High-Speed Board Design Requirements Sheet

Task Description

"You have to Design a System on Module(SOM) Board."

Instructions:

You have to create the:

- Schematic
- Followed by Board Layout

For a central Processor board that can be incorporated into a product. The schematic and board layout can be done with any design software you are comfortable with (though we prefer Altium or Mentor Graphics PADS).

Components and Interfaces:

- Micro Processor Requirement:
  - RK3399 Processor from Rock chip.
- SDRAM Requirement:
  - Integrate 2 X LPDDR4 SDRAM with 2 Giga Bytes Capacity each.
- EMMC, WIFI/BT, and Other Requirement:
  - Integrate 16 GB EMMC for Flashing the Image and Other storage.
  - Add a WIFI/BT Module on SDIO Lines and should have configuration of 2.4Ghz and 5Ghz both Bands
  - Add a Power Management IC to distribute voltage to processor and other Peripherals (Should have feature to Shutdown/Sleep the processor).
  - Add a Type-C USB on Board to Flash and Debug the Image and other Apps.
  - Add another Type-C Power Connector to Power the SOM independently.
  - Expose MIPI-CSI, MIPI-DSI, EDP, USB Hosts 2.0 & 3.0, GPIOs, 3X Analogs, HDMI, and PCIE Interfaces on 260 Pin DDR4 Connector.

The Following devices/chips can be selected at your discretion.

- All Phys.
- Voltage References, Regulators and Clocks.
- All Discrete components.
- All Power Switches.
- All Connectors.