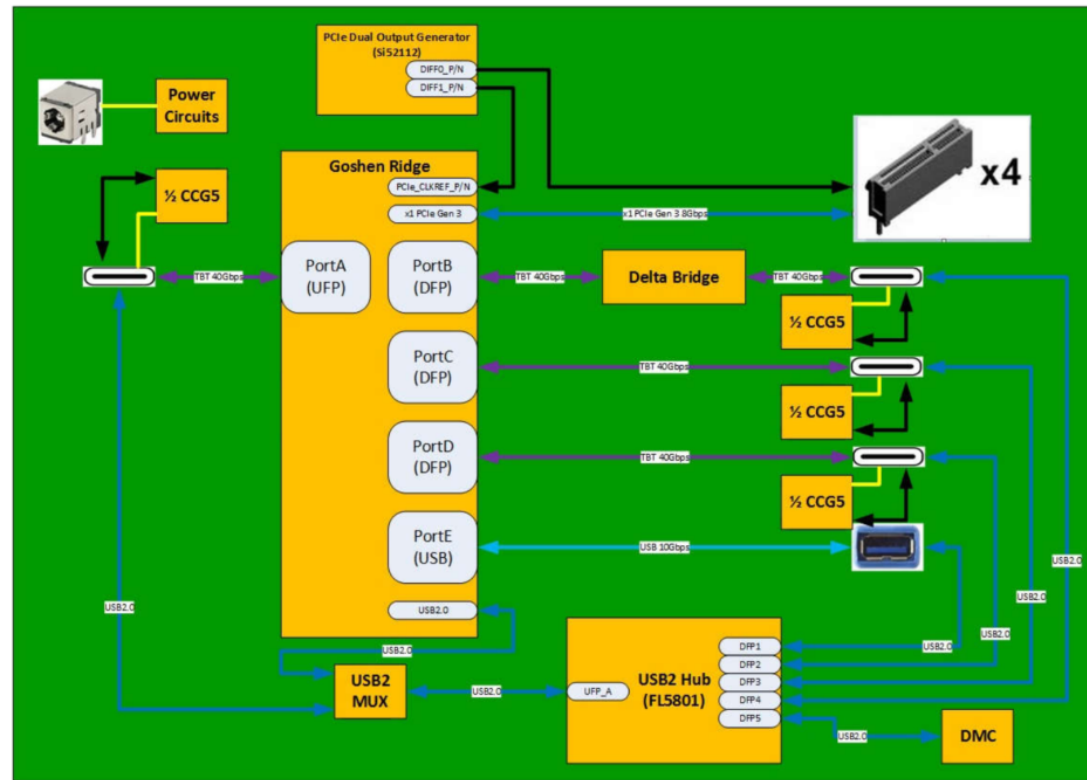


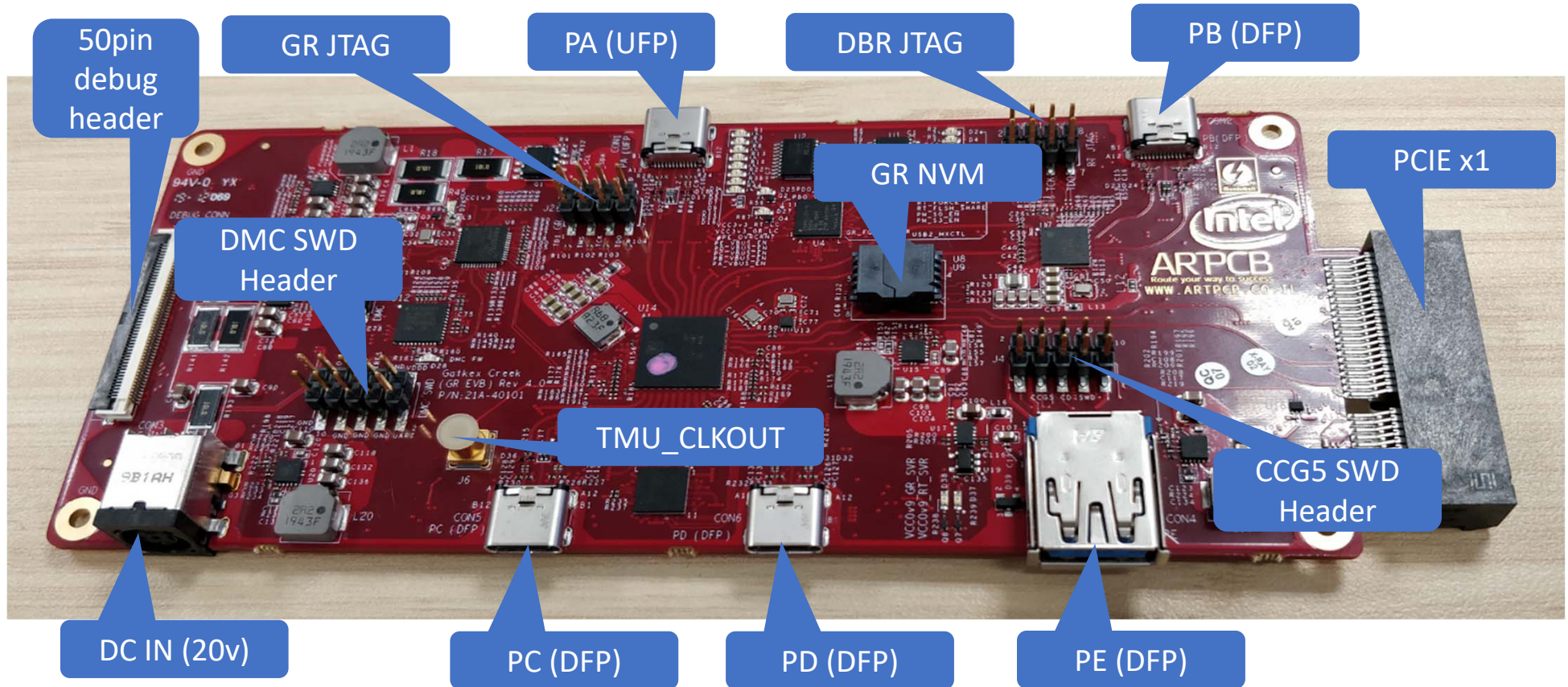
Intel USB4 Evaluation Dock -
User Manual Rev 4v0
Based on Rev 4.0 PCB (21A-
40101)

January 2021

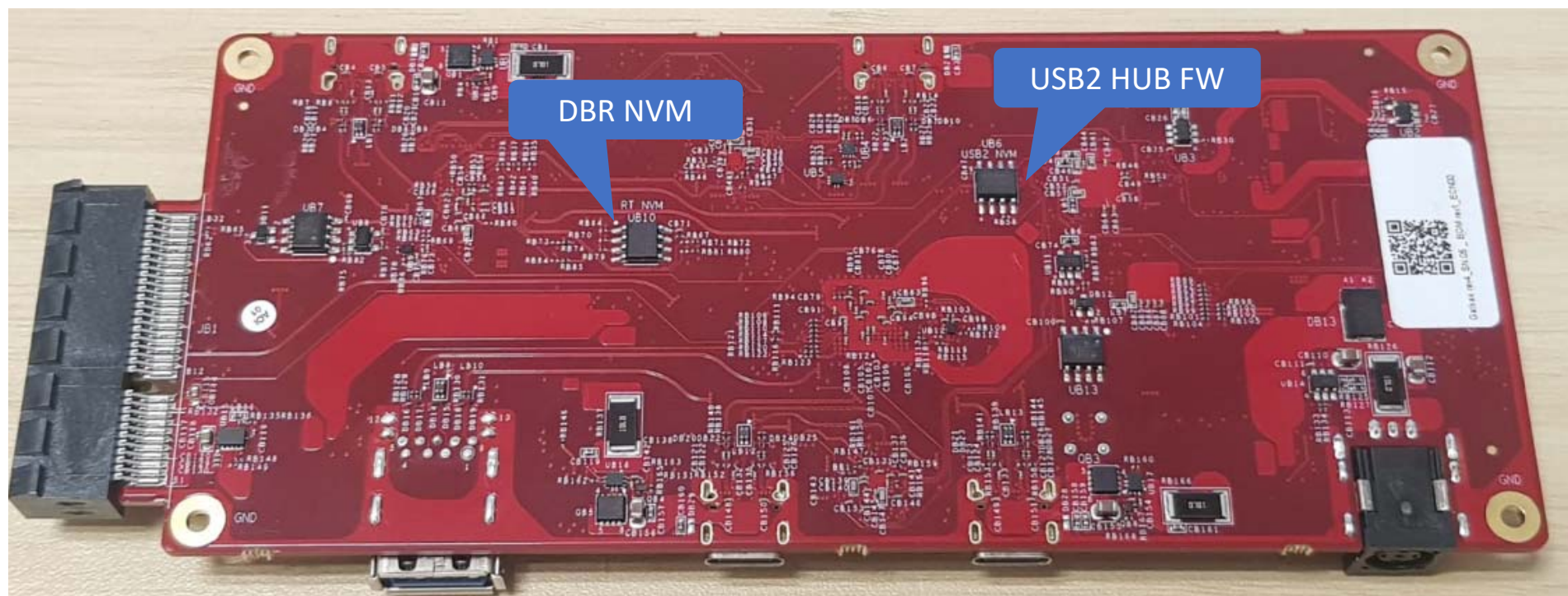
High Level Block Diagram



Intel USB4 Evaluation Dock EVB (Rev 4v0) Picture – Component Side



Intel USB4 Evaluation Dock EVB(Rev 4v0) Picture – Back Side



Main Features

- Supports x3 TBT DFPs up to 40Gbps
- Supports TBT and non-TBT host connection
- Supports PD 3.0 based on CCG5 (Dual PD controller from Cypress)
- Supports source: 5v @ 3A + 1.5W VCONN for each TBT DFP
- Supports host charging: 20v @ 4.5A + 1.5 VCONN for TBT UFP
- Supports DP1.4 (up to x4 HBR3) at DP mode
- Supports USB3.1 Gen2 at USB mode
- Supports USB3.1 Gen2 over USBA port
- Supports vPRO over PCIe slot
- Supports RTD3
- Supports FW Update of PD & DMC over USB2
- Supports DB on PB DFP
- Supports TBT4/USB4
- Supports FW Update of DBR over GR

Intel USB4 Evaluation Dock EVB List of Interfaces

Interface Name	Purpose	Reference Designator	Comments	Support
TBT PA (UFP)	Connect GR EVB to Host	CON1		Host charging up to 90W
TBT PB (DFP)	Connect TBT/USB/DP device	CON2	Thru DBR on board	5v @ 3A + 1.5W VCONN
TBT PC (DFP)	Connect TBT/USB/DP device	CON5		5v @ 3A + 1.5W VCONN
TBT PD (DFP)	Connect TBT/USB/DP device	CON6	Supports DP RX (with special FW)	5v @ 3A + 1.5W VCONN
PE (DFP)	Connect USB device	CON4	Supports USB3.1 10G	5v @ 1.1A
PCIE x1	Connect PCIe LAN AICs only	JB1	vPRO supported over SMBus pins	PCIe Gen3 x1 lanes 10W maximum
DC IN	Connect 20v power adapter	CON3	Minimum DC adapter should be 120W	Up to 20v @ 10A
TMU_CLKOUT	Extra testing per USB4 Spec	J6	Not assembly by default	TMU CLKOUT Sync

Intel USB4 Evaluation Dock EVB List of Interfaces Cont.

Interface Name	Purpose	Reference Designator	Comments	Support
50pin Debug Header	Debug option for various signals	J3	Require special HW	Advanced debug options
GR JTAG	Allow JTAG access to GR	J2	Require special HW	Advanced debug options
GR NVM	GR Flash (FW)	U8		SOIC8_208mil package only
DBR NVM	DBR Flash (FW)	UB10		
DMC NVM	DMC Flash (FW)	U11		
USB2 Hub NVM	USB2 Hub Flash (FW)	UB6		
CCG5 SWD Header	CCG5 internal Flash programming	J4	Require special HW	
DMC SWD Header	DMC internal flash programming	J5	Require special HW	

Intel USB4 Evaluation Dock EVB Interfaces Support

Interface Name	Purpose	TBT	USB	DP
TBT PA (UFP)	Connect GR EVB to Host	YES	YES	YES ⁽²⁾
TBT PB (DFP)	Connect TBT/USB/DP device	YES	YES	YES ⁽²⁾
TBT PC (DFP)	Connect TBT/USB/DP device	YES ⁽¹⁾	YES	YES ⁽²⁾
TBT PD (DFP)	Connect TBT/USB/DP device	YES ⁽¹⁾	YES	YES ⁽²⁾
PE (DFP)	Connect USB device	NO	YES	NO
PCIE	Connect FXVL AIC	NO	NO	NO

(1) Require TR host with rev41 NVM

(2) For 8K monitor require TR host with 2 DP SNK and HBR3 support

Intel USB4 Evaluation Dock EVB Power Supply List

- DC Adapter shall be used for normal operation of Intel USB4 Evaluation Dock
- A minimum of 120W (19v @ 6.3A) shall be used
- List of potential DC adapters:
 - HP : <https://www.amazon.com/HP-Delta-ADP-230DB-SADP-230AB-TouchSmart/dp/B07999VKYM>
 - Dell: <https://www.amazon.com/Genuine-74X5J-Adapter-Charger-Laptops/dp/B009TBHWA2>
 - FSP: <https://www.amazon.com/FSP-Group-Adapter-Motherboard-FSP150-ABAN3-R/dp/B07864V14R>