Cornet's C12190, 6U VPX Dual6678 DSP board with Dual TI TMS320C6678 Multicore Fixed and floating point Digital Signal Processor is based on TI's keystone Multicore architecture Integrated with Eight C66X CorePac DSPs, each core running at 1.25GHz enabling up to 10GHz. The high performance signal processing board is extremely useful in Mission critical, Medical imaging, test and automation applications.

Cornet's C12190 is a 6U VPX DSP board with two TMS320C6678 multicore digital signal processors (DSPs) each with 1GB of DDR3 64 bit memory, a PLX express Lane Gen 2 switch, a Xilinx Spartran 6 FPGA, an IDT Serial Rapid IO Gen 2 switch to achieve the highest possible performance in a 6U VPX form factor. The high speed connection to the host is assured through the PCIe switch and Rapid IO switch connected between DSPs for the fastest possible data transfers.

A hyperlink chip –to-chip interconnect interface has been implemented enabling the on-chip Navigator to transparently dispatch the tasks between the DSPs. Freescale Dual core QorIQ processor adds to the performance by providing some of the communication interfaces to the external environment. It also provides the functionalities like Temperature monitoring, RTC, USB, Ethernet interface etc. The IO's terminated at the VPX backplane are accessed through the Rear Transition Module (RTM) as per VITA 46.1.Xilinx Spartan 6 FPGA with 100K logic gates supporting all the custom logic required for the board. In addition the FPGA also directly handles 16 pairs of GPIO's, ADC/DAC interfaces and Status LEDS

SPECIFICATION

Computing Processor	:	▪ Texas Instruments TMS320C6678 Multicore DSP - 2 Nos.
Communication Processor	:	▪ Freescale Dual core QorIQ Processor
Memory	:	▪ DDR3 SDRAM 1GB on Each DSP and QorIQ ▪ 32MB NOR Flash on Each DSP and 128MB on QorIQ. ▪ 128 MB NAND Flash on Each DSP
Rapid IO Switch	:	▪ IDT Generation 2 Switch
JTAG	:	▪ DSP, QorIQ and FPGA.
Form Factor	:	▪ 6U VPX
Serial Port	:	▪ RS 232
FPGA	:	▪ Xilinx Spartan 6
PMC Slot	:	▪ Single PMC Slot
XMC Slot	:	▪ Single XMC Slot
Ethernet Switch	:	▪ Marvell 8-port ethernet switch- 2nos.
PCIe Switch	:	▪ IDT 8-port generation 2 PCIe switch

Boot Flash	:	▪ NAND & NOR flash for DSP ▪ NOR flash for QorIQ
Power	:	▪ +5V and +12V from VPX backplane
Back panel	:	▪ Six Ethernet Port – RJ45 connector ▪ Two USB Host Ports, PMC 64 I/O's ▪ 20 Differential XMC I/O's and 16 Differential FPGA I/O's. ▪ Two SATA Ports, ADC Input.
Front panel	:	▪ Status LED's, Reset Switch ▪ RS232 Serial Port – DB9 male type connector ▪ Three Ethernet Port – RJ45 connector ▪ Two USB Host Ports
Cooling	:	▪ Air Cooled
Dimension	:	▪ 233.35mm x 160mm x 20mm
Operating temp	:	▪ -10°C to +55°C
Humidity	:	▪ 95% at room temperature

Block Diagram

In the interest of continuous improvement, Cornet Technology, India, reserves the right to change specifications without prior notice