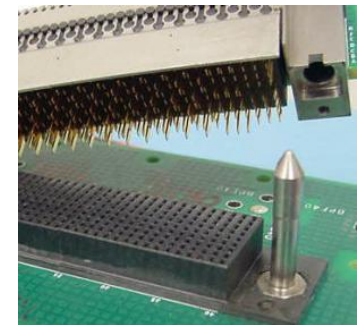
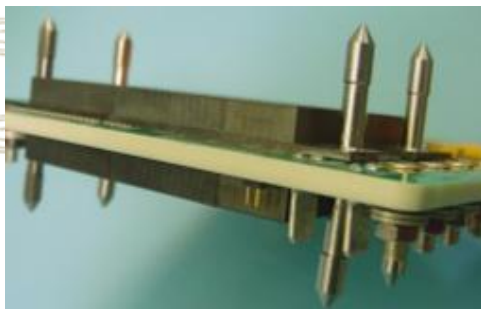


# Amphenol Backplane Systems

## **VIPER** INTERCONNECT PLATFORM

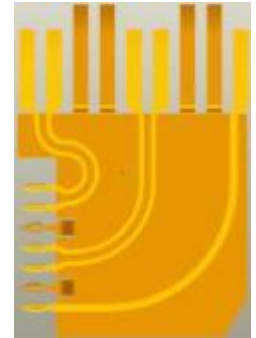


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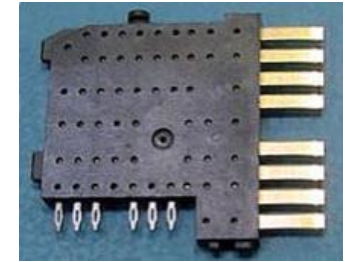
# VIPER Key Design Features

- **VPX<sup>e</sup>** - VITA 60 VPX Extreme
  - Intermountable solutions to VPX standards (Vita-46/48)
    - ◆ 1.8 mm x 1.8 mm Backplane
    - ◆ 1.8 mm x 1.35 mm Daughtercard Module
- High Density Interconnect Platform:
  - 70 Single-Ended Signals per linear inch
  - 63 Differential Signals per linear inch
- Signal Integrity – 10 GB/s
- Integrated ESD protection
  - Safety grounds available
- Integrated backplane anti-stubbing features
- Ruggedized Standard 3U and 6U Configurations
  - Many custom configurations available
- Pressfit Backplane and Daughtercard

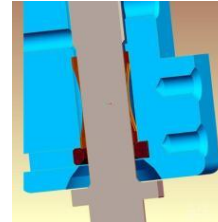


# VIPER Key Design Features

Modular Wafer Design  
on Daughtercard

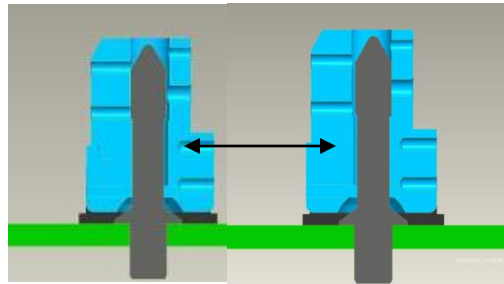


Center Position  
Safety Grounds

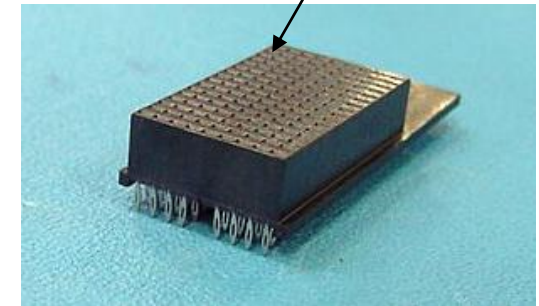


Integrated Stiffener/  
Protective Frame  
Front and Rear

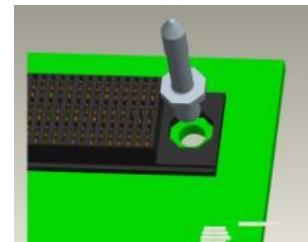
Fully Mated Guidance  
Translation up to  $\pm 0.010$ "



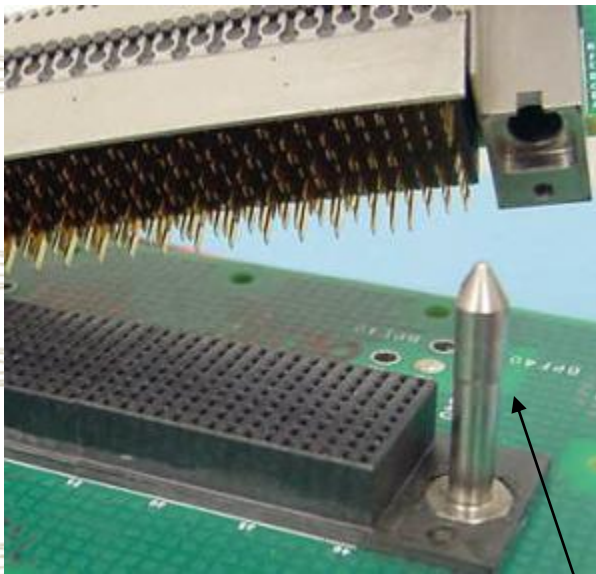
Anti-Stubbing Contacts/  
Insulators



8 and 16 position Modular  
Backplane Components



User-configurable Keying  
without PWB "Notches"



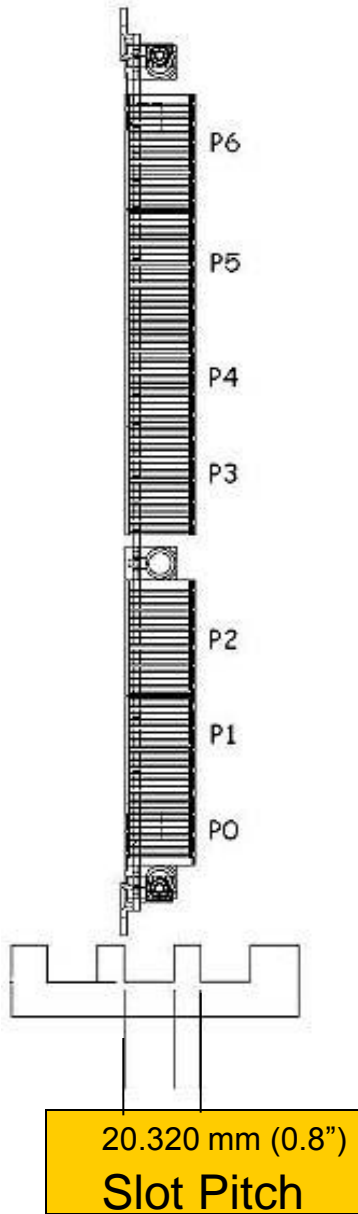
Passivated Stainless Steel  
Guide Pin / Keying Blocks



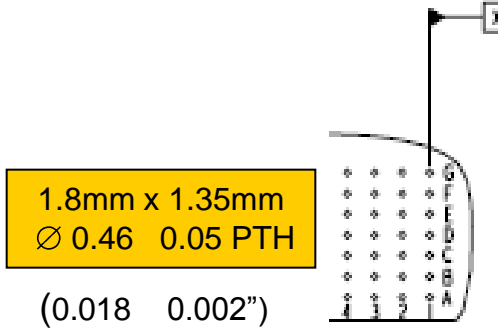
Amphenol-ABS



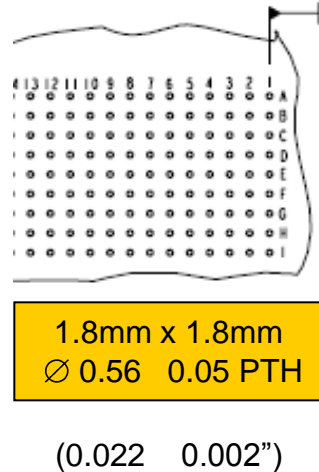
# VIPER Key Design Features



**VIPER** DC PWB Hole Size and Pattern  
 - Identical to Vita 46 (VPX) -



**VIPER** BP Hole Size and Pattern  
 - Identical to Vita 46 (VPX) -



# VITA Specifications – VPX Compliance

- VITA Industry Standards
  - Vita 46/48 Specification compliance requires full inter-matability with current Vita 46 connector platform
  - **VIPER** connector meets aspects of Vita 46, except inter-matability.
    - New Vita 60 Specification is in progress
  - **VIPER** can be mounted in the same backplane and daughtercard hole pattern as Vita 46
- “VPX” industry name is trademarked by VITA
  - **VIPER** is a compatible PX connector designed for extreme environments



# VIPER connector kit cross-reference

CONFIGURATION	STANDARD CONFIGURATION		RTM CONFIGURATION	
	DAUGHTERCARD	BACKPLANE	DAUGHTERCARD	BACKPLANE
Variant A [ 3U ]	VP773-00001	556-0005-000	VR773-00001	558-0005-000
Variant B [ 3U ]	VP773-00002	556-0011-000	VR773-00002	558-0011-000
Variant C [ 6U ]	VP776-00001	556-0004-000	VR776-00001	558-0004-000
Variant D [ 6U ]	VP776-00002	556-0008-000	VR776-00002	558-0008-000
Variant E [ 6U ]	VP776-00003	556-0025-000	VR776-00003	558-0025-000
Variant F [ 6U ]	VP776-00004	556-0026-000	VR776-00004	558-0026-000
Variant G [ 6U ]	VP776-00005	556-0027-000	VR776-00005	558-0027-000
Variant H [ 6U ]	VP776-00006	556-0019-000	VR776-00006	558-0019-000
Variant J [ 6U ]	VP776-00007	556-0006-000	VR776-00007	558-0006-000
Variant K [ 6U ]	VP776-00008	556-0028-000	VR776-00008	558-0028-000
Variant L [ 6U ]	VP776-00009	556-0029-000	VR776-00009	558-0029-000
Variant M [ 6U ]	VP776-00010	556-0030-000	VR776-00010	558-0030-000
Variant N [ 6U ]	VP776-00011	556-0031-000	VR776-00011	558-0031-000
Variant O [ 6U ]	VP776-00012	556-0032-000	VR776-00012	558-0032-000
Variant P [ 6U ]	VP776-00013	556-0033-000	VR776-00013	558-0033-000
Variant Q [ 6U ]	VP776-00014	556-0034-000	VR776-00014	558-0034-000
Variant R [ 6U ]	VP776-00015	556-0035-000	VR776-00015	558-0035-000
Variant S [ 6U ]	VP776-00016	556-0036-000	VR776-00016	558-0036-000
Variant T [ 6U ]	VP776-00017	556-0037-000	VR776-00017	558-0037-000
Variant U [ 6U ]	VP776-00018	556-0038-000	VR776-00018	558-0038-000
Variant V [ 6U ]	VP776-00019	556-0039-000	VR776-00019	558-0039-000
Variant W [ 6U ]	VP776-00020	556-0040-000	VR776-00020	558-0040-000
Variant X [ 6U ]	VP776-00021	556-0041-000	VR776-00021	558-0041-000
Variant Y [ 6U ]	VP776-00022	556-0042-000	VR776-00022	558-0042-000
Variant Z [ 6U ]	VP776-00023	556-0043-000	VR776-00023	558-0043-000
Variant AA [ 6U ]	VP776-00024	556-0044-000	VR776-00024	558-0044-000
Variant AB [ 6U ]	VP776-00025	556-0045-000	VR776-00025	558-0045-000
Variant AC [ 6U ]	VP776-00026	556-0046-000	VR776-00026	558-0046-000
Variant AD [ 6U ]	VP776-00027	556-0047-000	VR776-00027	558-0047-000
Variant AE [ 6U ]	VP776-00028	556-0048-000	VR776-00028	558-0048-000
Variant AF [ 6U ]	VP776-00029	556-0049-000	VR776-00029	558-0049-000
Variant AG [ 6U ]	VP776-00030	556-0050-000	VR776-00030	558-0050-000
Variant AH [ 6U ]	VP776-00031	556-0051-000	VR776-00031	558-0051-000
Variant AI [ 6U ]	VP776-00032	556-0052-000	VR776-00032	558-0052-000

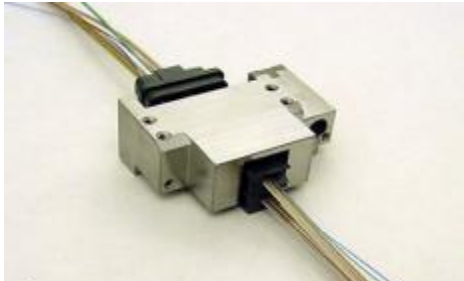


The Amphenol connector kits include all DC and BP modules, guide pins, and user-configurable keying.

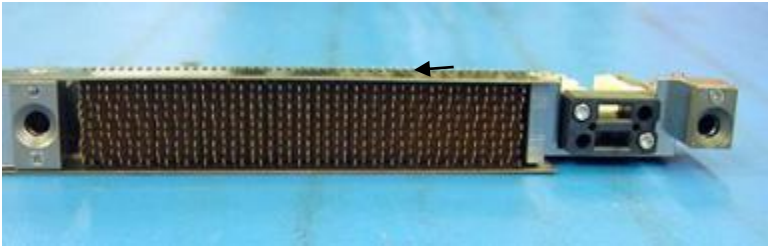
Amphenol-ABS



# VIPER Integrated Solutions



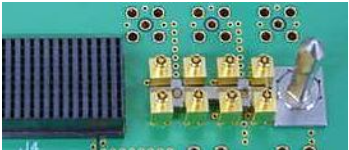
**6U with Integrated  
Dual MT Optical Module**



**3U SMPM Integrated  
Solution**



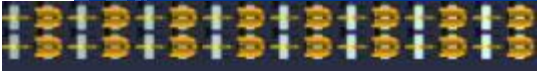
Cable Alignment  
Blocks



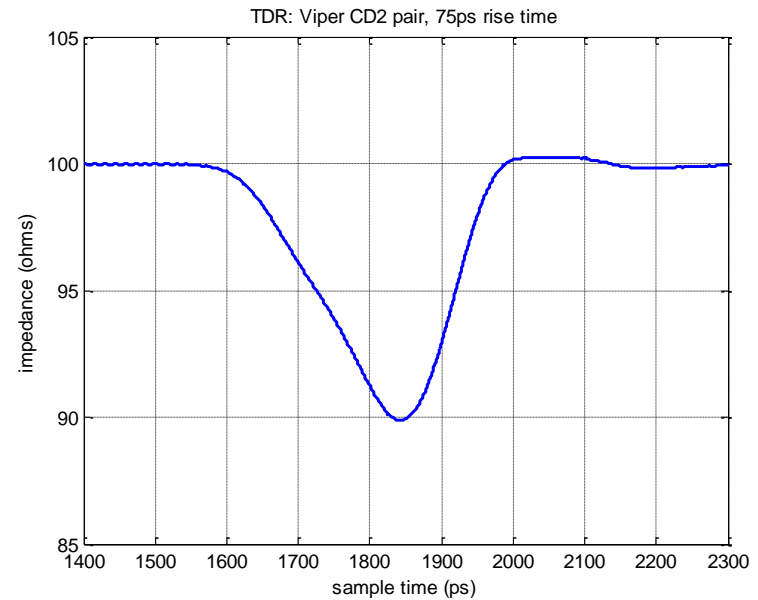
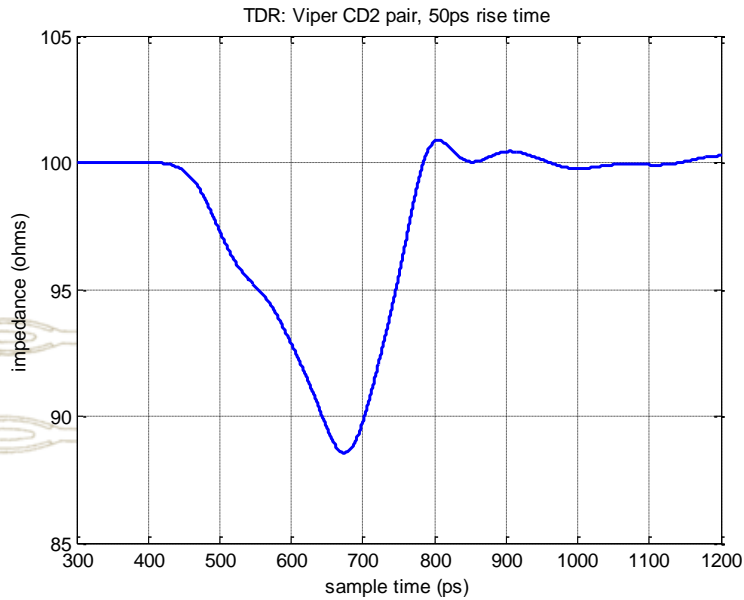
Backplane Slot



**6U Full Power Connector**  
- 10 Amps / wafer @ 30C rise



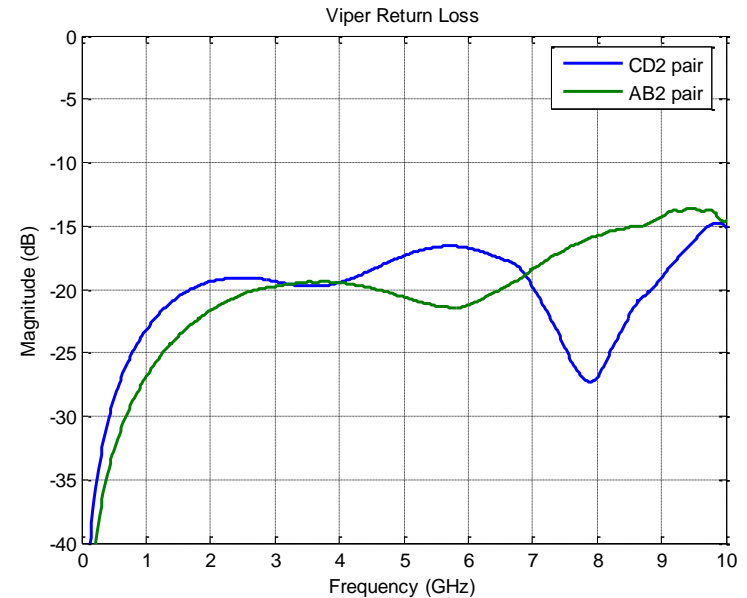
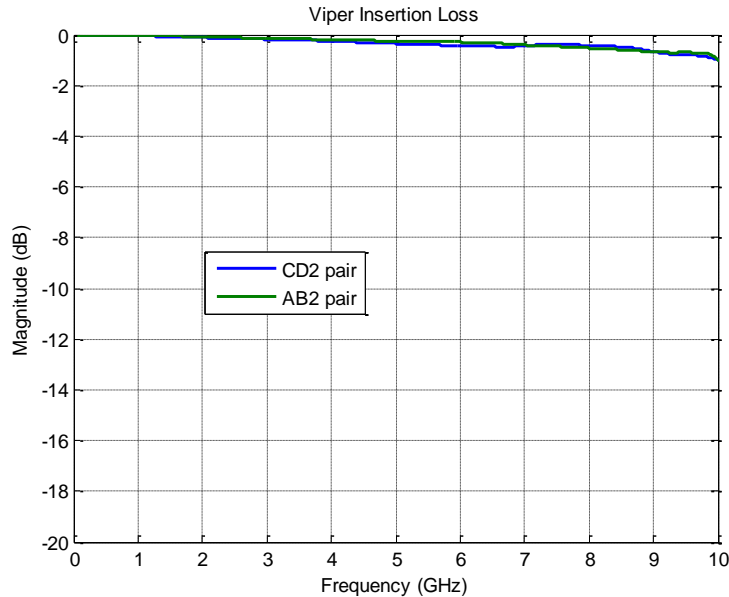
# VIPER TDR 90 Ohms



\*TDR driven from  
daughtercard side



# VIPER Insertion and Return Loss



- Insertion Loss Better than -10 dB – Excellent, Low and Linear
- Return Loss –20dB Ideal at Fundamental Frequency 18, 19 up to 4 GHz which is 8Gbp/s

# Environmental Testing Reports Now Available

## DVT Test Report

MARCH 30, 2009  
TEST REPORT #208100  
DESIGN VERIFICATION TESTING  
(DVT)  
VIPER VITA 46 CONNECTOR  
360 POSITION RT ANGLE  
CONNECTOR  
AMPHENOL ABS



APPROVED BY: LUANNE WITT  
DIRECTOR OF PROGRAM MANAGEMENT  
CONTECH RESEARCH, INC.  
ATTLEBORO, MA



An Independent Test and Research Laboratory

## Qualification Test Report

APRIL 6, 2009  
TEST REPORT #208101  
QUALIFICATION TESTING  
PART NUMBER: VIPER CONNECTOR  
AMPHENOL ABS



APPROVED BY: LUANNE WITT  
DIRECTOR OF PROGRAM MANAGEMENT  
CONTECH RESEARCH, INC.  
ATTLEBORO, MA



An Independent Test and Research Laboratory

VIPER passed DVT vibration testing above 29 Grms and passed full qualification testing modeled on Vita 46 initial test plan.



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