Supporting you every step of the way:
from **Development** to **Deployment**

LCR EMBEDDED SYSTEMS

100Gb/40Gb Backplane Technology for VPX and SOSA™ Aligned Systems

ADDRESSING HIGH SPEED SIGNALING APPLICATIONS

Precision engineered backplanes designed to the highest performance standards are essential for the high speed signal demands prevalent in today's defense applications. Our backplanes represent a key technology that supports the critical performance expectations of our line of ATR and rackmount chassis for VPX and SOSA aligned module content. As signal speed requirements reach toward 100Gb and beyond, LCR is committed to delivering backplane solutions that meet the highest levels of signal integrity in the industry.

OpenVPX™

SOSA™ Sensor Open Systems Architecture MEMBER

Key Features

Backplane designs are in conjunction with our deployable ATR and rackmount chassis and development chassis.

- **100 GbE (100GBASE-KR4) and PCI Express® (PCIe) Gen-4** on data plane, control plane and expansion plane fabrics
- **VPX and SOSA** aligned module profiles
- **Custom designs** to meet your specific application requirements
- **VITA 66 and 67 optical and RF I/O** connectors and apertures
- **VITA 46 Multigig RT-3 or EVO 2.0VPX** connectors for superior signal integrity
- **Hybrid** 3U / 6U backplanes and hybrid VPX / VME

Mission Critical Applications

LCR's VPX backplane designs are an integral part of every system we build in support of mission critical defense applications. Solutions intended for EW / ISR, radar, mission computing, surveillance, weapons control and more in land, sea and air equipment where unfailing service is paramount.

A History of VPX Backplane Design Experience

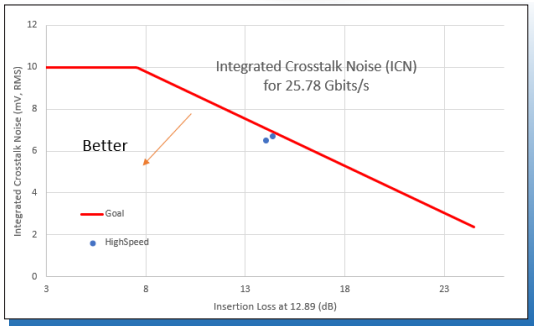
Through the evolution of VPX, OpenVPX and now SOSA aligned module advancements, LCR has been designing backplanes that meet the stringent signal integrity requirements in high speed systems.

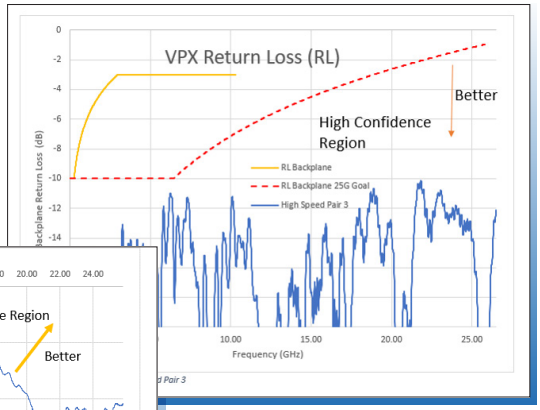
- 1000BASE-BX and KX, 10GBASE-KX4 and KR, 40GBASE-KR4 and 100GBASE-KR4
- Slot counts from 1 to 21 in .8", 1", 1.2" and 1.5"
- Single / dual centralized switching, mesh, bussed clock, power and ground versions
- Custom profiles in VPX and SOSA architectures
- VITA 66 optical and 67 RF connectors / apertures
- IEEE 1588 radial clock slot supporting precision timing protocol and network synchronization
- VME / VPX hybrid versions
- 3U / 6U hybrid versions

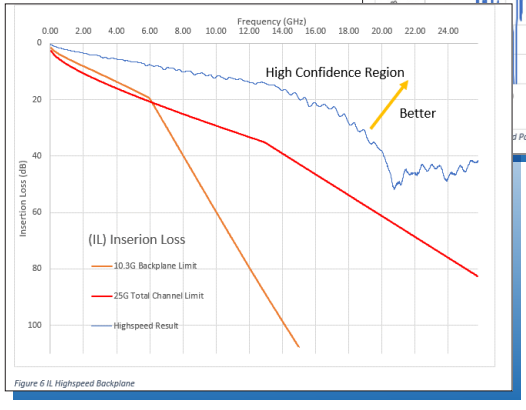
100Gb Backplane Know-how. *We're moving ahead!*

In support of new and emerging high speed applications, LCR engineers have successfully developed and tested backplane signaling supporting 100Gb signal speeds.

- PCIe Gen 4 signaling
- 100G-baseKR4 protocols
- Exceeding ANSI/VITA 68.1-2017 performance levels
- High performance FR4 PCB material



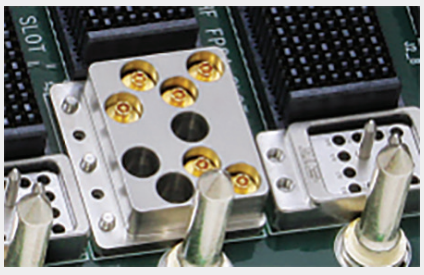




Optical and RF I/O with VITA 66 / 67 Options

RF and optical connectivity in VPX supports EW and ISR applications through VITA 66 and 67 connectors on the backplane. LCR backplanes may be populated with any connector type or provide the necessary apertures.

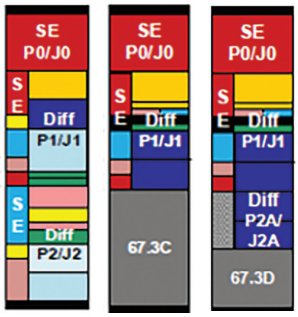
- VITA 66 and 67 apertures and connectors
- Optical and RF I/O options
- Full and half height apertures

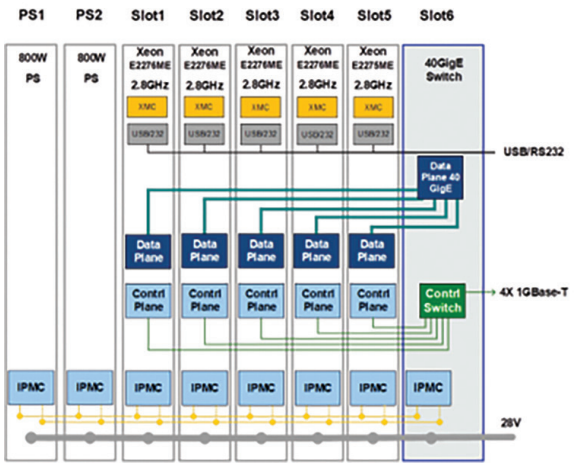


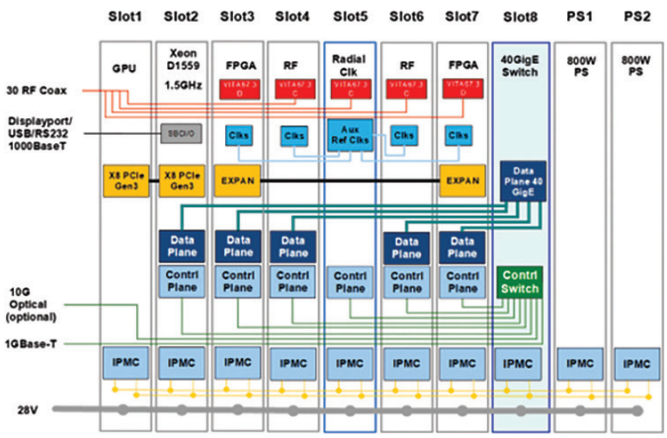
Custom Backplane Profiles

Backplane design begins with a selected set of VPX or SOSA aligned modules for the intended system. Our engineers work with you to determine the required data flow for your application, including data plane, control plane and expansion plane. We leverage existing designs and apply extensive testing up to, and including, module integration to ensure the highest signal integrity and operational performance for your system.

- Extensive signal integrity testing
- Data plane, control plane and expansion plane
- Development and application profiles

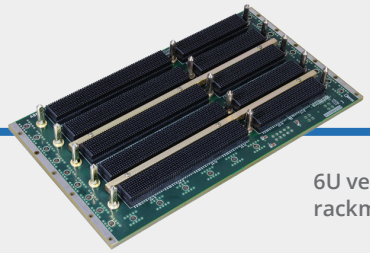






3U and 6U Designs for ATR and 19" Systems

LCR backplanes include both 3U and 6U versions and are offered in conjunction with ATR and 19" system designs.



6U versions for 19" rackmount installations

See LCR's line of backplanes

3U versions for ATR style chassis

Ensuring Success at Every Stage

System Integration

In conjunction with leading edge VPX backplane solutions and field proven rugged chassis, LCR delivers complete integrated systems for mission critical defense programs. Our experienced and engaging staff can provide payload integration and testing that enables out-of-the-box installation of your application specific hardware and software.

Our Partner Ecosystem

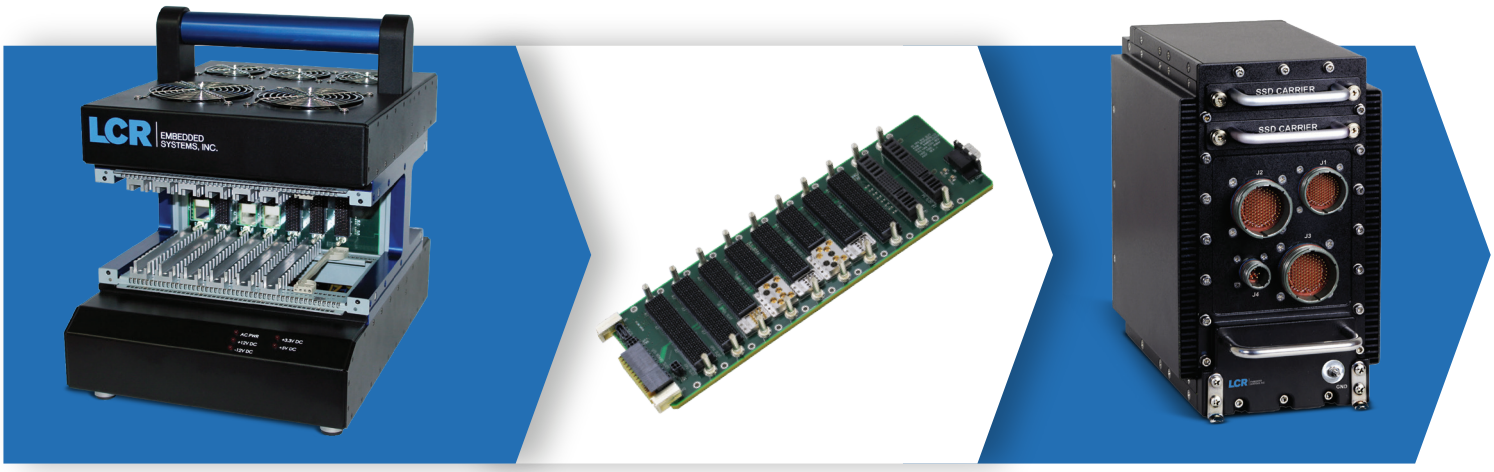
LCR is partnered with leading technology suppliers in the embedded computing industry. In leveraging these best-in-class products, LCR will assist in board selection and system design as we help move your project forward to deployment.

Defense Program Participation

For over 30 years, LCR has supported US Department of Defense agency programs with leading edge products and technologies. Advanced packaging solutions and fully integrated systems help to drive mission critical applications in the most demanding environments.

Streamlining Your Project Timeline Every Step of the Way

Starting with our popular DK line of development chassis, LCR can support your project from initial concept and custom backplane profile design, to manufacture, integration and test of the final deployed chassis.



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