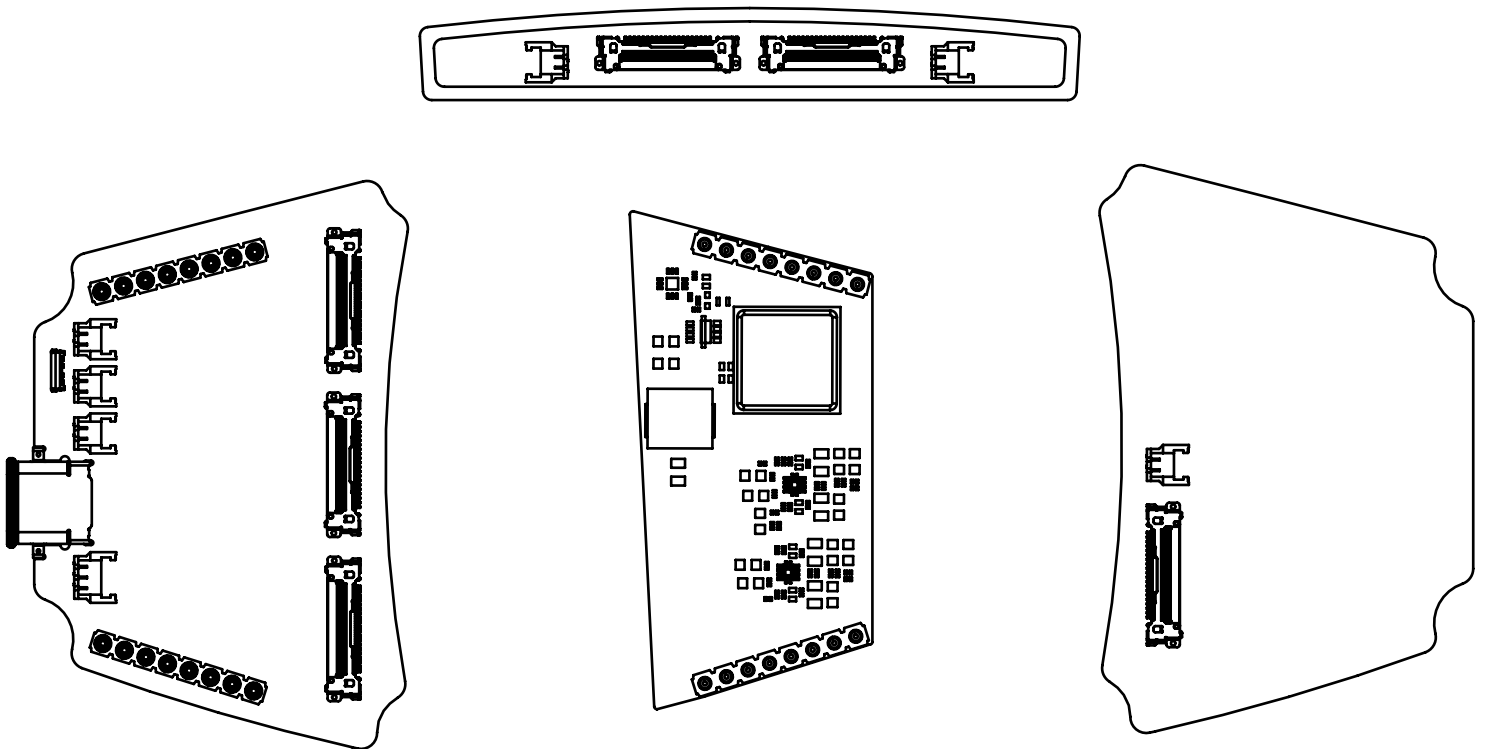# Reference Design

For Custom AR Headsets

Built from the VX Modular Augmented Reality System

AR Developed Fast

Reference Design

The VX modular augmented reality system (MARS) is a complete, ready to integrate, AR reference.

A ready to manufacture reference design is available for users that have specific applications in mind. VX offers support for customers looking to develop a custom headset. A VX led design has a typical development time of 14 weeks.

Barebones

Barebones Development Boards are ready for integration into a headset.

The reference includes a main board, USB-C Power Delivery daughterboard, peripheral accessory boards, and interface to VX CNED AR optical modules.

The system is designed for modularity and efficiency. Integration is easy with three data protocols and power available throughout the system.
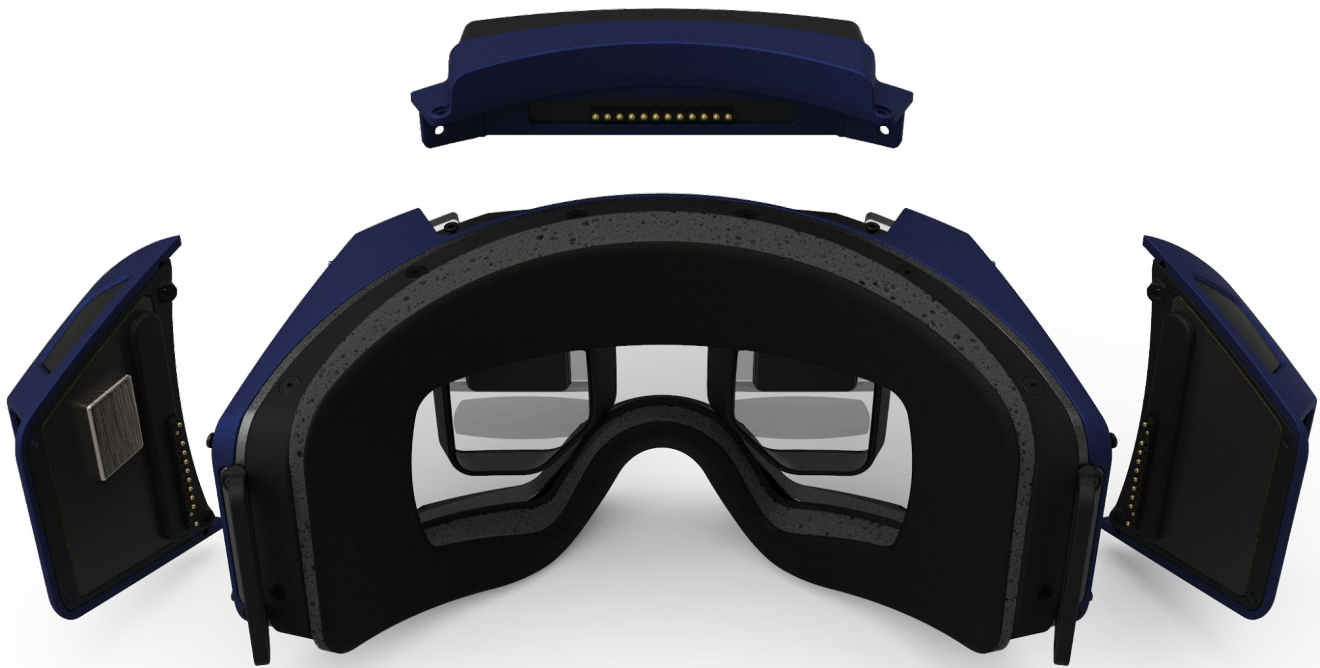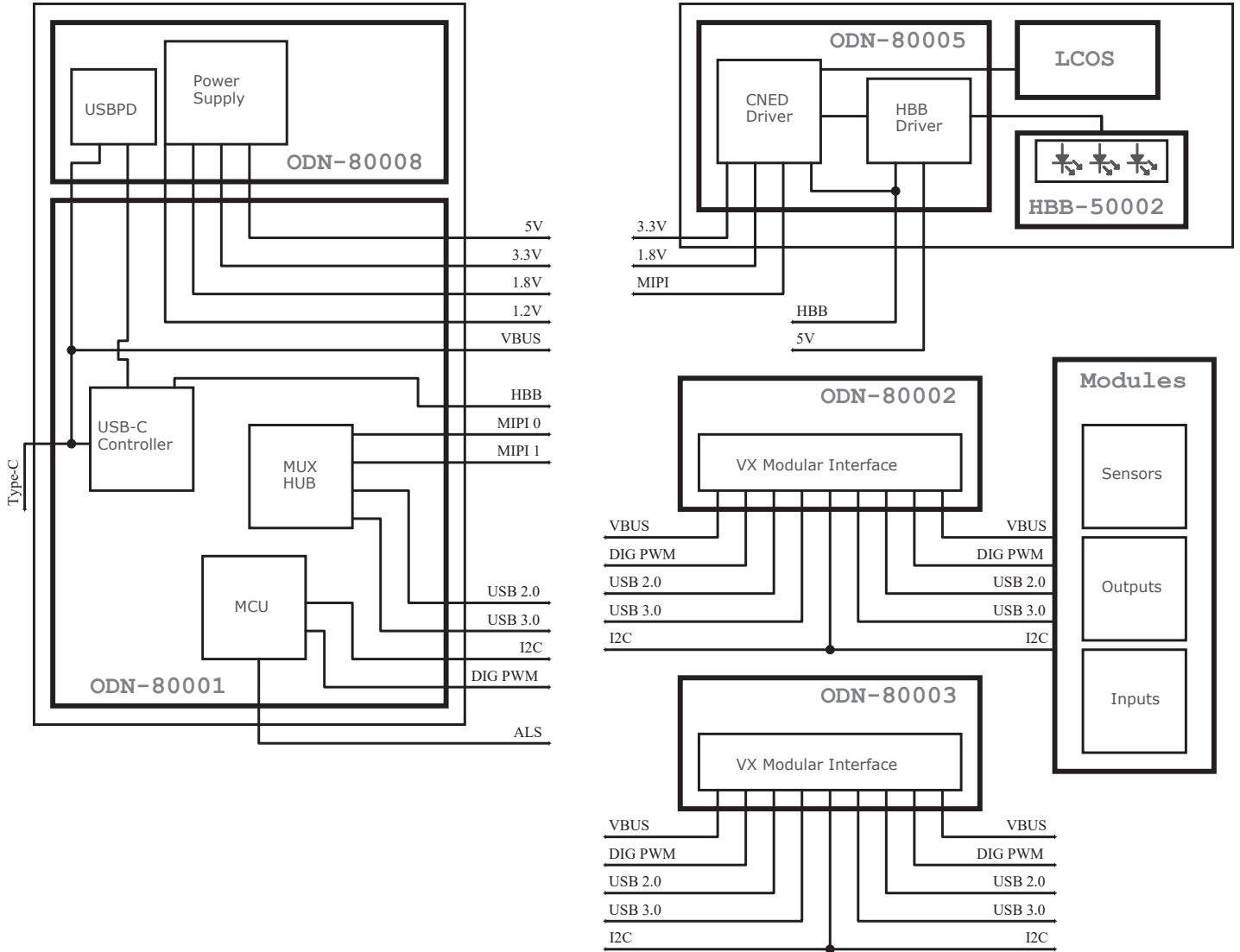
Modular Interface

The VX Modular Interface is an extensible peripheral connection for sensors and accessories utilizing a wide range of communication protocols. Full USB PD power is provided to each of the three Modular Interfaces in the system. Each modular interface can handle a data throughput of up to 5 Gbit/s.

VX Inc.

Functional Block Diagram

VX MARS Features

- o Modularized Design
- o USB 3.1 Type-C
- o 2x DP-ALT Mode 1.2
- o Auto Enumerate Plug-n-Play
- o Supports: Windows 10, Android, & Linux
- o Onboard MCU for Data Processing
- o Lightweight
- o Expandable
- o Low-light to daylight brightness

What Is Included?

- o A full set of barebone MARS boards
- o Complete electrical manufacturing package:
  - · Schematics
  - · Layout
  - · Firmware
  - · Cable designs
  - · Sourcing & BoM
- o 10 hours of engineering help from the VX team
- o Non-transferable licence for the electrical design

Feature	Description	Typical	Units
Type-C	USBPD with ALT Mode	USB 3.1	-
DP-ALT	Displayport version support	1.2	-
Device Bandwidth	Maximum data rate for displays and modules combined	10	Gbit/s
Module Bandwidth	Maximum data rate for all modules combined	5	Gbit/s
Display Bandwidth	Maximum data rate for Displayport 1.2	8	Gbit/s
Displays	Supports 2 FHD VX CNED displays		

Contact VX sales for a custom quote:

info@vx-inc.com

Augmented Reality
Design
Displays
Integration