

ALPHA

明泰科技
Alpha Networks Inc.

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Four Contributed Switches

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By

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Four Switches at Glance

- ◆ SNC-60x0-486F (Mont Blanc) 25g switch with Tomahawk plus (BCM56963).
- ◆ STX-60x0-486F (Lake Superior) 10G switch with six 100G uplink using QMX (BCM88375)
- ◆ The next two are similar. They are SNX-61A0-486F and SNX-61A0-486T. Both are 10G switch with two options of uplink either six ports of 40G or four ports of 100G. They are all Maverick based (BCM56768). The difference of them is one is Copper and the other fiber, for downlink ports.



Four Switches at Glance Continued

- ◆ Standard size (Data Center size)–
44mm(h)x441mm(w)x487.4mm (d)
- ◆ Modular designs (leveraging PSU, fans, fan controllers).
- ◆ All are designed for front panels with all interfaces and no other connectivity in the back.
- ◆ Air flows are the same – back to front and vice versa.
- ◆ All have the same certifications, such as RoHS (They are all in the OCP spec.)



Brief description of Mont Blanc



Brief Highlight of Mont Blanc (25g)

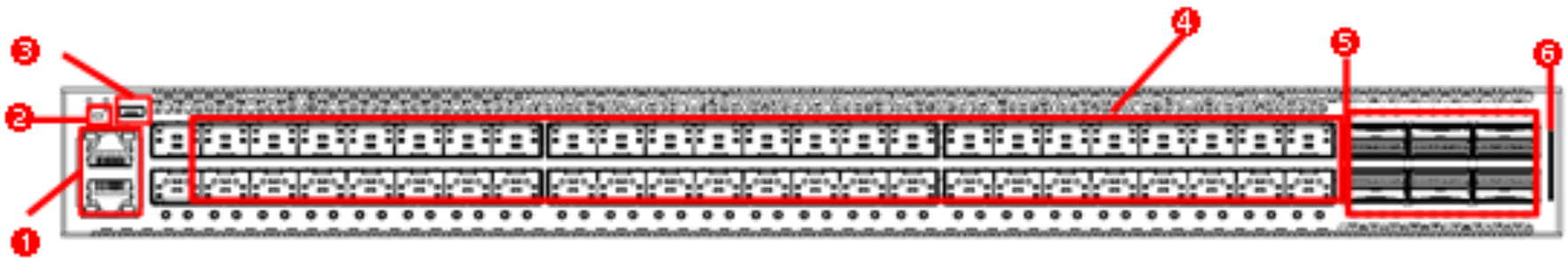
- ◆ SNC-60A0-486F is a series of Data Center, ToR or aggregation switches.
- ◆ It supports 48 ports of 25 Gbps (SFP28), with 6 ports of 100G (QSFP28) Ethernet wire-speeds.
- ◆ It has a combined bandwidth of 1800 Gbps.
- ◆ This Layer 3 capable switch (bare metal) provides an RJ45 console ports as well as OOB management port and has a micro USB interface to storage.



More Feature Highlights

- ◆ The switch has modularized OCP micro server CPU on board (and in this case just Rangeley).
- ◆ It has also temperature warning.
- ◆ Other features are: software-readable thermal monitor, RTC, hot-swappable redundant PSU, Six redundant fan modules (5+1), reset button, Locator LED, etc.

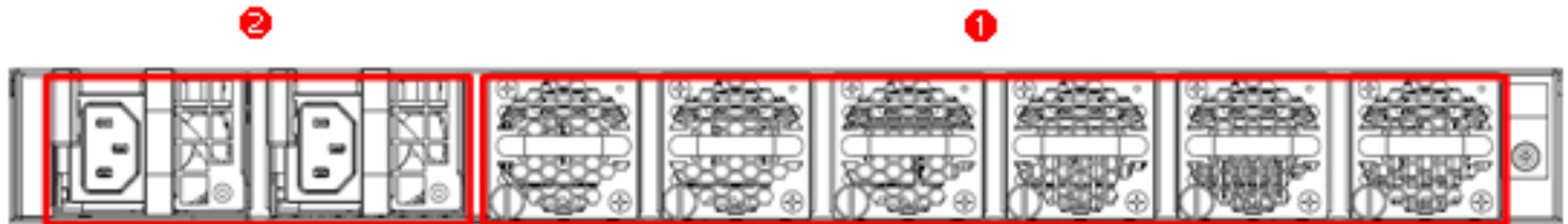
Front View



- ① : Management & Console port
- ② : Reset button
- ③ : Micro-USB for Storage Port

- ④ : 48 x 25G SFP28 Ports
- ⑤ : 6 x 100G QSFP28
- ⑥ : Label tag

Rear View



- ①: Hot swappable fan modules
- ②: Hot swappable power supply

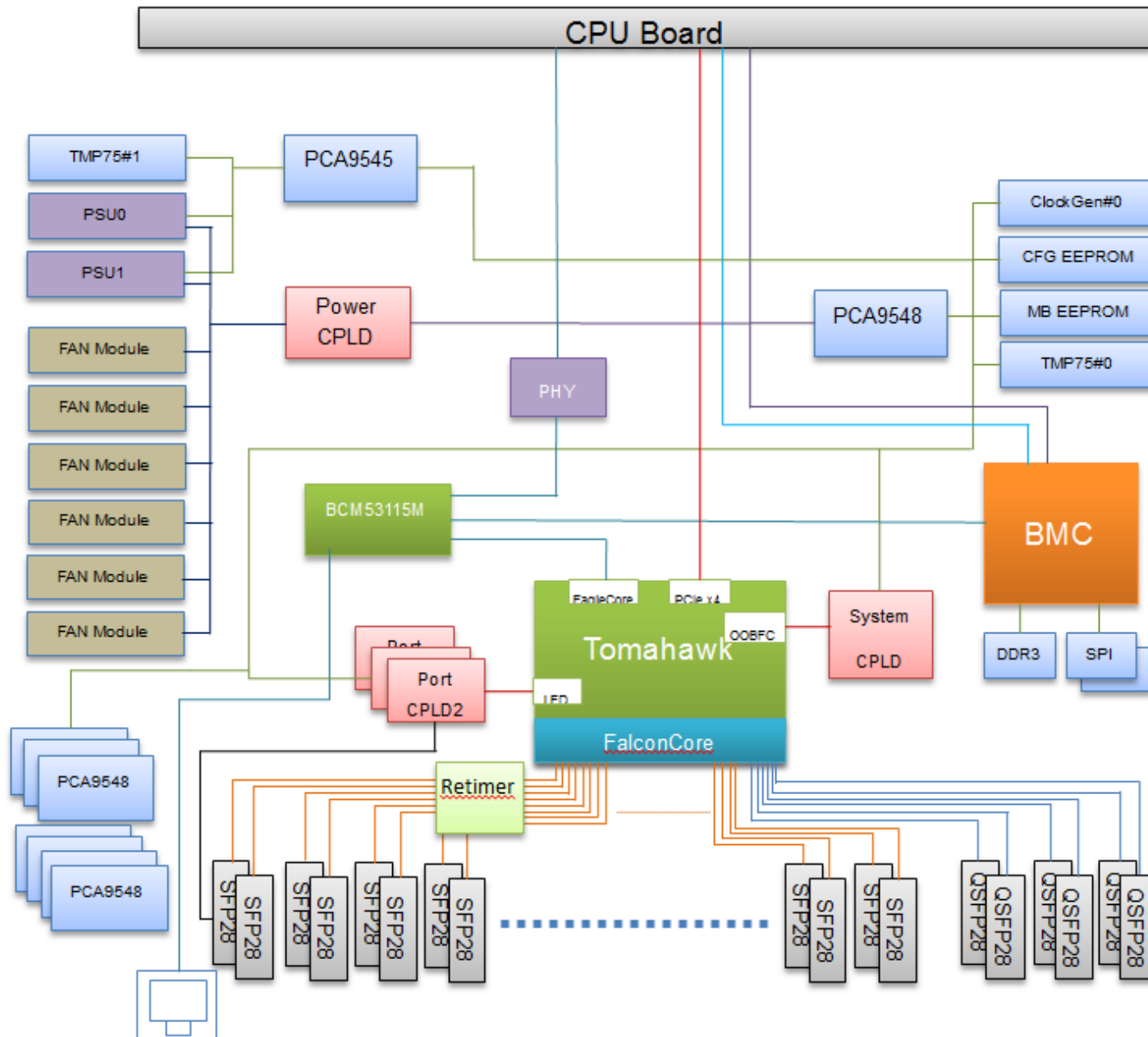
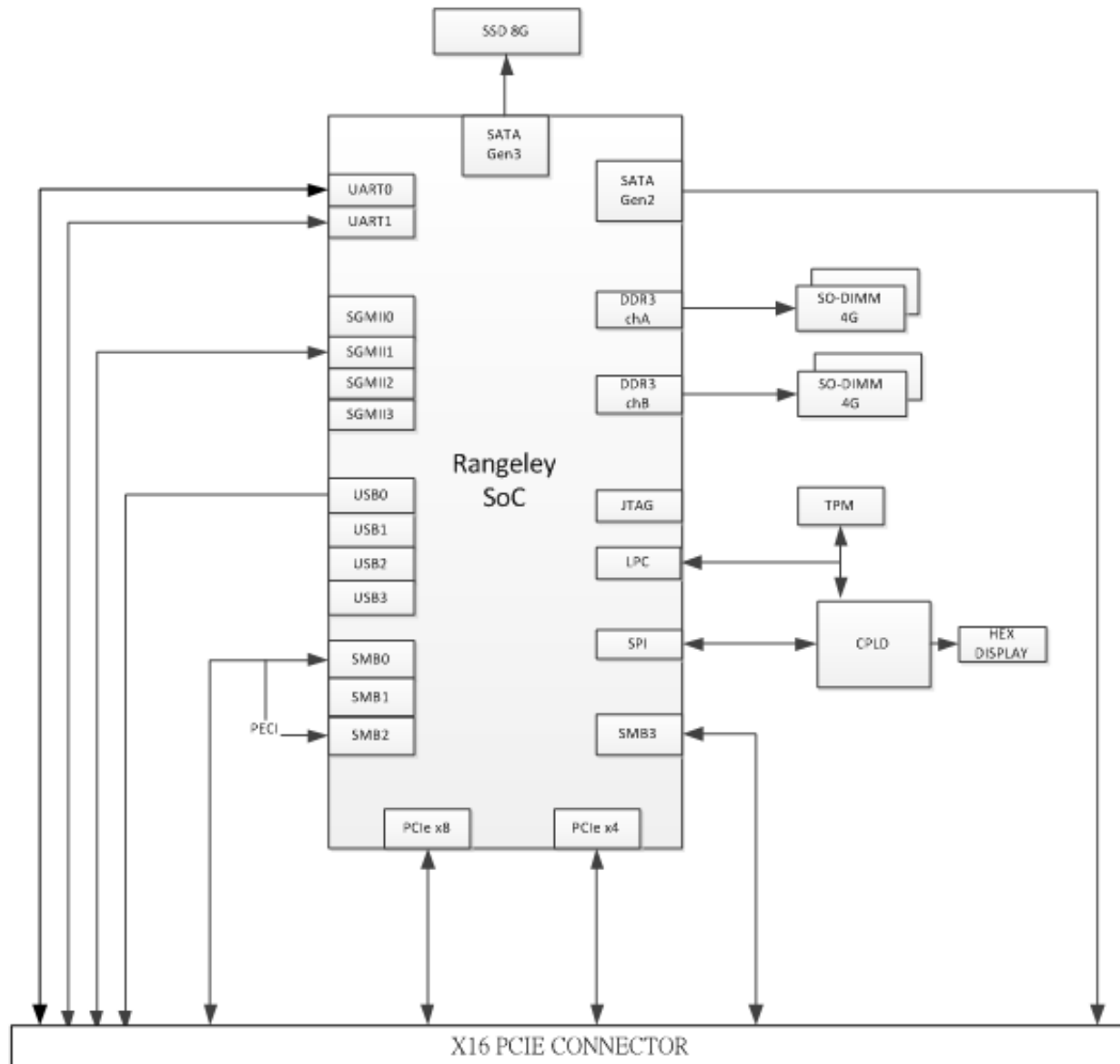


Figure 7: Main board block diagram

5.1.1 Intel CPU (C2558)





Lake Superior

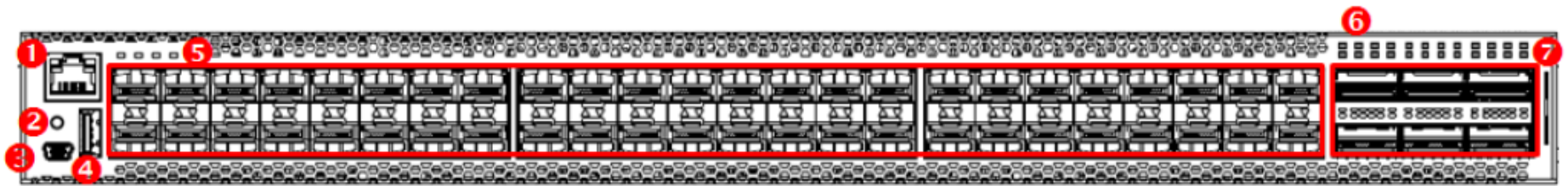


Brief Description of Lake Superior

- ◆ STX-60x0-486F is also series of Data Center, ToR or aggregation switches.
- ◆ It supports 48 ports of 10 Gbps, with 6 ports of 100G (QSFP28) Ethernet wire-speeds.
- ◆ It has a combined bandwidth of 2.1 Tbps.
- ◆ Like the previous switch, this switch (bare metal) has the same management ports, such as an RJ45 console ports as well as OOB management port and has a micro USB interface to storage.
- ◆ This switch supports two types of intel processors and they are Rangeley and Broadwell.
- ◆ The rest is pretty much the same as the previous box.

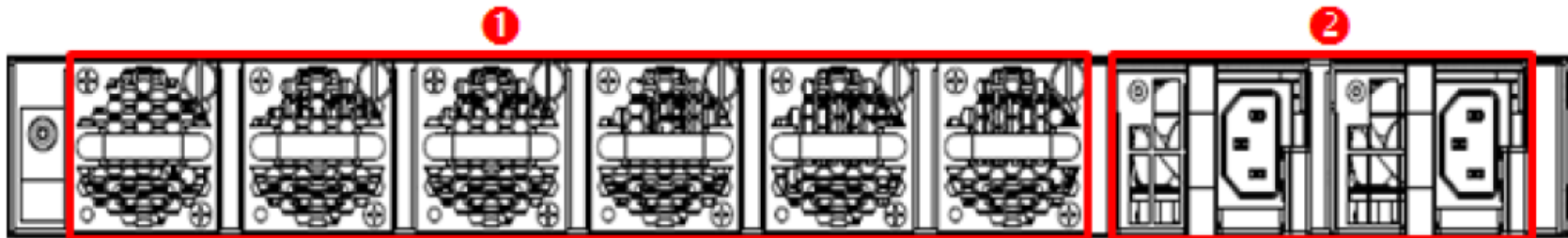
Front view

2.3 Front View



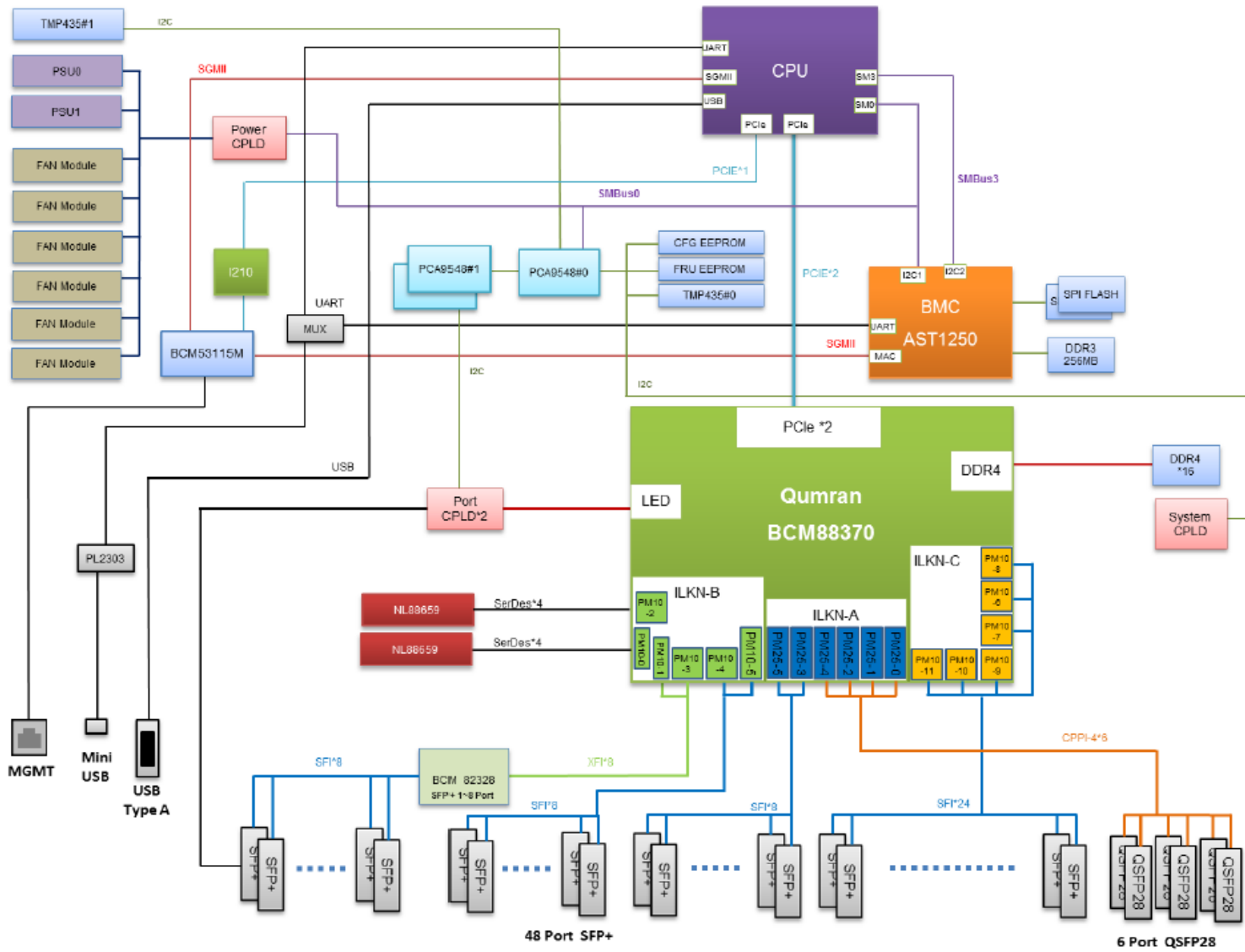
- ❶: Out of band management port
- ❷: Reset button
- ❸: Mini USB (Type B) console port
- ❹: USB type A storage port
- ❺: 48* 10G SFP+ ports
- ❻: 6*100G QSFP28 ports
- ❼: Label tag

Back view



- ① Hot swappable FAN modules
- ② Hot swappable power supply

Block diagram





Ironman (Fiber or Copper)



Brief Description of the two Ironman (Fiber or Copper)

- ◆ The two Maverick based switches of SNX-61A0-486F and SNX-61A0-486T are also series of Data Center, ToR or aggregation switches (The difference between the twos is one supporting fiber and the other copper).
- ◆ Both support 48 ports of 10 Gbps, with either 6 ports of 40G (QSFP28) or four ports of 100G.
- ◆ It has a combined bandwidth of 880 Gbps.
- ◆ Like the previous switch, this switch (bare metal) has the same management ports, such as an RJ45 console ports as well as OOB management port and has a micro USB interface to storage.
- ◆ This switch supports intel processor Rangeley (We leverage all the processor NICs in all our designs).
- ◆ The rest is pretty much the same as the previous box.

Typical Front view



①: Reset button

②: Micro USB port for storage

③: 48* 10G Base-T ports

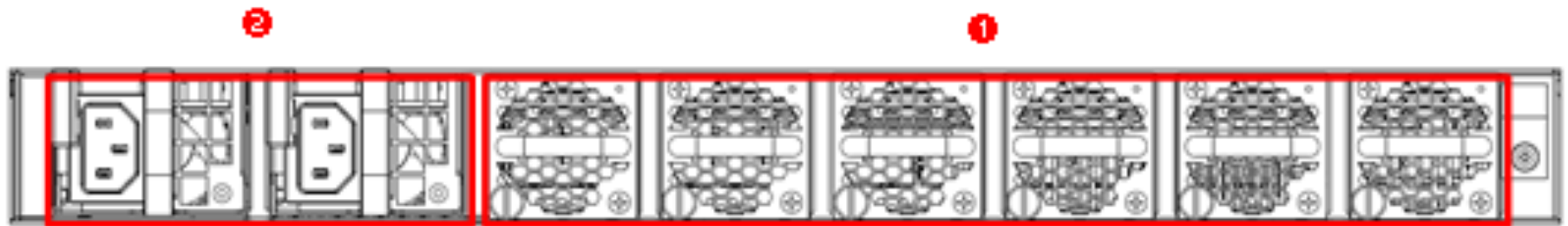
④: 4 * 100G QSFP28 ports

⑤: 4 * 100G QSFP28 ports

⑥: MGMT port

⑦: Console port

Rear view



- ①: Hot swappable fan modules
- ②: Hot swappable power supply

Main board block diagram

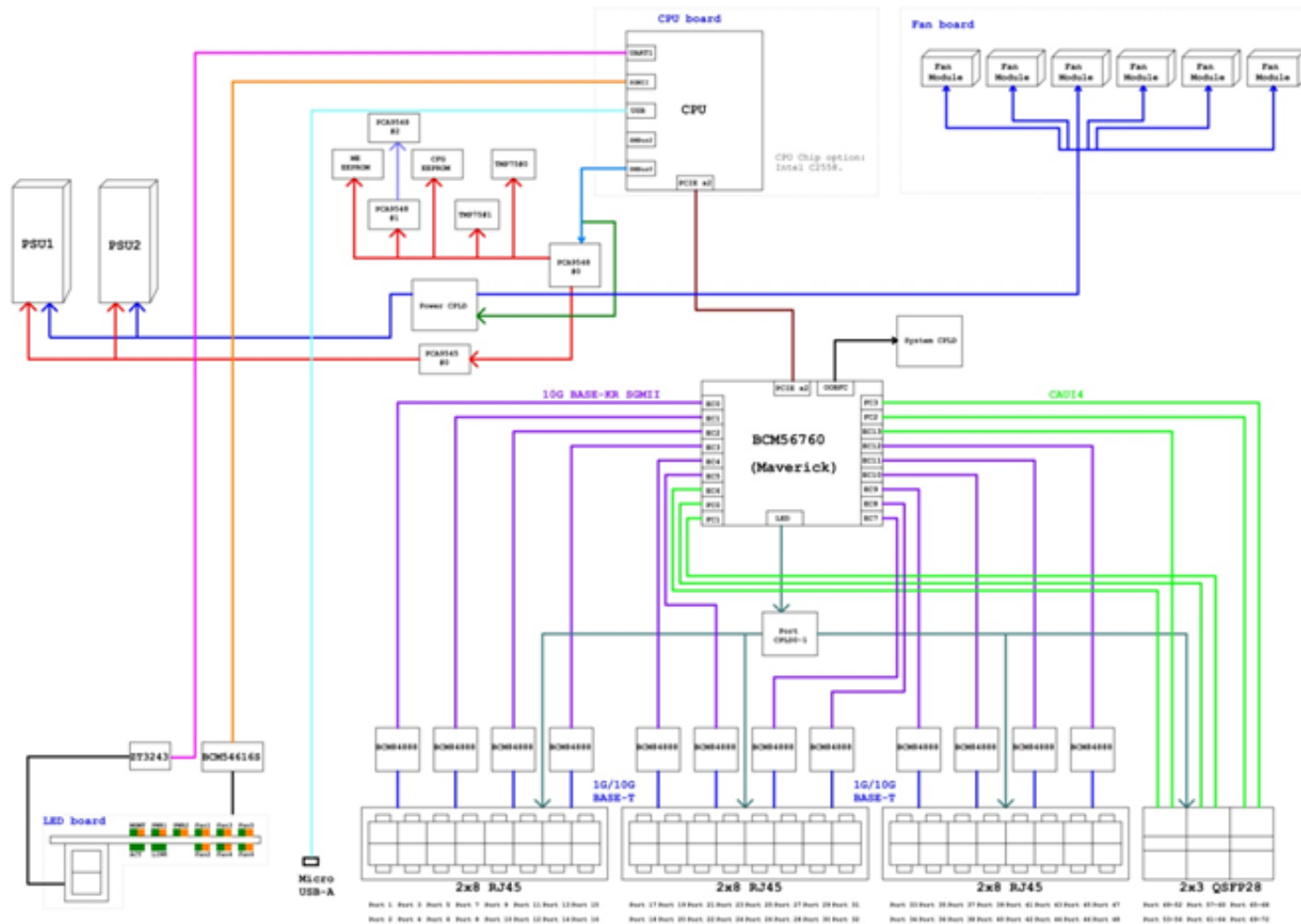


Figure 7: Main board block diagram



Take Home

- ◆ Alpha contributes the four SKUs– one for 25g market using Tomahawk plus, one for Telco or data center market with Dune's Qumran MX, and the other two using Maverick (scale down version of Tomahawk).
- ◆ They all have typical 48 ports with 100g uplink, and the two Maverick versions with an option of 40g uplink.
- ◆ They are all standard size, leveraging all the modules in the designs, such as PSU, fan controllers, power controllers, etc.
- ◆ The OCP spec. are available.