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4-Port vOLT

- General Info
  - Dimensions
  - Operational & Environmental
  - Power Supply

- Main System Hardware Blocks
  - PON
  - QUX - Switching & TM device
  - CPU Device
  - Control FPGA
  - Timing Block
  - PCIe Switch

- Synchronization

- Low Density Hardened vOLT Box Block diagram

- Estimated Power budget

4-Port vOLT

The 4 port vOLT box is ultra-compact platform that delivers high-performance connectivity for xPON business services, cloud services and mobile backhaul applications.

The low power, temperature-resilient platform is ideal for deployment at wireless tower sites or business customer premises.

- **Physical Characteristics**
  - **Dimensions**
    - Using small hardened box size (245 x 300 mm)
  - **Weight**
    - 1.5 Kg (**TBD**)
- **Environmental compliance**
  - See OCP Submittal Document Appendix A
- **Operational compliance**
  - See OCP Submittal Document Appendix A
- **Power Supply**
  - Option to support -48 VDC line power
  - Pedestal power outlet

Main System Hardware Blocks

- PON Interface –
  - 4 ports x 10/10 XGS-PON (XFP) using two Maple chips

- QUX BCM88270 – Switch & TM device
  - Supports up to 120 GB traffic
  - Uplink NNI – using 1x QSFP28 (Can support uplink redundancy)

- CPU
  - Using BRCM XLP208 chip
    - Memory: DRAM - 2GByte DDR3 72bit, NAND Flash + SDIO, Management: PCIe gen 2.0 + SPI

- Control FPGA
  - Serves for general 'glue logic' applications
    - For example: I2C control, LEDs, Interrupts + I/O expender, Fan and PS control, Power sequencing,
  - FPGA device (example PN): XC3S700AN-4FGG484C or smaller

- Timing Block
  - System clock driver (provides all reference clocks to all blocks) - Supporting 8KHz, Sync-E, 1588, Amd.2 and 1PPS options

- PCIe Switch
  - To allow PCIe management of all main devices on-board (Maple devices + QAX)

Synchronization

- ITU-T G.8261 / G.8262 / G.8264 SyncE on all interfaces

- SyncE status message support

- IEEE 1588v2 ordinary clock (slave only ?)

- Internal Stratum-3 Clock with holdover to meet ITU-T G.813

4 Port vOLT Box Suggested Placement

- Front:
  - 4x XFP PORTS
  - 1x QSFP28 PORT
  - User Management / Console ports - LAN Port RJ45
  - Serial Port RJ45 / RS-232
  - LEDs
  - Reset button

- Rear:
  - 110VAC power input
  - BITS-OUT SMA Connector - 10MHz output & 1PPS output SMA connector