Small Size, Low Profile | Low Weight | Adjustable Output | Conduction Cooling

Sat Com Voice and Data Communications

Power Density Facilitates Upgrade

The Customer's Challenge

The ability to offer passengers reliable phone and high speed internet access in flight continues to be a differentiator for many airlines. This airline operator was looking to enhance their services to improve the passenger's in-flight experience still further. As space onboard the aircraft was limited the upgraded transmitter had to provide faster data rates and increased transmitter power, yet fit within the existing form factor, ideally with less weight. In order to maximize power amplifier efficiency the supply output needed to be adjustable and the system's 28V input was required to meet DO 160 transient standards.



The Solution

The MIL COTS DCM DC-DC converter module selected provided a 48V, 320W output from a wide (16 – 50V) input.

Link to Whiteboard »



The Results

The DCM provided a high power density (39 x 23 x 7.26 mm) with a low weight (24 grams) solution. Further weight was saved through a reduction in the size of the cooling system as the DCM offered more effective dual-sided cooling and improved efficiency over the previous solution. The wide output voltage adjustability (28-53V) allowed further optimization of the efficiency of the power amplifier.

Product Family Key Specifications	
DCM™ DC-DC Converter Module	
Input Voltages	9 – 50V_{DC}, 16 – 50V_{DC}, 18 – 36V_{DC}, 36 – 75V_{DC}, 120 – 420V_{DC}, 160 – 420V_{DC}, 200 – 420V_{DC}
Output Voltages	5V, 12V, 13.8V, 15V, 24V, 28V, 36V, 48V
Output Power	4623 ChiP: Up to 600W 3623 ChiP: Up to 320W 3714 VIA: Up to 600W 3414 VIA: Up to 320W
Efficiency	Up to 93%
Dimensions	4623 ChiP: 47.91 x 22.8 x 7.26 mm 3623 ChiP: 38.72 x 22.8 x 7.26 mm 3714 VIA: 95.3 x 35.6 x 9.4 mm 3414 VIA: 85.9 x 35.6 x 9.4 mm

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