

Half-Brick DC-DC Converter Delivers 1300 W And 28 V For Powering RF PAs

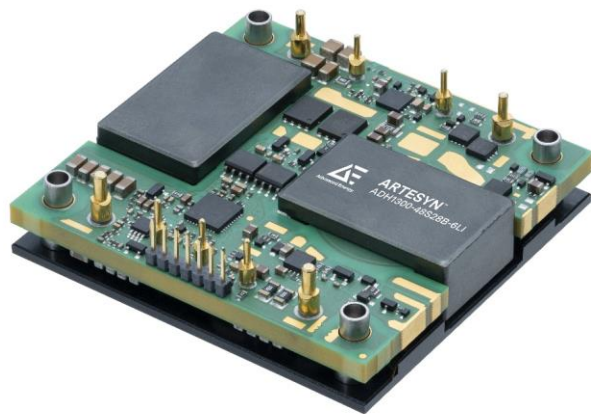
[Advanced Energy](#)'s Artesyn ADH1300-48S28 is described as an ultra-efficient and highly reliable dc-dc converter that delivers 1300 W at 28-V output in an industry-standard half-brick form factor (2.40 in. x 2.28 in.) According to the vendor, this converter significantly reduces energy consumption while offering integrated remote digital control capabilities. See the figure.

The converter is designed for telecom wireless base stations and other equipment that have RF power amplifiers (RFPAs). The converter has an industry-leading efficiency of nearly 96% at full load, says the company. In addition, its thermal design is well suited for Ingress Protection (IP)-sealed enclosures such as remote radio head (RRH) equipment that require contact-cooled devices. A PMBus interface enables remote configuration, monitoring and control, reducing maintenance costs.

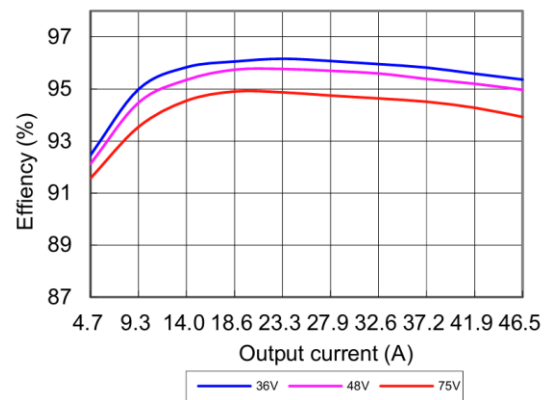
"RF power amplifiers, the highest energy-consuming part of base stations, need the highest available efficiency during all operations," said Joe Voyles, Advanced Energy's vice president of Industrial Power Conversion Products. "As power demands increase, Advanced Energy's compact half-brick ADH1300-48S28 converters deliver more power with greater efficiency without increasing the form factor. This enables more compact designs, helps ensure uninterrupted network coverage for operators and can lower operating costs—essentially helping to future-proof RFPA applications."

The ADH1300-48S28 provides a wide range of voltage adjustments to give designers the flexibility to tune performance to their target applications. In addition, the module incorporates protection against overvoltage, overcurrent and short-circuit conditions.

For more information on ADH1300-48S28, see the ADH1300 product [page](#).



(a)



(b)

Figure. With nearly 96% efficiency at full load, the ADH1300-48S28 high-performance isolated dc-dc converter delivers lower OpEx for RF power amplifiers in telecom wireless base stations, according to the vendor. Shown here are a photo of a unit (a) and a graph of its efficiency versus load (b).