

Amphenol

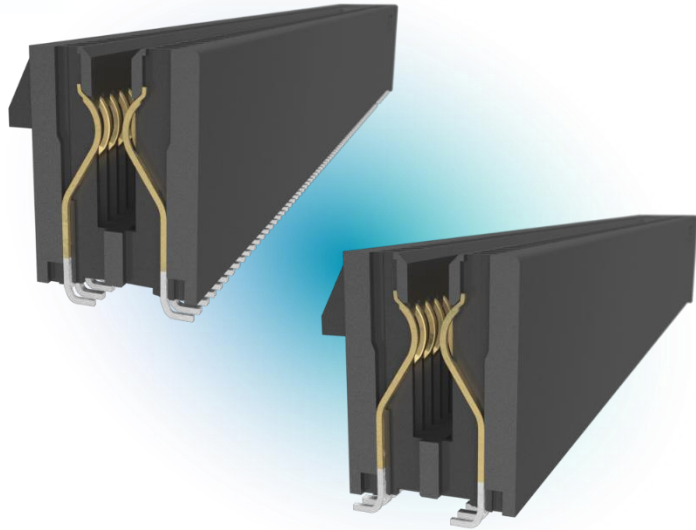
COMMUNICATIONS SOLUTIONS

PCIe® Gen 5 Flip CEM Connectors

Mar 2023

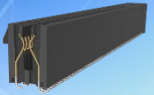
PCIe® Gen 5 Flip CEM Connectors

Extend Differential Signaling to 32GT/s NRZ with Savings on PCB Keep-out Area

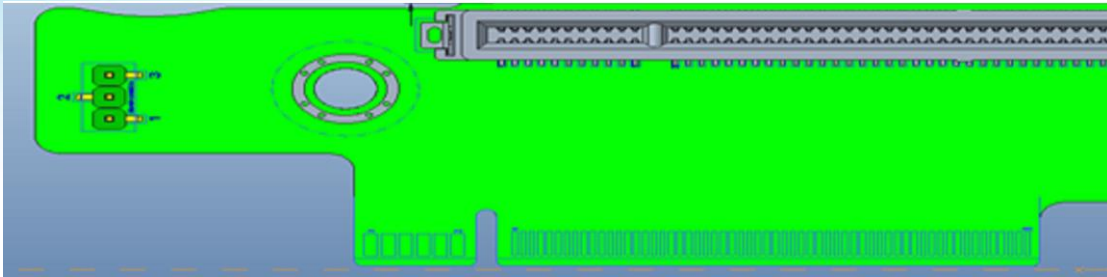


Features

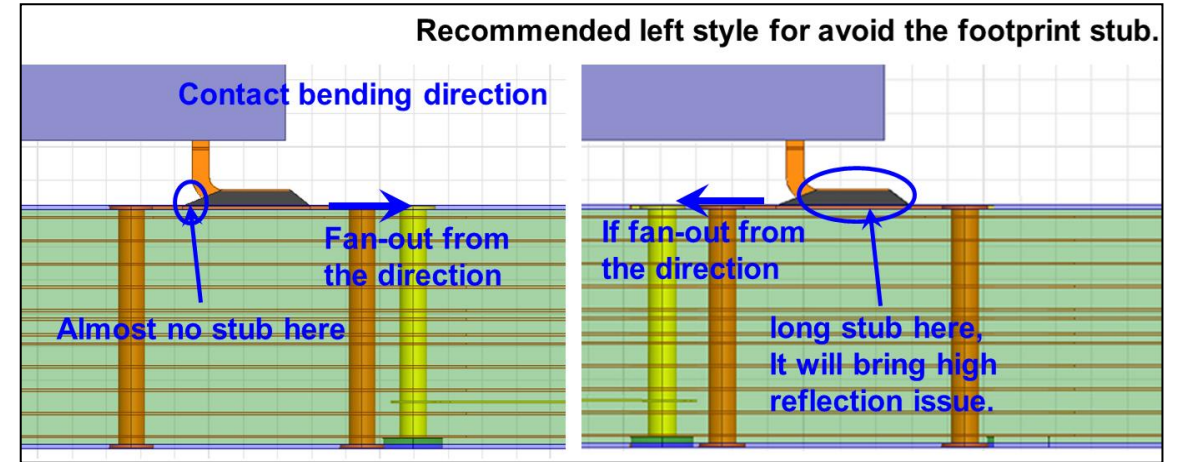
- Up to 19.5% savings on PCB Keep-out area
- A variety of contact types are available, “JJ” and “ll” to support different customer soldering requirements
- Support X8, X16 standard links as per PCI-SIG CEM specification
- RoHS compliant and low-halogen material.



Benefits of Flip CEM Connector

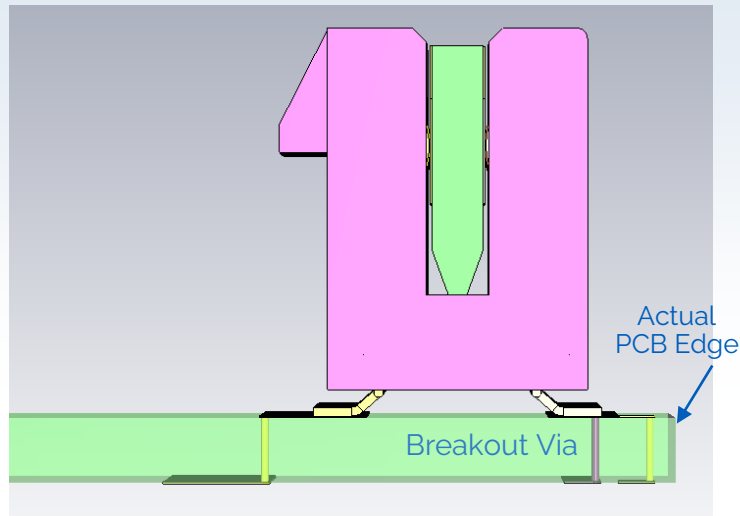


When the PCB space is limited, particularly the connector footprint close to the PCB edge, the Flip connector offers benefits on both SI and breakout routing.



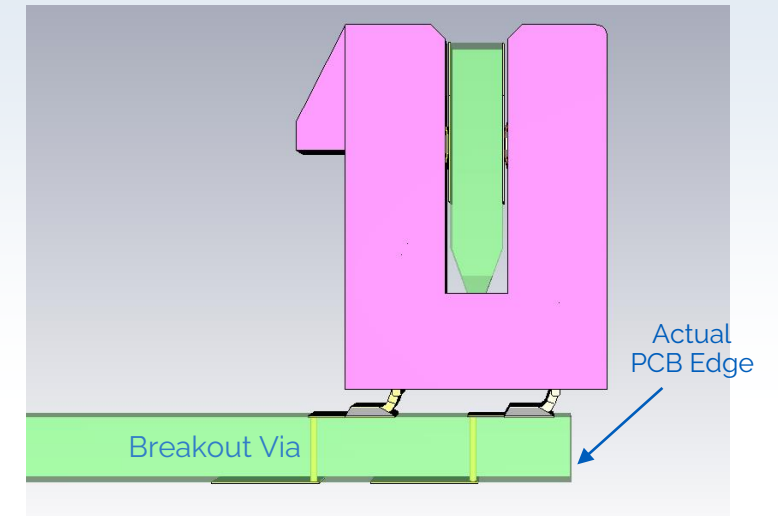
Standard CEM

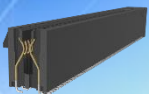
Standard CEM requires additional space for breakout outside the footprint or uses VIPP design, which increases cost.



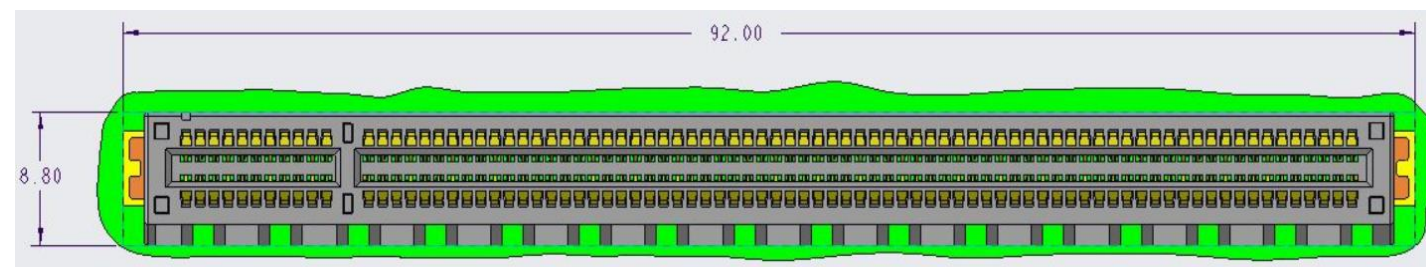
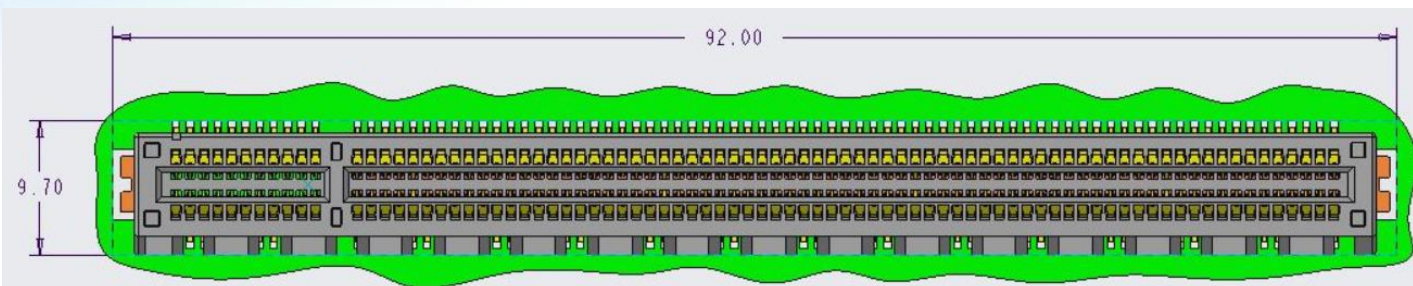
Flip CEM

Flip CEM breakout is inside the footprint and does not require additional space.



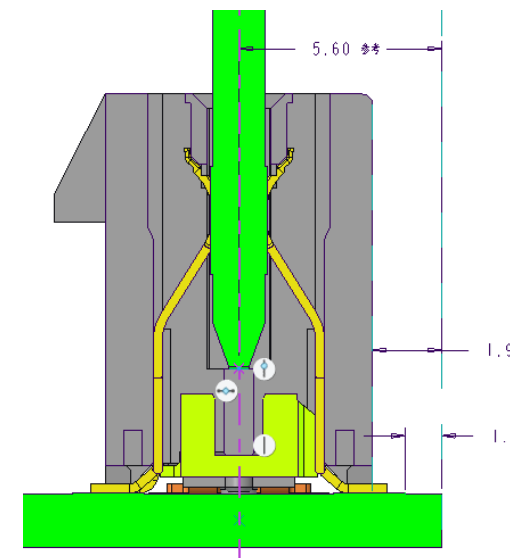


Flip CEM Connector

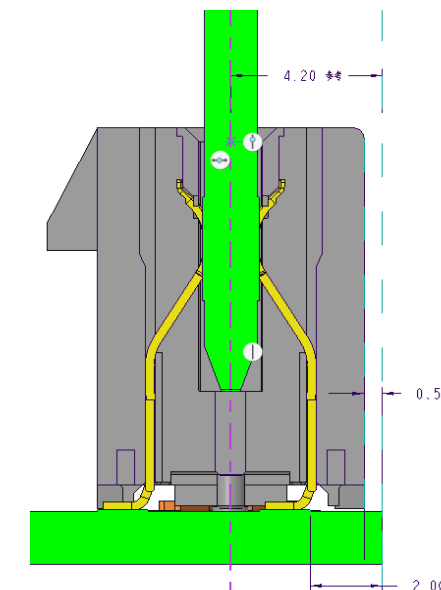


In PCIe® Gen 5 systems, the motherboard space or riser card space is limited, Flip CEM connector was initiated to address CB routing layout limitation on the card edge, and to make the contact from “J,L” to “J,J” & “L,L”, resulting in 9.2% savings on keep-out area. Removing the ridges from the Flip CEM, the savings on keep-out area is 19.5%.

Mating AIC will still follow PCIE CEM.



Standard CEM

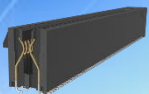


Flip CEM

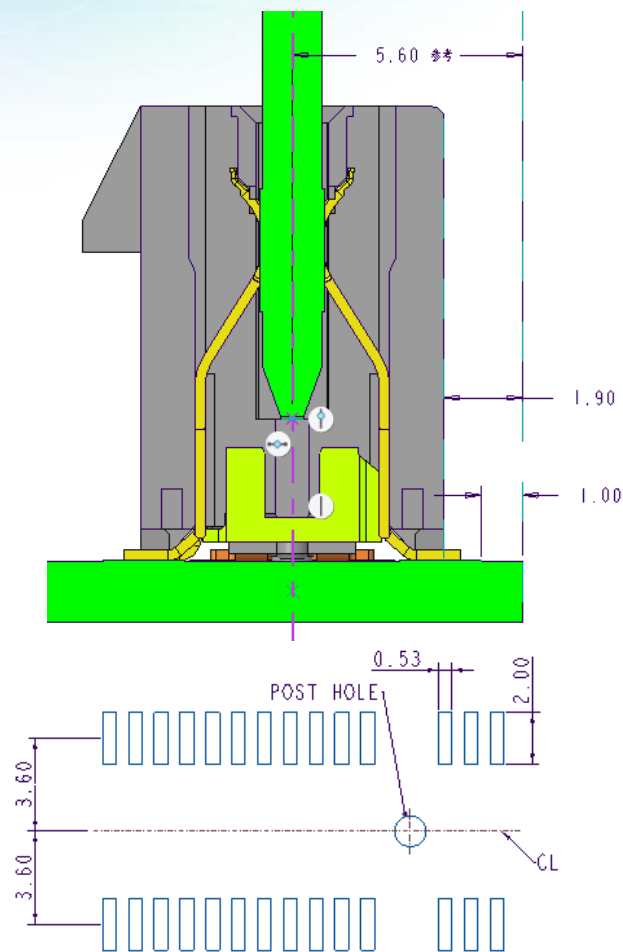
Standard Type

Flip Type

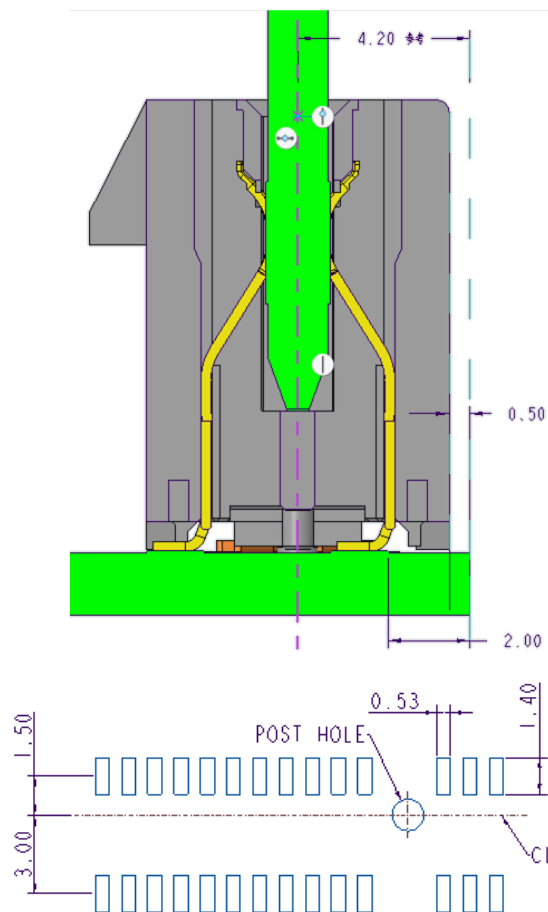
Solder Pad to PCB Edge	Connector Housing to PCB Edge	CL of AIC to PCB Edge
1.00mm	1.90mm	5.60mm
2.00mm	0.50mm	4.20mm



Footprint Difference



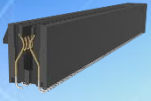
Standard CEM



Flip CEM

	Standard CEM	Flip CEM
Solder Pad to PCB Edge	1.00	2.00
Conn. Housing to PCB Edge	1.90	0.50
CL of AIC to PCB Edge	5.60	4.20
Solder Pad Size	0.53 x 2.00	0.53 x 1.40
Solder Pad to Center Line	3.60 / 3.60	1.50 / 3.00

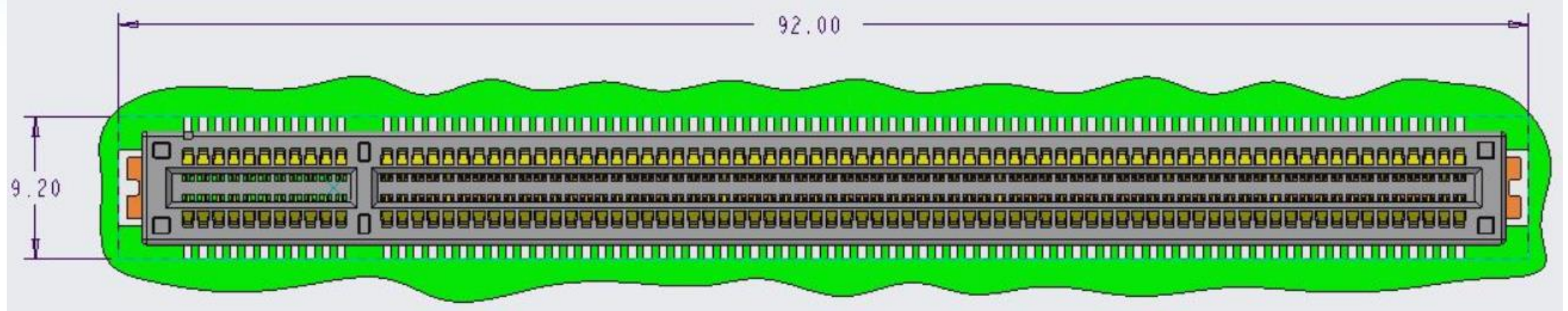
Unit: mm



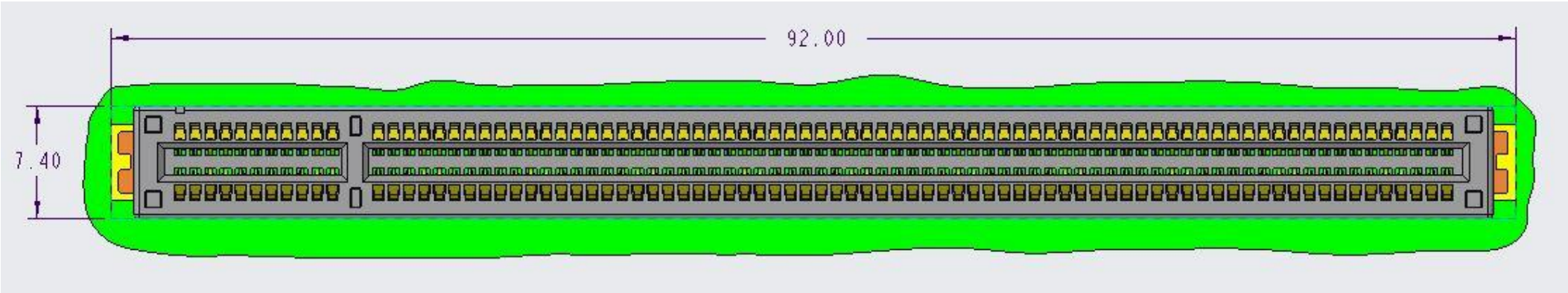
Keep Out Area Difference (without Ridge)

Achieve 19.5% savings on keep-out area with Flip CEM without ridge

Standard CEM
Without Ridge



Flip CEM
Without Ridge



Thank You

For more information visit:

<https://www.amphenol-cs.com/product-series/pci-express-flip-cem-card-edge.html>



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