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
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 expander, 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