

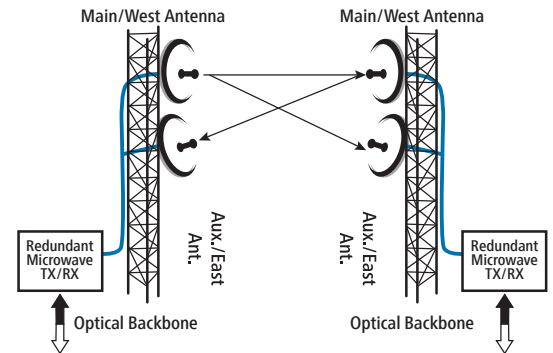


Unique Paralleling Capability For 100% Reliability

The Customer's Challenge

A customer was struggling to find a flexible way of powering a new series of LTE 4G microwave backhaul systems they were developing, which would be capable of scaling to operate effectively across a variety of distances of communication link. As these systems must maintain communications links in all scenarios with 100% up time – in other words, they must never fail – the power solution needed to provide more power in the same card width, as well as incorporate redundancy and a hot-swap capability.

The severe card height constraints limited the space available for heat sinking and meant that every watt of power dissipation had a greater than usual impact on system reliability.



The Solution

Six DCM DC-DC Converters were used in an array to generate the required 1.8 kW. At a height of just 7.26 mm, and with more than twice the power density of conventional DC-DC converters, the total solution was provided in a footprint of just 52.97 cm².

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The Results

With its high frequency zero-voltage switching (ZVS) topology, the DCM converter consistently delivers high efficiency across the input line range, with the resulting reduction in temperature of the converter improving reliability and providing excellent MTBF.

DCMs have a unique design, allowing up to eight devices to be connected in parallel, acting like a single high output current DCM, and with no need to derate the outputs. With a variety of input and output voltage options available, the solution was easy to scale for the different power levels required for the various communication links distances (up to 3.6kW with the six DCMs), without a change in design, or increasing the space needed for the power. The DCM arrays are similarly easy to configure for responsive and reliable redundant supplies.

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
Efficiency	Up to 93%
Dimensions	4623 ChiP: 47.91 x 22.8 x 7.26mm 3623 ChiP: 38.72 x 22.8 x 7.26mm