11:33:12: ① 2020-Sep-23 11:33:13: ① 2020-Sep-23 11:33:13:	0.06 seconds elapsed. Programming parameters: Source File: GP,HE_4C_BD_W_GATKES_BOARD_rev27_NOSEC_sign.bin(0x47000 bytes) ATE Region: [0, 0x47000] Spare Memory Region: leave as being erased. Truncate-File-To-Filt-Memory Disabled. Identify GP,DGK Erasing a Whole chip A whole chip erased Programming parameters: Source File: GP,HE_4C_BD_W_GATKES_BOARD_rev27_NOSEC_sign.bin(0x47000 bytes) ATE Region: [0, 0x47000] Spare Memory Region: leave as being erased. Truncate-File-To-Filt-Memory Disabled. Programming OK Single T0 is set.	OS Info Windows Version: Windows 10 Programmer Info Type: SF600 Firmware Version: 7.2.49 FFGA Version: 0X.100E Hardware Version: 2.2 VCC Status: 3.5V / OFF VPP/Acc: Not Applicable SPI Clock: 12.144 Dual/Quad IO: Single IO Memory Info Type: W25Q16 Hanufact: Winbond Electronics Corp Size(KB): 2048 Hanu, ID: Oxef DEEC ID: Oxef4015 Chip VCC: 3.3V Page size(B): 256 Sector size(B): 406
(1) 2020-Sep-23 11:33:26: (1) 2020-Sep-23 11:33:26: ✓ 2020-Sep-23 11:33:26: ✓ 2020-Sep-23 11:33:265	Truncate-File-To-Filt-Memory Disabled. Reading From Address (D, 0x47000) Finished reading from memory.	File Info GR_jHR_4C_B0_W_G Name: GR_jHR_4C_B0_W_G Size: 0x47000 Checksum(File size): 0x01D4155C Checksum(Chip size): 0x1D48355C CRC32 Checksum(File size): 0x3278504
(1) 2020-Sep-23 11:33:26:	Downloaded bytes checksum(0x47000 bytes)(CRC-32):35276504 Chip checksum((0, 0x47000) of total 0x20000 bytes(chip size))(CRC-32): 35276504 The downloaded checksum could be different from that of the original file if it's downloaded partially.	CRC32 Checksum(chip size): 0xF098404A Batch Config setting

Figure 12: All stages are PASS

Note:

- All stages are PASS only if you choose the correct chip in step 5.
- In case you choose the wrong chip in step 5, you will see the following message

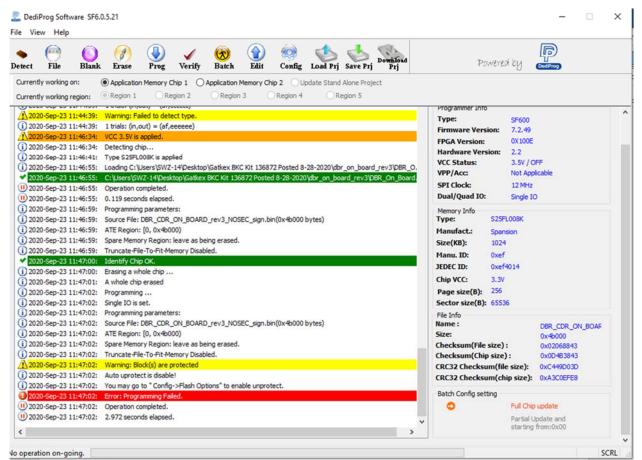


Figure 13: Error message after Batch when we choose the wrong chip

Troubleshoot:

- At Step 5: Detect \rightarrow choose Second Chip number(W25Q168) of component in the list
- Repeat Step 6 to Step 8
- If Error:Programming Fail Message still occur→ At Step 5: Detect → choose Third Chip number (W25Q16CL)
- Repeat Step 6 to Step 8
- Step 9: Put the chip back to U8 GR NVM. Make sure pin 0 is on arrow position of U8 GR NVM .

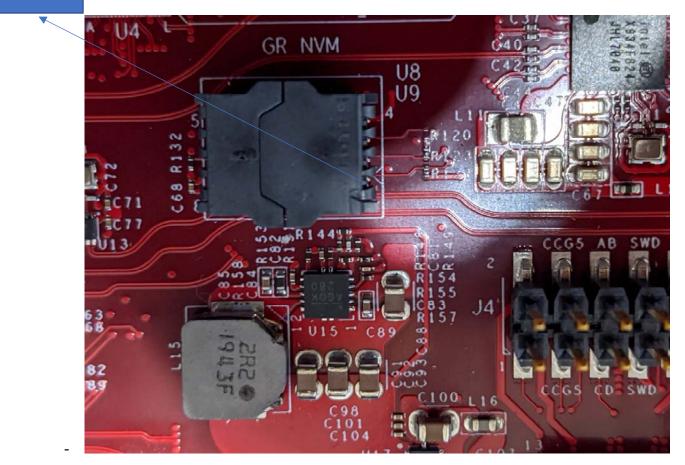


Figure 14: Arrow Position of U8 GR NVM. Pin0 of Chip will go here

4. Delta Bridge FW Update

Example File: DBR_CDR_ON_BOARD_rev1_NOSEC_sign.bin Delta Bridge FW will be updated into UB10 component

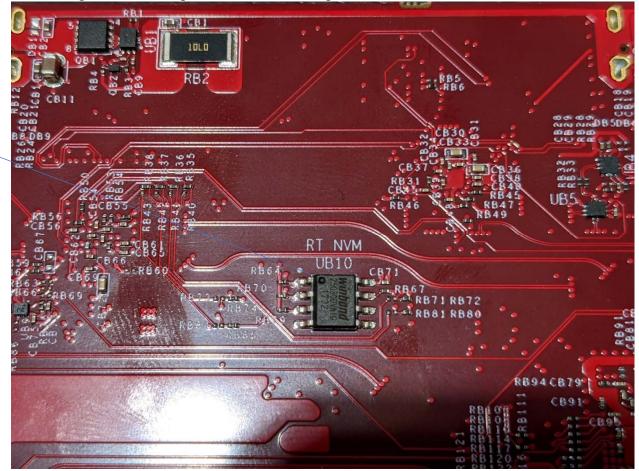


Figure 15: Pin 0 at UB10

While Dediprog SF600 flasher connected to PC and Dediprog application open:

- Step 1: Connect the SPI flash component to flasher (UB10). Make sure the white line in the test clip connect to pin 0 (see Figure 16)

Pin 0

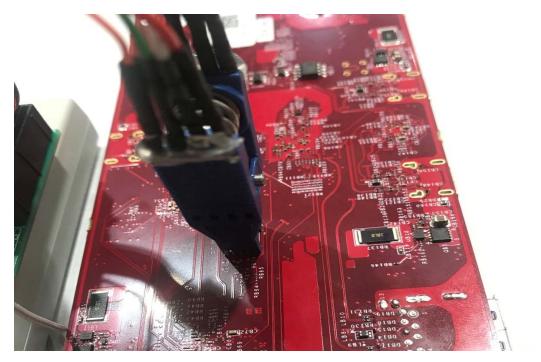


Figure 16: Connect the SPI flash component to UB10

- Step 2: Detect \rightarrow choose First Chip number in the Memory list. (See Figure 17)
- Note: If you do not see Memory list after Detect Chip→ Please check Connection between Chip and Test Clip → Make sure they are connected correctly

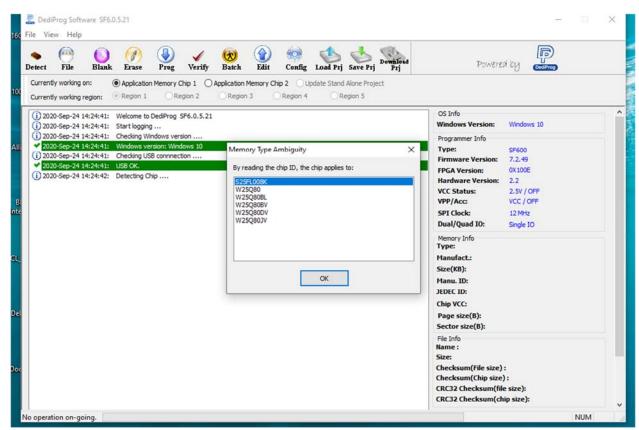


Figure 17: Choose the chip from memory list

Note: For most of the time, the first component in the list is a correct chip.

- Step 3: File \rightarrow load Delta Bridge FW from BKC file bin file (See Figure 18)

ct File Blank Erase Prog Ve	rify Batch Edit Config Load Prj Save Prj Prj	Powere	d by own
rrently working on:	Application Memory Chip 2 Update Stand Alone Project Region 3 Region 4 Region 5		
) 2020-Sep-23 11:21:17: Welcome to DediProg SF6.0) 2020-Sep-23 11:21:17: Start logging		OS Info Windows Version:	Windows 10
2020-Sep-23 11:21:17: Checking Windows version . 2020-Sep-23 11:21:17: Windows version: Windows 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 11:21:17: DEtecting Ofp. 2020-Sep-23 11:21:18: Detecting Ofp. 2020-Sep-23 11:21:21:28: Current Type: W25Q15 2020-Sep-23 11:21:28: VCC 3.5V is applied.	10	Programmer Info Type: Firmware Version: FPGA Version: Hardware Version: VCC Status:	SF600 7.2.49 0X100E 2.2 3.5V / OFF
2020-Sep-23 11:21:36: Detecting chip 2020-Sep-23 11:26:46: Type W25Q16 is applied	Load File File Path: C:\Users\SWZ-14\Desktop\Gatkex BKC Kit 136872 Posted 8-28 Program as Data Format: @Raw Binary O Intel Hex O Motorola S19		Not Applicable 12 MHz Single IO 16 nd Electronics Corp
	Truncate file to fit in the target area. OK	Cancel	015
		File Info Name : Size: Checksum(File size) Checksum(Chip size CRC32 Checksum(fil CRC32 Checksum(cl	:) : le size):
		Batch Config setting	Full Chip update

Figure 18: Load Intel USB4 Evaluation Dock bin file

- **NOTE:** You may need to hold test clip to make sure test clip and chip connected.
- Step 4: Batch

- Step 5: Wait for all stages are PASS (see Figure 19) and Operation Completed.

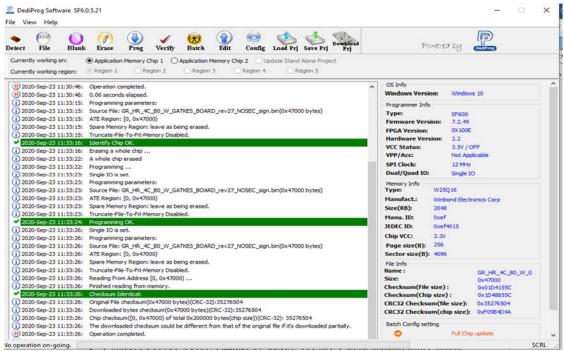


Figure 19: All stages are PASS

Note:

- All stages are PASS only if you choose the correct chip in step 2.

- In the case you choose the wrong chip in step 2, you will see the following message

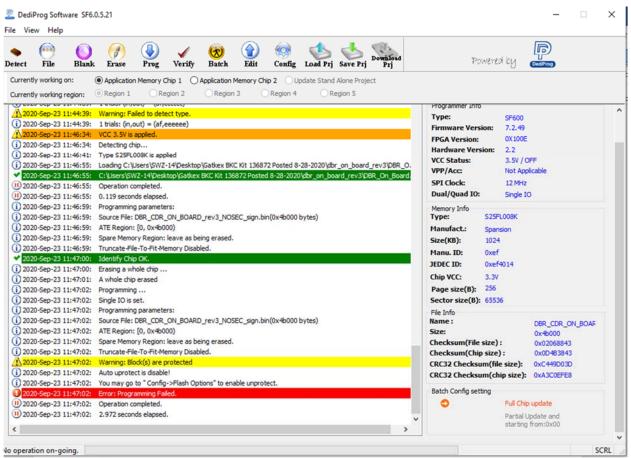
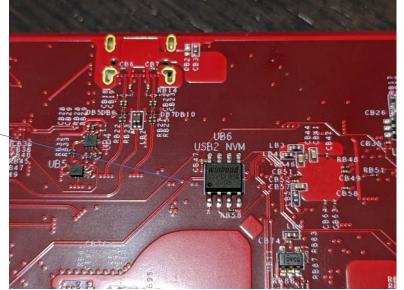


Figure 20: Error message after Batch when we choose the wrong chip

- Troubleshoot:
- At Step 3: Detect \rightarrow choose Second Chip number (W25Q80) of component in the list
- Repeat Step 3 to Step 5
- If Error:Programming Fail Message still occur→ At Step 2: Detect → choose Third Chip number(W25Q80BL)
- Repeat Step 3 to Step 5

5. Fresco Hub FW Update

Example File:UB6_RegisterOnly_AddHeader_Merged_INTEL_1U5D_FL5801_1Q1_V02 Fresco Hub FW Update into UB6 component



Pin 0

Figure 21: Pin 0 at UB6

While Dediprog SF600 flasher connected to PC and Dediprog application open:

- Step 1: Connect the SPI flash component to flasher (UB6). Make sure the white line in the clip connect to bit 0.
- Step 2: Detect \rightarrow choose First Chip number in the Memory list. (See Figure 22)
- Note: If you do not see Memory list after Detect Chip→ Please check Connection between Chip and Test Clip → Make sure they are connected correctly

Operation Operation <t< th=""><th>Powered by</th><th></th></t<>	Powered by	
Currently working region: • Region 1 Region 2 Region 3 Region 4 Region 5 1 2020-Sep-24 14:22:02: Welcome to DedProg SF6.0.5.21 2020-Sep-24 14:22:02: Start logging 2020-Sep-24 14:22:02: Checking Windows version 2020-Sep-24 14:22:02: Checking US8 connection 2020-Sep-24 14:22:02: Undows version: Windows 10 2020-Sep-24 14:22:02: Undows version: Windows 10 2020-Sep-24 14:22:02: Use conting Chip V2020-Sep-24 14:22:03: Detecting Chip Wit250 166 W250 160 W250 161 W250 162 W250 163 W250 163 U20 10	OS Info Windows Version: Windows 10 Programmer Info Type: SF600 Firmware Version: 7.2.49 FPGA Version: 0X100E Hardware Version: 2.2 VCC Status: 3.5V / OFF VPP/Acc: VCC / OFF SPI Clock: 12 MHz Dual/Quad IO: Single IO Memory Info Type: Manufact: Size(KB): Manu. ID: JEDEC ID: Chip VCC: Page size(B): File Info Name : Size: Checksum(File size) : Checksum(File size) : CRC32 Checksum(file size):	
No operation on-going.	NU	



Note: For most of the time, the first component in the list is the correct chip.

- Step 3: File \rightarrow load Fresco USB Hub FW from BKC file bin file (See Figure 23)

ently working region: • Region 1 Region 2 2020-Sep-23 11:21:17: Welcome to DedProg SF6.0.5. 2020-Sep-23 11:21:17: Start logging 2020-Sep-23 11:21:17: Checking Wndows version 2020-Sep-23 11:21:17: Kindows version: Windows 10 2020-Sep-23 11:21:17: Checking USB connection 2020-Sep-23 11:21:17: USB CK. 2020-Sep-23 11:21:17: USB CK. 2020-Sep-23 11:21:17: USB CK. 2020-Sep-23 11:21:17: USB CK. 2020-Sep-23 11:21:19: Detecting Chip 2020-Sep-23 11:21:19: Detecting Chip 2020-Sep-23 11:21:19: Detecting Chip 2020-Sep-23 11:21:21:28: Current Type: W2SQ16		OS Info Windows Version: Programmer Info Type: Firmware Version:	Windows 10
2020-Sep-23 11:21:17: Start logging 2020-Sep-23 11:21:17: Checking Windows version 2020-Sep-23 11:21:17: Windows version: Windows 10 2020-Sep-23 11:21:17: Checking USB connection 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 2020-Sep-23 11:21:17: Detecting Chip 2020-Sep-23 11:21:21: 2020-Sep-23 11:21:21: Current Type: W2SQ16 2020-Sep-23 11:21:28:		Windows Version: Programmer Info Type:	
2020-Sep-23 11:21:17: Windows version: Windows 10 2020-Sep-23 11:21:17: Checking USB connection 2020-Sep-23 11:21:17: USB OK. 2020-Sep-23 11:21:21:28: Current Type: W25Q16		Туре:	SF600
2020-Sep-23 11:21:28: VCC 3.5V is applied.		FPGA Version: Hardware Version: VCC Status:	7.2.49 0X100E 2.2 3.5V / OFF
	Load File File Path: C:\Users\SWZ-14\Desktop\Gatkex BKC Kit 136872 Posted 8 Program as Data Format: @ Raw Binary O Intel Hex O Motorola S		Not Applicable 12 MHz Single IO 16 nd Electronics Corp
	Truncate file to fit in the target area.	Cancel	015
		File Into Name : Size: Checksum(File size) Checksum(Chip size CRC32 Checksum(fil CRC32 Checksum(chi	:) : le size):

Figure 23: Load Intel USB4 Evaluation Dock bin file

- NOTE: You may need to hold test clip to make sure test clip and chip connected.
- Step 4: Batch
- Step 5: Wait for all stages are PASS (see Figure 24), and Operation Completely

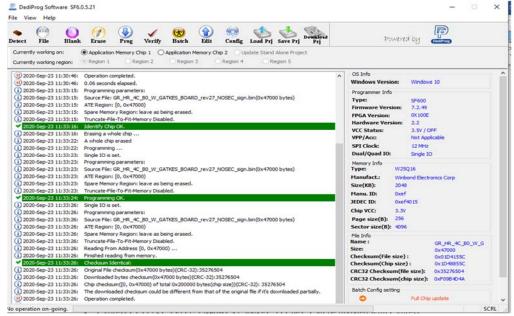


Figure 24: All stages are PASS

Note:

- All stages are PASS only if you choose the correct chip in step 2.
- In the case you choose the wrong chip in step 2, you will see the following message

tect File Blank	🕜 🚯 🖌 🛞 🍞 🧐 🥵 🧄 Download Erase Prog Verify Batch Edit Config Load Prj Save Prj Prj	Powered by	
urrently working on: urrently working region:	Application Memory Chip 1 Application Memory Chip 2 Update Stand Alone Project Region 1 Region 2 Region 3 Region 4 Region 5		
2020-Sep-23 11:44:39: 2020-Sep-23 11:46:34: 2020-Sep-23 11:46:34: 2020-Sep-23 11:46:34: 2020-Sep-23 11:46:55: 2020-Sep-23 11:46:55: 2020-Sep-23 11:46:55: 2020-Sep-23 11:46:55: 2020-Sep-23 11:46:59: 2020-Sep-23 11:46:59:	Detecting chip Type 52FL008K is applied Loading C: Users \SWZ-14\Desktop \Gatkex BKC Kit 136872 Posted 8-28-2020 \dbr_on_board_rev3\DBR_O. C: Users \SWZ-14\Desktop \Gatkex BKC Kit 136872 Posted 8-28-2020 \dbr_on_board_rev3\DBR_O. Operation completed. 0.19 seconds elapsed. Programming parameters: Source File: DBR_CDR_ON_BOARD_rev3_NOSEC_sign.bin(0x+b000 bytes) ATE Region: [0, 0x+b000) Spare Memory Region: leave as being erased. Truncate-File-To-Fil-Memory Disabled. Identify Chip OK. Erasing a whole chip		19 OE / OFF Applicable Hz
2020-Sep-23 11:47:02: 2020-Sep-23 11:47:02:	Programming Single IO is set. Programming parameters: Source File: DBR_CDR_ON_BOARD_rev3_NOSEC_sign.bin(0x4b000 bytes) ATE Region: [0, 0x4b000) Spare Memory Region: leave as being erased. Truncate-File-To-Fit-Memory Disabled. Warning: Block(s) are protected Auto uprotect is disable! You may go to "Config->Flash Options" to enable unprotect. Error: Programmg Faled. Operation completed.	Partia	

Figure 25: Error message after Batch when we choose the wrong chip

- Troubleshoot:
- At Step 3: Detect \rightarrow choose Second Chip number(W25Q168) of component in the list
- Repeat Step 3 to Step 5
- If Error: Programming Fail Message still occur→ At Step 2: Detect → choose Third Chip number(W25Q16CL)
- Repeat Step 3 to Step 5

6. Cypress DMC FW Update

Example **DMC:** CY7C65219-40LQXIT_dmc_gatkex_creek_sha_3_3_0_1746_1_3_19_120W.hex Example **CCG5:** CYPD5235-96BZXI_gatkex_3_3_1_39_2_8_0_nb.hex

- Step 1: Plug Cypress MiniProg4 Program and Debug Kit CY8CKIT to the PC
- Step 2: Connect MiniProg4 to DMC SWD connector (J5). Note: Only flash to the top five header pins of DMC SWD



Figure 26: DMC Headers (pin 6 to pin 10)

- Note: Make sure jumper connected to SWDIO pin of Cypress MiniProg4 connect to Pin 10 at DMC header

Cypress Minipro4 Pin	Intel USB4 Evaluation Dock DMC Header Pin
SWDIO	Pin 10
SWCLK	Pin 9-CLK
XRES	Pin 8-XRES
GND	Pin 7-GND
VTARG	Pin 6-VDD

DMC header

- Step 3: Open Cypress PSOC programmer

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Port Selection	Programmer Utilities JTAG		
MiniProg4 (CMSIS-DAP:BULK/101017880223) K Prog4 (CMSIS-DAP:BULK/101017880223) k Prog4 (CMSIS-DAP:BULK/101017880223) k Prog4 (CMSIS-DAP:BULK/101017880223) k Prog4 (CMSIS-DAP:BULK/10101788023) k Prog4 (CMSIS-DAP:BULK/1010178802) k Prog4 (CMSIS-DAP:BULK/1010178802) k Prog4 (CMSIS-DAP:BULK/1010178802) k Prog4 (CMSIS-DAP:BULK/101010178802) k Prog4 (CMSIS-DAP:BULK/101017880	Programming Parameters File Path: C:UsersiSWZ-14/Desktop/DMO(CY7C65219-40LQXIT_dmi Programming Mode: C O Off Connector: 5.9 € 10p AutoDetection: © O Programmer Characteristics Status Protocol: JTAG © SVD Valtage: 5.0 V ● 3.3 V ○ 2.5 V Valtage: 5.0 V ● 3.3 V ○ 2.5 V	> Main Flash [128K]	
Memory Types Load fro	L;s :s ers\SWZ-14\Desktop\DMC\CY7C65219-40LQXIT_dmc_gatkex_creek_	sha_3_3_0_1746_1_3_19_120W.hex	
Active HEX file set a C:\Us Successfully Connecte MiniP Opening Port at 12:44 Memory Types Load fro Device set to CYPD523 13107	ers/SWZ-14/Desktop/DMC/CY7C65219-40LQXIT_dmo_gatkex_creek_ rog4. CMSIS-DAP Version 2.0.0. Firmware Version 1.01.158. 2 FLASH bytes		
Successfully Connecte MiniP Opening Port at 12:44 Memory Types Load fro Device set to CYED523 13107 Device Family set to Memory Types Load fro Active HEX file set a C:\Us	rog4. CMSIS-DAP Version 2.0.0. Firmware Version 1.01.158. 2 FLASH bytes ers\SWZ-14\Desktop\CCG5\CYPD5235-96B2XI_gatkex_gorilla_bas must be aware that the following PSoC device should not b	Hardware Id 05. se_3_3_1_54_app_2_14_1_nb.hex	so will cause damage to the devices:

Figure 27: Cypress PSOC programmer

Note: Make sure you see MiniProg4 in Port Selection

- Step 4: Load file – DMC FW hex file (It may be inside PD folder from BKC file)

PSoC Programmer			- /	0
File View Options Help				
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Port Selection	Programmer Utilities JTAG			
MiniProg4 (CMSIS-DAP/BULK/1010178802	237 Programming Parameters	Memory Types		
	File Path: C:\Users\SWZ-14\Desktop\DMC\CY7C65219-40LQXIT_dmc_gatke:	Load from hex Load from device		
	K MiniProg4 (CMSIS-DAP/BULK/1010178802237400)	-Main Flash [128K]		
	Programming Mode: O Reset Power Cycle Power Detect			
<	> <u>Verification</u> : ● On ○ Off <u>Connector</u> : ○ 5p ● 10p			
Device Family	AutoDetection: On O Off <u>Clock Speed;</u> 1.6 MHz			
CYPD5xx	Programmer Characteristics Protocol: JTAG SWD ISSP 12C Execution Time: 0.0 seconds	Size (bytes):		
Device	Voltage: 0 50 V @ 33 V 0 25 V 0 18 V Power Status: 0FF	Start address: End address:		
CYPD5235-968ZXI	Voltage: 17 mV	Line address.		
Actions Res	lts			
Memory Types Load fro				
Memory Types Load fro				
Active HEX file set a C:\	Users\SWZ-14\Desktop\DMC\CY7C65219-40LQXIT_dmc_gatkex_creek_sha_3	_3_0_1746_1_3_19_120W.hex		
Successfully Connecte Min	iProg4. CMSIS-DAP Version 2.0.0. Firmware Version 1.01.158. Hardwa	are Id 05.		
Opening Port at 12:44				
Memory Types Load fro				
Device set to CYPD523 131	072 FLASH bytes			
Device Family set to				
Memory Types Load fro				
Active HEX file set a C:\	Users\SWZ-14\Desktop\CCG5\CYPD5235-96BZXI_gatkex_gorilla_base_3_3	_1_54_app_2_14_1_nb.nex		
11	rs must be aware that the following PSoC device should not be powe	ared or programmed at SV Doing so will cause damage :	to the device	
Session Started at 12 PPC		ried of programmed at 57. Doing so will cause damage t	to one device	

Figure 28: Load file

- Step 5: Program

Step 5. 1 logium			
PSoC Programmer			- o >
File View Options Help			
🖆 • 💽 🙆 🚱 🖓 🗎 • 🗅 🗎	8		
Port Selection Programmer	Utilities JTAG		
File Path: Programme Programme	ing Mode: ○ Reset ● Power Cycle ○ Power Detect ⓒ ● On ○ Off <u>Connector:</u> 5p ⊕ 10p	Memory Types Load from hex Main Flash [128K]	
Active HEX file set a C:\Users\SWZ-14' Memory Types Load fro Active HEX file set a C:\Users\SWZ-14' Successfully Connecte WiniProg4. CHSI: Opening Port at 12:44 Memory Types Load fro Device set to CYPD523 131072 FLASH by Device family set to Memory Types Load fro Active HEX file set a C:\Users\SWZ-14'	- \Desktop\CCG5\CYPD5235-96BZXI_gatkex_gorilla_base_3_3_ ware that the following PSoC device should not be powe;	3_0_1746_1_3_19_120W.hex re Id 05. 1_54_app_2_14_1_nb.hex	ill cause damage to the devices:
For Help, press F1			PASS Not Powered Connected

Figure 29: Select program on PSOC Programmer

- Step 6: Wait until everything is PASS

PSoC Programmer		- 0	×
File View Options Help			
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Port Selection	Programmer Ublities JTAG		
MiniProp4 (CMSIS-DAP/BULK/101017	Programming Parameters Ele Path: C:UsersISW2-14!DesktopIDMC/CY7655219-40LQXIT_dmc_gatke: Load from hex Load from device Programming Mode: O Reset Power Oycle Power Oycle Power Oycle Power Oycle Sp AutoDetection: O n Off Clock Speed: Minip Memory Types Load from hex Load from device		
Device Family DMC Device CY7C65219-40LQX/T	Vertragen O Status St		
Actions	Results		^
Program Requested at Active HEX file set a Memory Types Load fro Active HEX file set a Successfully Connecte Opening Fort at 12:44 Memory Types Load fro Device set to CYPD523 Device Family set to Memory Types Load fro	C:\Users\SWZ-14\Desktop\DHC\CY7C65215-10LQXIT_dmo_gatkex_ereck_sha_3_3_0_1746_1_3_19_120W.hex MiniProg4. CMSIS-DAP Version 2.0.0. Firmware Version 1.01.158. Hardware Id 05.		
Session Started at 12	Users must be aware that the following PSoC device should not be powered or programmed at 5V. Doing so will cause damage to t PPCOM Version 39.0	the devices.	🗸
For Help, press F1	Page National Page	ered Conne	cted

Figure 30: Wait until everything is PASS

Note: If you see FAIL message, you may get the connection wrong between Cypress MiniProg4 and DMC header \rightarrow Check connection again at Step 2

If connection between Cypress MiniProg4 and DMC header are correct but still get FAIL message→Close PSOC Programmer application and detach/attach MiniProg4 to host and reopen PSOC Programmer.

7. Cypress CCG5 FW Update

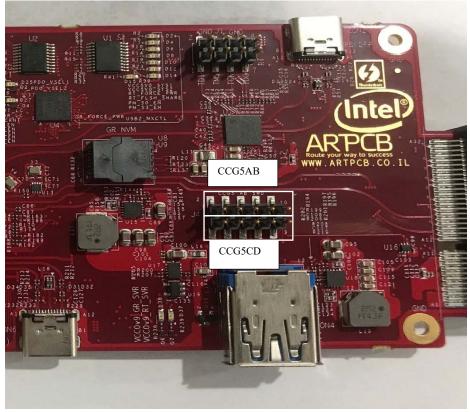


Figure 31: CCG5 SWD (J4) Connector

While Cypress MiniProg4 Program and Debug Kit CY8CKIT connected to the PC and Cypress PSOC programmer open:

Update CCG5 AB:

- Step 1: Connect Cypress MiniProg4 to first CCG5 AB (J4) connector

Cypress Minipro4 Pin	Intel USB4 Evaluation Dock DMC	
	Header Pin	
SWDIO	Pin 10	
SWCLK	Pin 9	
XRES	Pin 8	
GND	Pin 7	
VTARG	Pin 6	

-

- Step 2: Load file CCG5 FW hex file
- Step 3: Program
- Step 4: Wait until everything is PASS

Update CCG5 CD:

- Step 1: Connect Cypress MiniProg4 to first CCG5 CD (J4) connector

Cypress Minipro4 Pin	Intel USB4 Evaluation Dock DMC
	Header Pin
SWDIO	Pin 1
SWCLK	Pin 2
XRES	Pin 3
GND	Pin 4
VTARG	Pin 5

- Step 2: Load file CCG5 FW hex file (the same file for CCG5 AB update)
- Step 3: Program
- Step 4: Wait until everything is PASS

Note: There is only 1 CCG5 file for CCG5 AB and CCG5 CD

Note: If you see FAIL message, you may get connection wrong between Cypress MiniProg4 and DMC header \rightarrow Check connection again at Step 1

If connection between Cypress MiniProg4 and DMC header are correct but still get FAIL message → Close PSOC Programmer application and detach/attach MiniProg4 to host and reopen PSOC Programmer.

- Step 5: Power Intel USB4 Evaluation Dock