

3U VPX MORA Ready Development Platform (MRDP)

ALIGNED TO SOSA™ AND CMOSS

DESCRIPTION

The MRDP is a turn-key product which the developer unboxes, plugs in, and turns on. The Developer can instantly view, evaluate and control MORA resources to explore device capabilities and functionality, and create, view, or modify MORA Signal Resource Profiles (MSRPs). It provides a known reference platform to support system development.

MORA is an acronym for Modular Open Radio Frequency Architecture. MORA is the U.S. Army's CCDC (Combat Capabilities Development Command) C5ISR Center's new architecture of open radio frequency interfaces for ground vehicles. Its purpose is to offer new capabilities, including reducing size, weight, and power (SWaP) and improving interoperability functions within the platform.

This 3U OpenVPX development platform provides slot profiles aligned with the Sensor Open Standards Architecture™ (SOSA) Technical Reference Standard. It supports the latest profiles used to develop systems that follow the hardware requirements of both SOSA and CMOSS.

At the heart of the system is a 3U 6-slot 25Gb/100Gb backplane aligned to SOSA. Other Elma SOSA aligned backplane options can be provided for custom implementations.

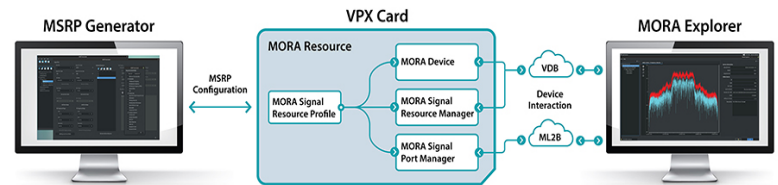
The MRDP includes the following SOSA aligned Plug in Cards and Software:

- › Abaco Single board computer (SBC3511)
- › Interface Concept switch (ComEth4590)
- › Epiq Sideiq VPX400 Transceiver
- › Sciens Helux software tools including MORA Explorer and MSRP Generator pre-integrated on the SBC

Moving from the MRDP lab system to a deployable chassis is easy using the Elma SOSA and CMOSS aligned CMFF / SAVE Compliant chassis or SOSA aligned half ATR.



Front View



Helux Tool Suite

Features

- Comes with the following components and software as a standard configuration:
 - › Abaco Single board computer (SBC3511)
 - › Interface Concept switch (ComEth4590)
 - › Epiq Sideiq VPX400 Transceiver
 - › Sciens Helux software tools including MORA Explorer and MSRP Generator pre-integrated onto the SBC
- 6-slot OpenVPX backplane aligned with SOSA
- Built-in VITA 46.11 Chassis Manager for intelligent system health monitoring
- Conduction cooled card guides
- Front and rear fan trays with 12 VDC fans
- Front panel on/off switch, reset switch, voltage LEDs and test point
- NVMRO and Zeroize Switches
- AC operation with power cord
- Other components available for a custom configuration are:
 - › RF Payload cards like tuners, transceivers, or down-converters from EPIQ, G3, DRS, Mercury (Pentek), or Abaco
 - › Alternate SBCs from Abaco or Concurrent Technologies
 - › Alternate switches from Interface Concept or Abaco

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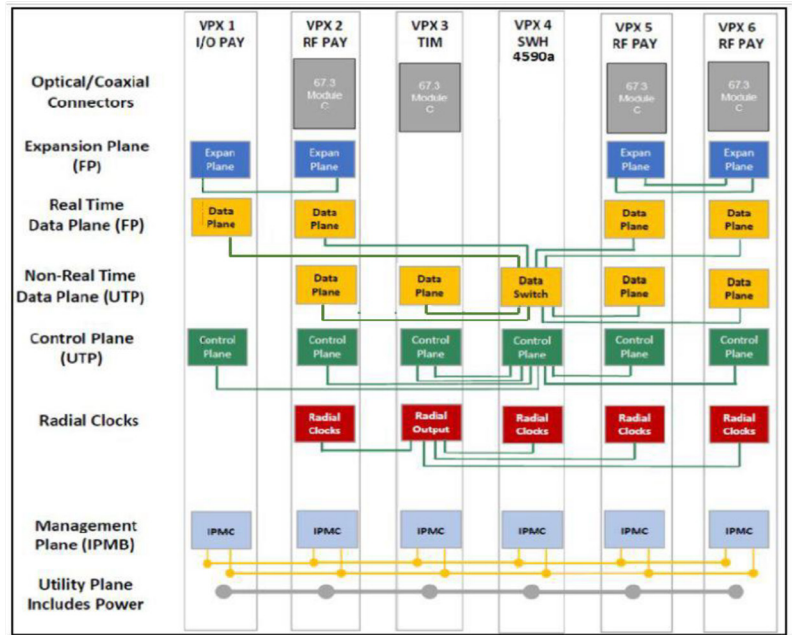
Benefits

- Pre-configured development platforms for SOSA and CMOSS development
- Supports the Army's new CCDC MORA architecture
- Comes with both key components and software elements to begin development upon power-up
- Configuration can transfer to a deployable platform after development is complete such as the Elma CMFF / SAVE Chassis or the SOSA aligned half ATR

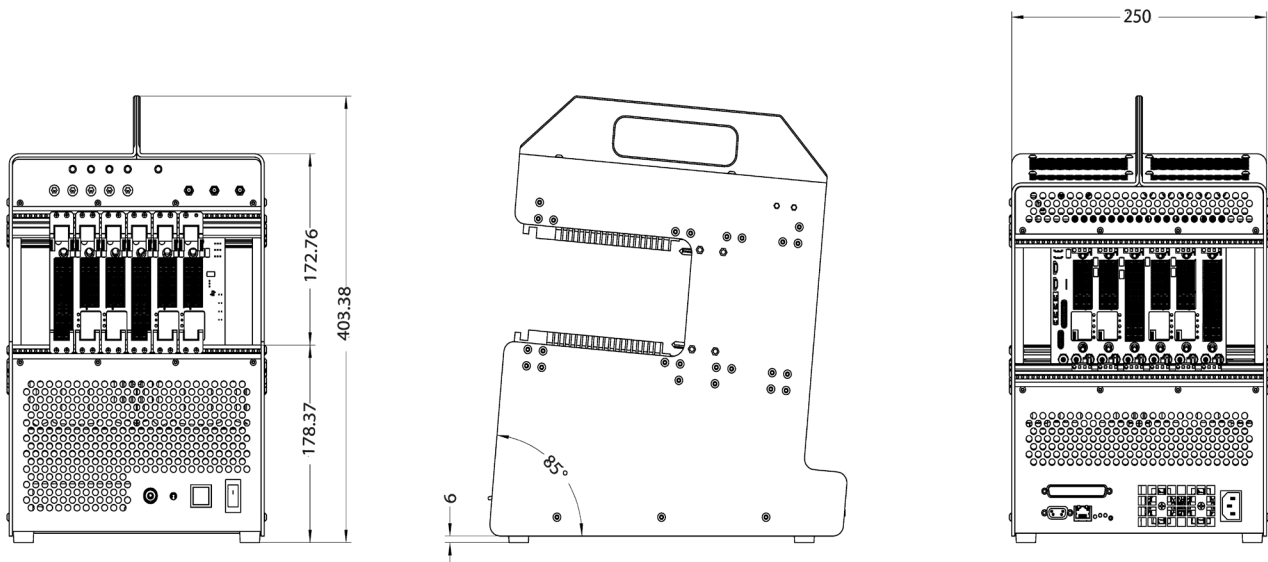
BACKPLANE PROFILE

1SVX306AKP-1X31:

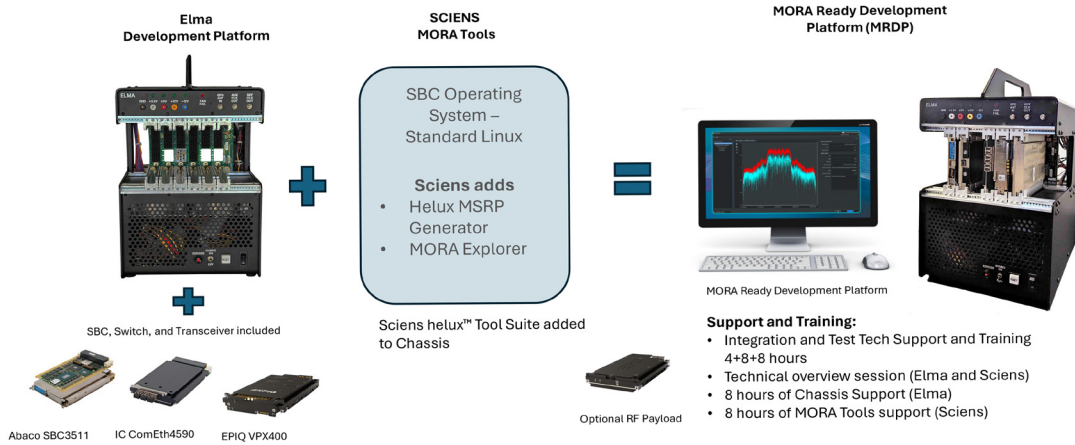
- Slot 1: SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16
- Slot 2, 5 & 6: SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
- Slot 3: SLT3x-TIM-2S1U22S1U2U1H-14.9.2
- Slot 4: SLT3-SWH-6F1U7U-14.4.14



LINE DRAWING



SYSTEM OVERVIEW



Ecosystem Partner Boards and Software

The development platform is available with a range of partner boards that are aligned to the SOSA 1.0 profiles, including Ethernet Switch, I/O or Compute Intensive SBCs, high end graphics and VITA 62 Power Module.

- › Elma MORA Ready Development Platform
- › Abaco Single board computer (SBC3511)
- › Interface Concept switch (ComEth4590a)
- › Epiq Sideiq VPX400 Transceiver

Other Board Options:

- › RF Payload cards like tuners, transceivers, or down-converters from Epiq, G3, DRS, Mercury (Pentek), or Abaco.
- › PNT card

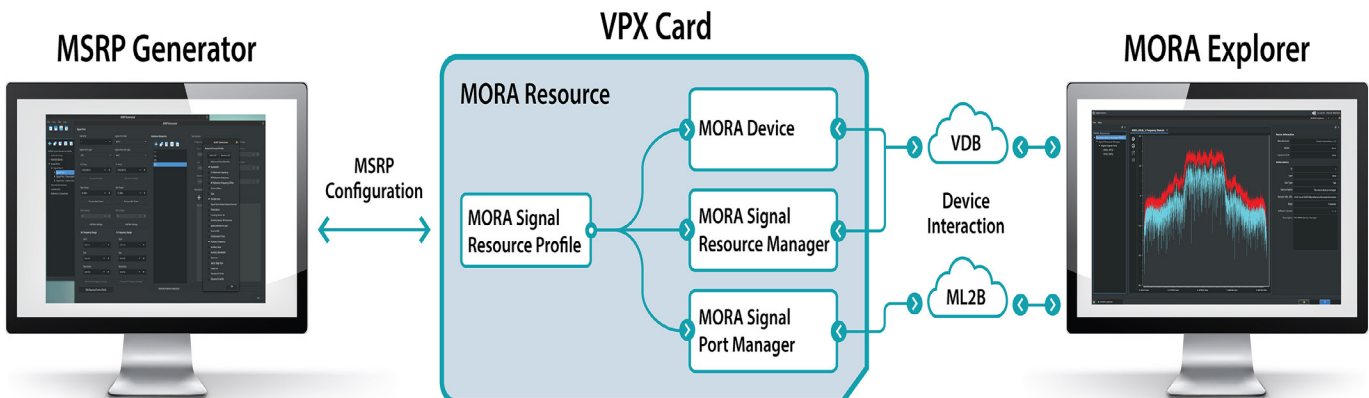
Other Software Options:

Helux Client Core, a collection of client-based software libraries for the development of client applications.

Software Partner

- › Sciens - helux Tool Suite - A comprehensive tool suite providing graphical user interfaces to simplify MORA device exploration, configuration, and interaction.

Helux Tool Suite



APPLICATIONS

OpenVPX / SOSA and CMOSS aligned development systems help to speed time to deployment for critical defense applications including but not limited to:

- › Mission control
- › Secure communications
- › Surveillance
- › Data and image processing
- › Weapons control
- › Target tracking and display
- › Navigational control
- › Threat detection
- › Process monitoring

RELATED PRODUCTS

CMFF / SAVE Compliant Chassis

- › Provides a high-performance, flexible, adaptable, enclosure compliant to CMOSS and aligned with SOSA Technical Standard 1.0
- › A rugged chassis designed for the ground combat and tactical ground mobile environments

SOSA Aligned ½ ATR chassis

- › Off the shelf ATR compliant to SOSA and ready for rapid deployment



ELECTRICAL SPECIFICATIONS

Input Voltage	115 - 240 VAC
Input Connectors	10.0A - 15.0A max
Input Frequency	47 - 63Hz

OUTPUT SPECIFICATIONS

Voltage	+5V	+12V	+3.3V	-12V
Max Load	36.0A	116.0A	31.0A	0.5A
Min Load	1.0A	2.0A	1.0A	0.0A
Peak Load	---	---	---	---
Regulation	±5%	±5%	±5%	±5
Ripple & Noise	50mV	120mV	50mV	120mV

*Power module total output power of +5V and 3.3V not exceed 210W

*Power module total output power not exceed 1400W for 180~264V

*Power module total output power not exceed 1200W for 103~132V

*Power good signal: ON delay 100ms to 500ms, OFF delay 1ms, HOLD UP time: 17ms minimum at full

*Load & nominal input voltage

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ACCESSORIES

Optional System test accessories including load boards, extender boards, slot to slot cable systems and rear transition modules.

ORDER INFORMATION

3U VPX MORA Ready Development Platform (MRDP)

Model Number (Part Number)

Measures 9.8" wide x 13.8" deep x 15.9" height front and rear 1" pitch card front and rear 1" pitch card cages for 3U VPX and RTM, conduction cooled card guides. Comes with:

SE9M3PS9YIBXNLY

- Elma Development Chassis
- 1SVX306AKP-1X31 Backplane
- Abaco Single board computer (SBC3511)
- Interface Concept switch (ComEth4590a)
- Epiq Sidekiq VPX400 Transceiver
- Sciens helux Tool Suite

Elma Development Chassis Specifications

- 1400W ATX style PSU
- Front and rear fan trays with 12VDC fans
- AC operation, AC power cord
- Front panel On/Off switch, reset switch, voltage / fan LEDs and voltage test points
- Completely assembled, wired and tested
- Software is installed on SBC
- Support Includes:
 - 4 hours of Technical overview session (Elma and Sciens)
 - 8 hours of Chassis Support (Elma)
 - 8 hours of MORA Tools support (Sciens)

3U OpenVPX Ethernet Switch - Interface Concept

ComEth4590A

- Module profile aligned with SOSA guideline¹
- 10GbE and 40GbE port configurations in copper and fiber
- Dual domain 10Gb and 40b port configurations to backplane and includes front 1/10Gb fiber ports for both Data Plane and Control Plane

3U Rugged Single Board Computer aligned with CMOSS and SOSA ABACO

SBC3511

- Based on the new, highly integrated Intel® Xeon® E-2276ME 6-core/12-thread processor

3U Rugged Transceiver aligned with SOSA Epiq Sidekiq

VPX400

- 4 Rx and 4 Tx, 16-bit sample width, Xilinx Kintex® Ultrascale™ XCU115 FPGA

*Custom backplane, PIC, and Software combinations available upon request. Contact the factory

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Please contact our sales team for more details.

China: +86 21 5866 5908
France: +33 388 56 72 50

Germany: +49 7231 97 34 0
Israel: +972 3 930 50 25

Singapore: +65 6479 8552
Switzerland: +41 44 933 41 11

United Kingdom: +44 1234 838 822
United States: +1 510 656 3400