DNA 1520

Main Features

- Cavium Octeon-TX CN80/81xx CPU based on ARMv8.1 64-bit architecture
- On-board 1GBytes SLC NAND flash. Can support up to 2GBytes
- On-board DDR4, default 1GB 32-bit with 4-bit ECC, up to 2GB (CN80xx)
- On-board DDR4, default 2GB 64-bit with 8-bit ECC, up to 4GB (CN81xx)
- On-board 4GBytes eMMC
- Support 802.3bz 10G standard which can be backward compatible with 1/2.5/5Gbps

- Support secure boot
- Support 1-pair bypass feature
- Flexible daughter boards design to support Wi-Fi, 3G/LTE and PoE (2-port 802.3at or 4-port 802.3af)
- Dual power DC inputs by Industrial Phoenix 2-pin type (9V-36V DC) and standard coaxial power type with screw (12V DC)
- Fanless mechanical design

Product Overview

DNA 1520 adopts Cavium latest ARMv8.1 64-bit SOC to provide a high performance platform. It can support Cavium Octeon-TX either CN80xx or CN81xx series CPUs. Daughter board design is flexible to support different features, like Wi-Fi, 3G/LTE and PoE. It is a universal platform which can be for below applications.

- SD-WAN Control Plane
- vCPE (Virtualized CPE)
- uCPE (Universal CPE)
- Firewall/IPS/AntiVirus
- VPN and network security appliance

- SMB routers
- Industrial IoT gateway
- Industrial networking appliance
- Vehicle applications

Specifications

CPU
- Cavium Octeon-TX CN80xx/81xx Multicore ARM64 processor
- ARMv8.1 64-bit architecture
- Hardware floating point, SIMD and MMU support
- Hardware support for Virtualization

Memory
- On-board 128MB SPI Flash for system boot-up or other storage purpose.
- On-board 1GBytes SLC NAND flash. Can support up to 2GBytes.
- On-board DDR4
  - CN80xx:
    default 1GBytes 32-bit with 4bit ECC. Can support up to 2GBytes
  - CN81xx:
    default 2GBytes 64-bit with 8bit ECC. Can support up to 4GBytes
- On-board 4GBytes eMMC for system boot-up or other storage purpose

Ethernet
- One 1Gb copper WAN (RJ45)
- One 1Gb combo DMZ (RJ45+SFP plus)
- One 10Gb combo WAN/DMZ/LAN (RJ45+SFP plus)
- Four 1Gb copper LAN (RJ45)
- Support 1-pair bypass feature

Other I/Os
- One USB 3.0 Host
- One Micro SD Card reader with protective cover
- One RJ45 console

Indicators and Buttons
- LEDs for Power, Alarm, WAN, DMZ, LAN(1~4), 10G, USB, SD and internet
  - With WiFi and LTE daughter board assembled:
    Optional LEDs for 2.4GHz(Wi-Fi), 5GHz(Wi-Fi) and LTE
  - With PoE daughter board assembled:
    Optional "PoE(1~4)" LEDs and one "MAX" LED
- One reset to default button
- One system reboot button

ID/Mechanical
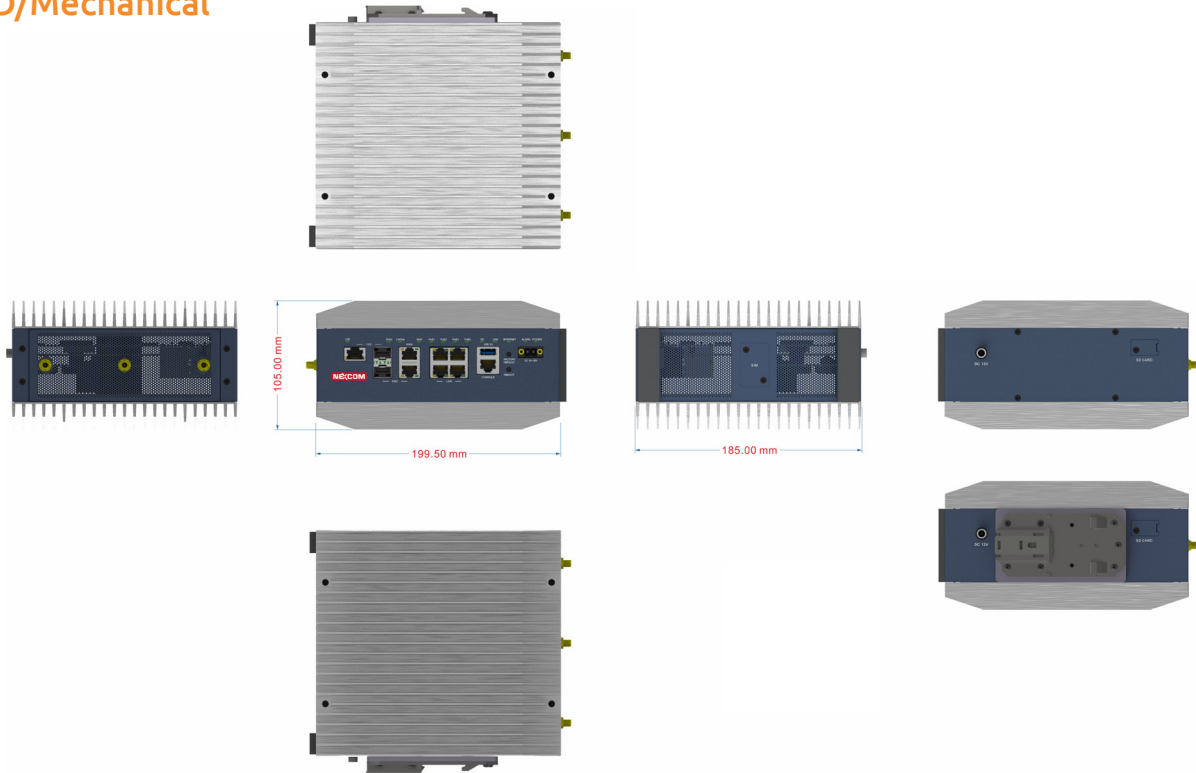
Optional Daughter Boards

- Wi-Fi and 3G/LTE:
  - One PCIe slot for half/full-size Wi-Fi PCIe card via PCIe signal
  - One PCIe slot for 3G/LTE module via USB signal
  - One SIM card slot with Tray for Micro SIM card
- PoE
  - Supports 4-port PoE for up to 2-port 802.3at or 4-port 802.3af (65W)

HW Monitor

- Support HW monitor features via two thermocouples and ten voltages Sensors

Power Input

- Standard coaxial power type with screw. (PoE only can be supported from this one)
  - External AC to DC desktop power adapter
  - Power input: 100V~240VAC
  - Power output: DC12V/65W (non-PoE). DC12V/150W(PoE)
- Industrial Phoenix 2-pin type
  - DC9V~36V

Dimension

- 199.5 x 105 x 185 mm

Weight

- 3.5Kg

Installation

- Desktop and DIN-RAIL

Environment

- Operation temperature: -40°C~70°C
- Storage temperature: -40°C~85°C
- Humidity: 5% to 95% maximum (Non-condensing)
- Fanless design
- IP40

Certifications

- FCC class B
- UL
- CE/CB

Ordering Information

- **DNA 1520 (P/N: 10L00152000X0)**
  CN8020 1.0G dual-core main board with Wi-Fi/LTE and PoE daughter boards

- **DNA 1520 (P/N: 10L00152001X0)**
  CN8020 1.0G dual-core main board only without Wi-Fi/LTE and PoE daughter boards

- **DNA 1520 (P/N: 10L00152002X0)**
  CN8120 1.5G dual-core main board only without Wi-Fi/LTE and PoE daughter boards