

# Chelsio T7 and S7 Product Selection Guide



## Single DPU/Smart-NIC chip with concurrent Multi-Protocol Offload Operation

PCIe Gen5 x16							
Chelsio P/N	T72200	T72200-DPU	T72200-FH-DPU	T72200-FH	S71400	T7-Server	
Ports	2x40/100/200G (QSFP56/QSFP28/QSFP+)				1x400G or 4x100G (QSFP-DD)	1x200G (QSFP) or 4x56 (SFP)	
Type	Storage Adapters		DPU		Storage Adapters	SmartNIC	
Form Factor	Low Profile (HHHL)		Half Size (FHHL)		Low Profile (HHHL)	-	
Concurrent Conn.	64K		128K		2K	128K	
On-Adapter Memory	8 GB	8 GB	16 GB	16 GB	-	64 GB	
ARM Cores	-	4	8	-	-	8	
Power (Typical)	31W	35W	42W	36W	26W	42W	
Replaces	T62100-LP-CR	-	-	T62100-CR	-	-	
PCIe Gen5 x16							
Chelsio P/N	S72200	S72200-OCP	S7450-OCP	S7450	T7450	T7450-DPU	T71200-iNIC-L
Ports	2x40/50/100/200G (QSFP56/QSFP28/QSFP+)		4x1/10/25/50G (SFP56/SFP28/SFP+)			1x40/100/200G (QSFP56)	
Type	SmartNIC			Storage Adapters	DPU	SmartNIC	
Form Factor	Low Profile (HHHL)	OCP3		Low Profile (HHHL)			-
Concurrent Conn.	2K			64K		-	
On-Adapter Memory	-			8 GB		-	
ARM Cores	-			4		-	
Power (Typical)	22W	22W	21W	21W	27W	29W	31W
Replaces	T62100-LP-CR	T62100-SO-OCP3	T6225-OCP3	T540-LP-CR		-	-
PCIe Gen5 x8							
Chelsio P/N	S7250		S7210-BT	S7410-BT-OCP			
Ports	2x1/10/25/50G (SFP56/SFP28/SFP+)		2x1/10GBase-T	4x1/10GBase-T			
Type	SmartNIC						
Form Factor	Low Profile (HHHL)			OCP3			
Concurrent Conn.	2K						
On-Adapter Memory	-						
ARM Cores	-						
Power (Typical)	15W		16W	17W			
Replaces	T6225-CR		T520-BT	-			

### Features

Low Latency L2 NIC  
 TCP/IP Offload Engine (TOE)  
 RDMA (iWARP and RoCEv2) Offload  
 iSCSI and iSER Offload  
 NVMe-oF (iWARP and RoCEv2) Offload  
 NVMe/TCP Offload  
 SPDK NVMe and iSCSI Targets Offload  
 QUIC and CMB Offload  
 NVMe Virtualization/Emulation  
 ARMv8 A72 cores (1.25 GHz, 0.6W/Core)  
 Dual-Channel 4800MT/s DDR5  
 PCIe 4.0 Switch with 2 x8 / 4 x4 ports  
 Concurrent RC+EP (NVMe-NVMe Bridge)  
 External FPGA in data/control path  
 Crypto Co-processor TLS/IPsec Offload  
 Crypto Inline TLS/IPsec for all Offloads  
 Erasure Code and RAID5/RAID6 offload  
 Compression and Decompression  
 Dedupe Offload  
 QUIC Co-processor/Inline mode  
 True Random Number Generator  
 Inband Telemetry  
 SM2, RSA, ECC, ECDH, ECDSA, DSA, DH  
 Secure Boot and Firmware Update  
 Hardware Root of Trust support  
 SR-IOV / Virtualization / Virt-IO  
 EVB, VEPA, Flex10s, VNTag  
 DPDK / PacketDirect / Netmap  
 OVS / OpenFlow Offload  
 NVGRE / VxLAN/ Geneve  
 Media StreamEngine  
 Traffic Management, DCB, PFC, CEE  
 Packet Classification and NAT Offload  
 Timestamps and PTP  
 Multi / Single adapter Failover  
 Windows SMB Direct, Storage Replica,  
 Storage Spaces Direct, Client RDMA

- Fully RoHS Compliant
- Operating Temp: 0° to 55° C or 32° to 131° F
- Operating Humidity: 5 to 95%
- Airflow: 200-400 lf/m

**RC:** Root Complex  
**EP:** End Point  
**DPU:** T7ASIC + ARM + RC  
**FH:** Full Height

## Data Processing Unit ASICs

T7 is a highly integrated, hyper-virtualized 1/10/25/40/50/100/200/400GbE Data Processing Unit (DPU) ASIC with full offload support of a complete Unified Wire solution.

### Ordering Information:

**T7ASIC:** 4x1/10/25/50/100G or 2x40/100/200G or 1x400G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host/card memory, 8 ARM A72 cores, iNIC, eMMC, NVMe, USB, PCIe Switch, NVMe/TCP PDU, Compression, Dedupe, OVS, RAID, Erasure Code, RSA/SM2 offloads, Gen4 and 4x1/10/25 or 2x100 only with no dedupe/compression/RAID/RSA/iNIC/OVS.

**N7ASIC:** 4x1/10/25/50/100G or 2x40/100/200G or 1x400G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host/card memory, NVMe/TCP PDU offload.

**S74ASIC:** 4x1/10/25/50/100G or 2x40/100/200G Smart NIC, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host memory, 2K cached connections.

**S72ASIC:** 4x1/10/25/40/50/100G Smart NIC, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host memory, 2K cached connections.

## Accessories

### Passive Twinaxial Cables

TAPCABLE-3M (3M 10G SFP+)	OCTTAPCABLE-3M (3M 40G to 4x10G)
TAPCABLE28-3M (3M 25G SFP28)	OCTTAPCABLE56-3M (3M 200G to 4x50G)
TAPCABLE56-3M (3M 50G SFP56)	OCTTAPCABLEDD-3M (3M 400G to 4x100G)
QTAPCABLE-3M (3M 40G QSFP+)	
QTAPCABLE28-2M (2M 100G QSFP28)	
QTAPCABLE56-3M (3M 200G QSFP56)	
QTAPCABLEDD-3M (3M 400G QSFP-DD)	

### Optical Transceivers and Cables

SM1G-SR-BT (1000BASE-T RJ45 SFP+)	SM100G-SR (100G Short Reach QSFP28)
SM10G-SR-BT (1/10GBASE-T RJ45 SFP+)	SM100G-LR (100G Long Reach QSFP28)
SM10G-SR (10G Short Reach SFP+)	SM200G-SR (200G Short Reach QSFP56)
SM10G-LR (10G Long Reach SFP+)	SM200G-LR (200G Long Reach QSFP56)
SM25G-SR (25G Short Reach SFP28)	SM400G-SR (400G Short Reach QSFP-DD)
SM25G-LR (25G Long Reach SFP28)	
SM40G-SR (40G Short Reach QSFP+)	AOC-SFP56-CABLE-3M (3M 50G Active Optical Cable)
SM40G-LR (40G Long Reach QSFP+)	AOC-QDD-200-CABLE-3M (3M 200G Active Optical Cable)
SM50G-SR (50G Short Reach SFP56)	AOC-QDD-400-CABLE-3M (3M 400G Active Optical Cable)
SM50G-LR (50G Long Reach SFP56)	

## Support

The standard warranty period for Chelsio hardware products is three years from date of purchase. To contact support, call Chelsio at 408-962-3600, submit a support request via [www.chelsio.com](http://www.chelsio.com) or email support at [support@chelsio.com](mailto:support@chelsio.com). Drivers for Chelsio adapters are available at [service.chelsio.com](http://service.chelsio.com).

### Support Plan:

**SUPPORT-GOLD:** 80 hours or 1-year extended technical support (whichever occurs first): 24-hr response/replacement.

**SUPPORT-SILVER:** 16 hours extended technical support: 72-hr response.

## Supported Platforms, Operating Systems and Hypervisors

