Mark Harris

BUSINESS DIRECTOR

Motorola

1998 - 2002

Technical Group Leader

> *"I can highly recommend Mark for his professionalism, detailed working style and commitment to getting the job done."*
>
> ***Andy Cook, Managing Director, FFEI***

Challenge

Development of the electronics unit in BMW's new Mini was creating seemingly insurmountable heat management issues for Motorola. The more usual route of heat management by convection had been ruled out by BMW engineers, who wanted to cover the unit in the footwell of the car. As head of the thermal and packaging team, Mark needed to devise a solution which would allow heat to escape more efficiently and also minimise the space required for electronics.

Strategy

Although told categorically that it would not be possible to provide a means of heat conduction from the electronics unit through two screw mountings in the car's footwell, Mark set out to prove that it could indeed be achieved. Using thermal modelling and working closely with the BMW manufacturing team, Mark was successful in proving that the real world unit could be fitted to the metal work of the vehicle with excess heat adequately managed through conduction, even with an imperfect mounting.

Outcome

The BMW manufacturing team was able to go ahead with scheduled plans for the location of the electronics unit. Mark's new thermal management solution delivered a six-fold increase in dissipated heat, and 50% reduction in space required for electronics, with cost remaining unaffected.

50%

Less required electronics space

6x

Increased heat dissipation

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