Success Story - They Chose Apacer

Challenges

- SSD and DRAM stability must remain constant even after extended operation in harsh environments
- The precise demands of this specific case will require careful customization

Solutions

- SH250-M242 + DDR4 ECC SODIMM
- SG250-M242 + DDR4 ECC SODIMM

Value-added technologies

- Firmware: SLC-liteX
- Hardware: Wide-Temperature
- Platform Customized Service

The Customer and Application: 5G Telecom Outdoor Base Station

The customer is an internationally recognized telecommunications and netcom equipment manufacturer, aiming at the advantages of the new generation of 5G high-speed networking products and services. The customer wants to realize the advantages brought by new technologies, and to create highly flexible and compatible netcom products and services suitable for the new network architecture. This would allow the customer to maximize efficiency and reduce overall construction costs – benefits which they can pass on to their own customers. Taking into consideration the highly challenging environments where new 5G telecom outdoor base stations will be built and the demand for long-term stable operation, Apacer starts from an analysis of the customer's existing platforms and then provides customized services and complete SSD and memory module solutions. .

Challenges

In the era of smart IoT, 5G outdoor base stations not only undertake the key tasks of data transmission and conversion, but also play an important role in edge computing. Since most base stations are built outdoors for 24/7 uninterrupted operation, they will be exposed to wind, sun, rain, snow, and other weather conditions, and will also need to be able to handle voltage interference and instability. It is an important challenge for the customer to ensure the stability of base station signal transmission and maintain its long-term operating performance.

Solutions and Technologies

Considering that the base station must be operated in a harsh outdoor environment for a long time, the Apacer technical team specially strengthened the voltage stability of the SSDs. By modifying the hardware circuit design and strictly selecting high-standard industrial components, the influence of interference on the circuit is reduced, while the signal strength is heightened and the SSD's durability is improved.

In order to give SSDs the greatest tolerance for changing environmental conditions, Apacer adopts industrial wide-temperature ICs sourced directly from the original manufacturers, so that the client's base station can operate normally even in temperatures as low as -40 °C or as high as 80 °C. The Apacer technical team is conscious of the long-term constant operation that the base stations must deliver. So they introduced Apacer's SLC-liteX technology to the customer. This allowed for the optimization of the 3D TLC flash memory to deliver as many P/E cycles as the customer's device would need.

After discussing the advantages of Apacer's value-adding technologies, the customer also decided to source Apacer's DDR4 ECC memory modules. As with the SSDs, only ICs sourced directly from the original manufacturer were used – in this case, server-grade ICs. The customers can clearly identify the IC specifications and grades through the manufacturer's trademark and ID number on the IC. The fixed BOM provided by Apacer ensures a stable and long-term supply to meet customer needs, and greatly reduces the risk of sudden shortages or replacement of materials.

Results and Benefits

After the Apacer technical team carefully evaluated the customer's specific application and platform usage requirements, Apacer provided tailor-made exclusive products and services. And through multi-party testing and verification and adjustment of the signals of both Apacer's SSDs and the customer's platforms, an ideal match was determined. This not only strengthens the stability of various applications and platform operations, but also successfully assisted the customer in maximizing cost-effectiveness.

Additional Support

Longevity

Fixed BOM solution,
EOL & LTB notice

Strong customization capabilities

Strong HW/FW
engineering know-how

Service

Real-time and responsive
after-sales service