



*NextGIn*

Connection to the Next Level

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Study Airmax connector and VeCS  
*Fan-out and shielding of Airmax connector*

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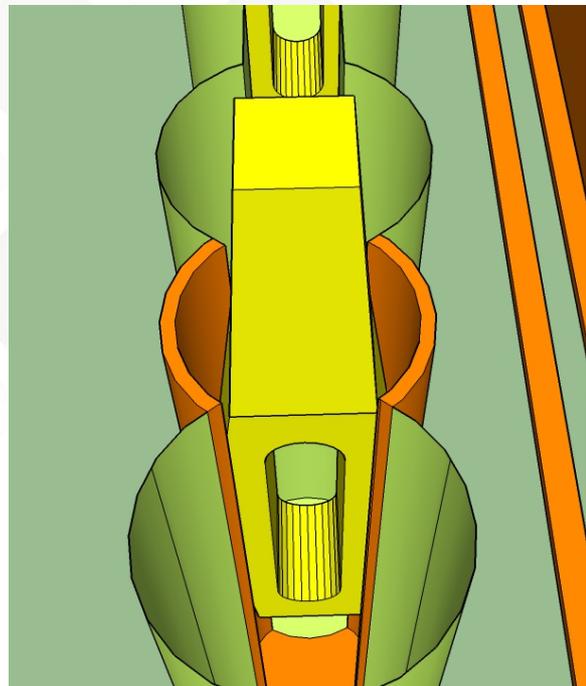
*This document is confidential as is its content and it needs to be handled as such.*

The objective of this document is to demonstrate the use of VeCS technology in fanning out from a popular high speed connector and shielding the signals from the connector holes. The connector type is the Amphenol/FCI Airmax and the data-sheets are shown in appendix 1.

From a fan-out perspective there is plenty of space in the routing channel. Therefore we do not split the slot in two parts but keep it one potential for placing the pressfit connector. In the image below we show a traditional VeCS slot where we use a round routed part of the slot. The process flow is not changed.

1. Create slot with receiving positions for the press fit pin, 2 half round shapes will be the receiving positions for the pin.
2. Plate slot
3. Remove the plating by drilling or routing. We do not remove the copper in the bottom side of the slot.
4. Finish board

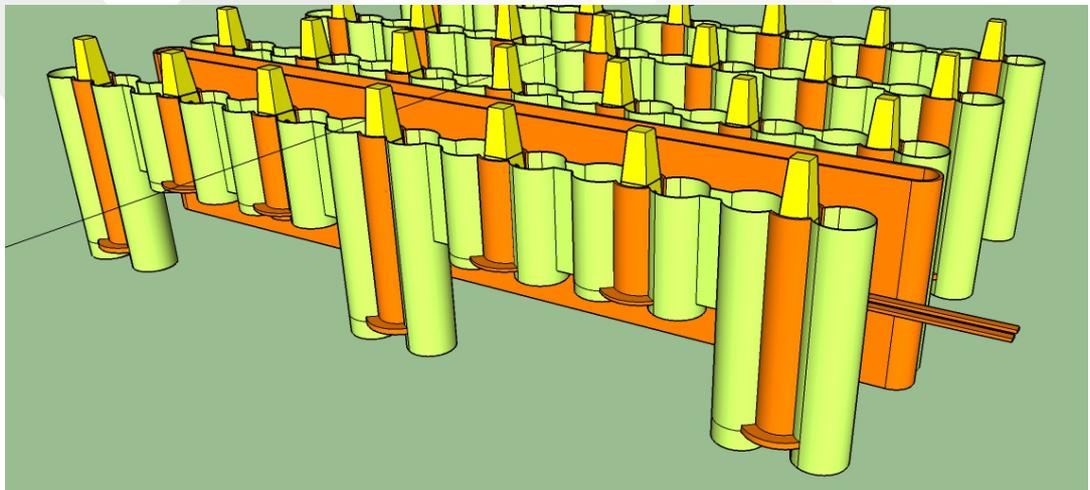
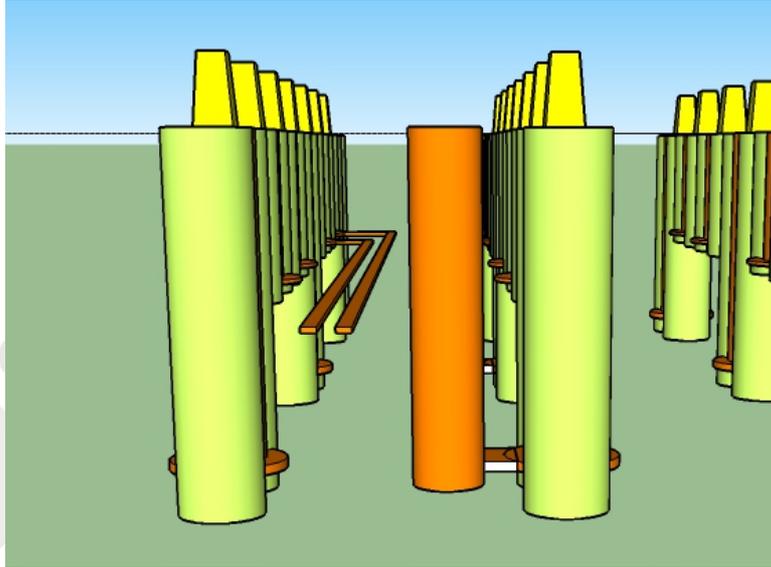
The image is showing a needle type pin but it can be any other pin that has the compressing sides on opposite sides and on two sides of the pin. The pin should be oriented such that it lines up with the compression zones of the pin.

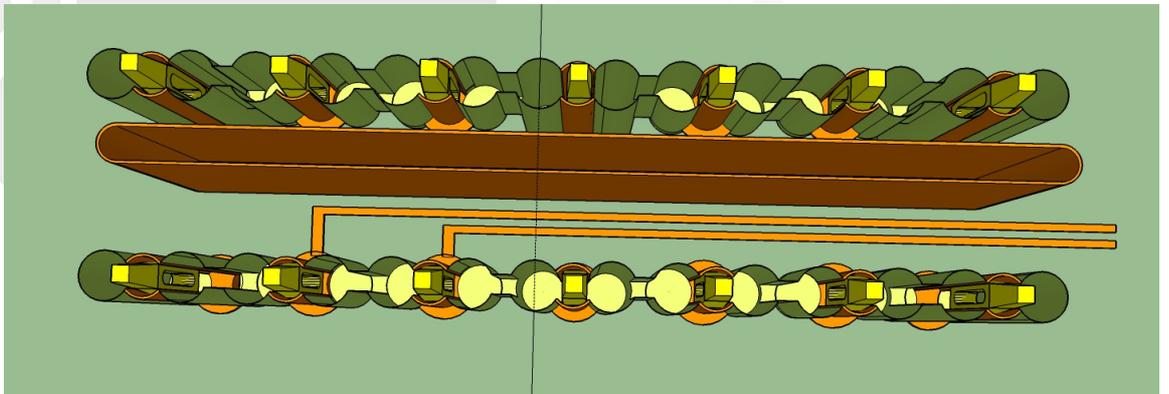
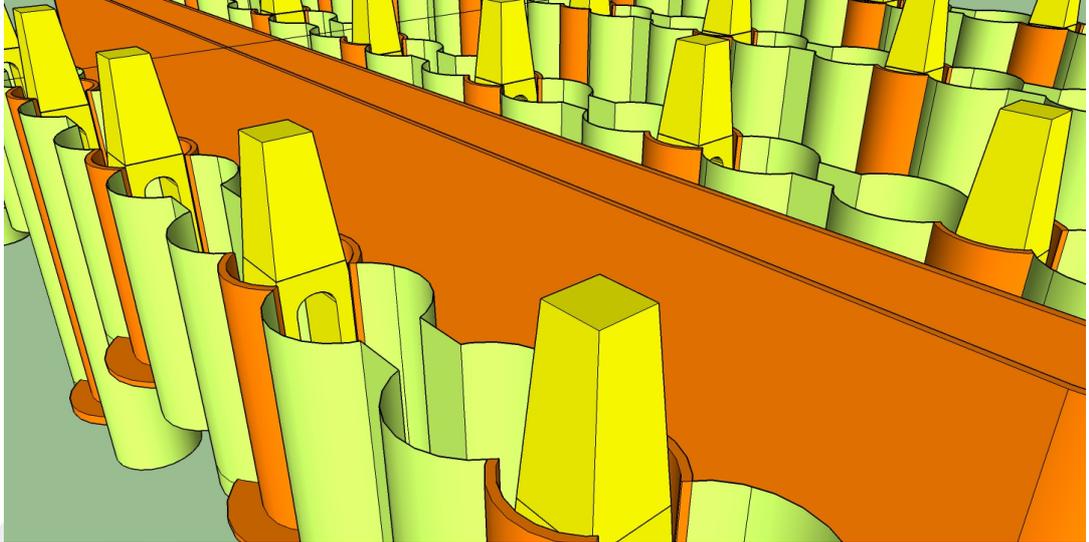


Typically these high-speed connectors have the signal pins back drilled. In this note we propose to use a blind slot to the required depth. The pin length for this connector is shorter for the signal positions in comparison to the GND references. This means that a pin length of 1,25mm determines the depth of the slot. This means that all signal layers connecting to the connector need to be below 1,25mm. The GND pins we want to go deep into the board connecting up all GND/reference layers. For the most advanced board with thickness over 3mm it should not directly be a

problem. If it would be a problem then the slot can be opened from the bottom side (back drilling/routing).

Shielding of signal to the opposite slot.





## Appendix 1. Specifications Airmax connector

