

SNAPSHOT[®]

EMI SHIELD

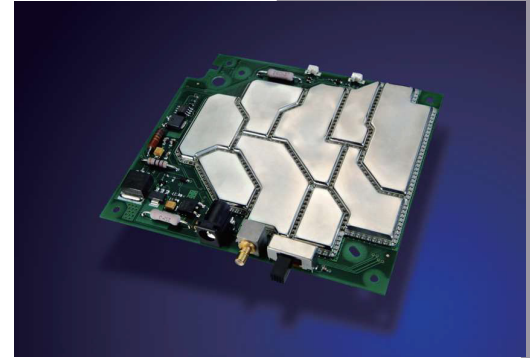
APPLICATION OVERVIEW

As high speed data bandwidth consumption has grown, delivery of video and telephony services has converged over internet protocol networks. To support this market need, network operators require more advanced broadband routers. Using a Converged Cable Access Platform (CCAP) architecture, these devices reduce the rack space required, power consumption, and heat generated, while dramatically increasing data capacity. The circuit boards that drive these devices are expensive, densely packed, and contain multiple multi-core processors and SDRAM chips.

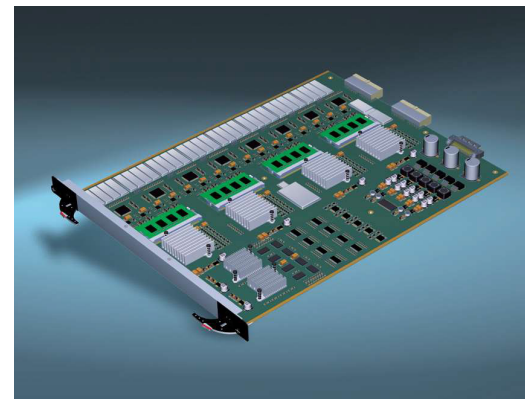
As clock speeds and densities increased, the need for higher signal to noise ratios drove the need for EMI shielding on transceiver and clock components. Given the density of components and the frequent need for inspection and rework after reflow, traditional frame and lid EMI shielding solutions were not satisfactory.

THE XGR TECHNOLOGIES SOLUTION

Multiple-cavity XGRTM SnapShot[®] EMI Shields were selected to provide cross talk protection for a bank of transceiver chips. Complex geometry XGR SnapShot EMI Shields were designed to isolate clock components to preserve signal integrity. All shields were easily attached without the need for soldering using XGR Technologies patented solder sphere attachment mechanism after the reflow step simplifying inspection and rework of the board. Reworking a board after the shields were attached was also extremely easy, since the shields could be quickly and easily removed by hand to access the components under the shield and new shields could be attached without damaging the components or the board.



XGR SnapShot EMI Shields are a multi-cavity, board-level EMI shielding solution.



Broadband Router PCB Application: XGR SnapShot EMI Shields achieve multi-cavity EMI shielding on one trace increasing component density combined with easy installation after reflow.

SUMMARY

Challenges	XGR SnapShot EMI Shields Values
Need for high density, multi-cavity EMI shielding	Multi-cavity shielding with two cavities on one trace increases component density. The inside of XGR SnapShot EMI Shields is non-conductive, which eliminates the component offset requirement.
Difficulty inspecting components underneath EMI shields	XGR SnapShot EMI Shields are installed after reflow, simplifying the electrical inspection and enabling automated optical inspection of the board and its components.
Difficulty removing and reinstalling EMI lids with sharp metal edges	XGR SnapShot EMI Shields can be removed with a pair of tweezers and easily installed with a patented snap-fit mechanism between the shield and the board.
Removal of shields during rework may damage the printed circuit board	XGR SnapShot EMI Shields can be removed with a pair of tweezers with no damage to the PCB.

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In November 2018 XGR Technologies acquired the SnapShot EMI Shielding business and assets from W.L. Gore & Associates. XGR manufactures SnapShot shields on the same equipment with the same people that made the SnapShot shields for W.L. Gore & Associates. XGR Technologies was founded and is run by one of the SnapShot patent holders.

*This testing was done by W.L. Gore & Associates prior to the asset transfer to XGR Technologies.

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