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Rad-Hard DC-DC Converter Is Tailored For Noise-Sensitive RF Applications

From VPT, a HEICO company, the SLNP17-100CQ is the company's first dc-dc power supply with extremely quiet and low noise outputs (<0.25 mV), designed specifically for noise-sensitive RF space applications. Through a multi-stage approach, this converter demonstrates an exceptional rejection of noise for both conducted emissions and conducted susceptibility (90-dB rejection).

This quad-output solution equipped with an integrated EMI filter, delivers up to 17 W of power and is highly configurable with four outputs: +5 V to +8 V, +5 V to +8 V, +12 V, and -6 V to -5 V. With eleven configurable options, the SLNP17-100CQ was designed with customization at top of mind and is optimal for RF space applications that demand precision and reliability.

Built to withstand harsh radiation environments, the SLNP17-100CQ is well suited for the most demanding commercial, scientific, and military space applications, according to the vendor. As a space-qualified product, the SLNP17-100CQ guarantees TID performance to 100 krad(Si) and SEE performance to 85 MeV/mg/cm^2. Ruggedized for long-term space applications—this power supply is well suited for GEO orbit missions and designed to meet most 100-V bus specifications. The converter measures 3.356 x 2.805 x 0.622 and has a max weight of 116 g (see Fig. 1).

"The SLNP17-100CQ was designed from the very beginning to provide extremely low-noise outputs for sensitive RF applications," VPT's Space Product Development manager, Kevin Seaton, said, "while being highly configurable using only a single qualified PCB to meet most spacecraft bus and loading needs."

The SLNP17-100CQ is available for immediate sale. Sales are subject to all applicable U.S. export license restrictions and regulations. For more information see the SLNP17-100CQ DC-DC Converter page. Adding information can be obtained by contacting a local VPT distributor.

Fig.1. The SLNP17-100CQ is an extremely low noise, quad-output 17 -W dc-dc converter designed for RF space applications. It was built to withstand the harsh radiation environments encountered in demanding commercial, scientific, and military space systems. Performance is guaranteed through the use of radiation lot acceptance tested (RLAT) components. Thanks to a multi-stage approach, the SLNP achieves an exceptional rejection of noise for both conducted emissions (see Fig. 2) and conducted susceptibility.

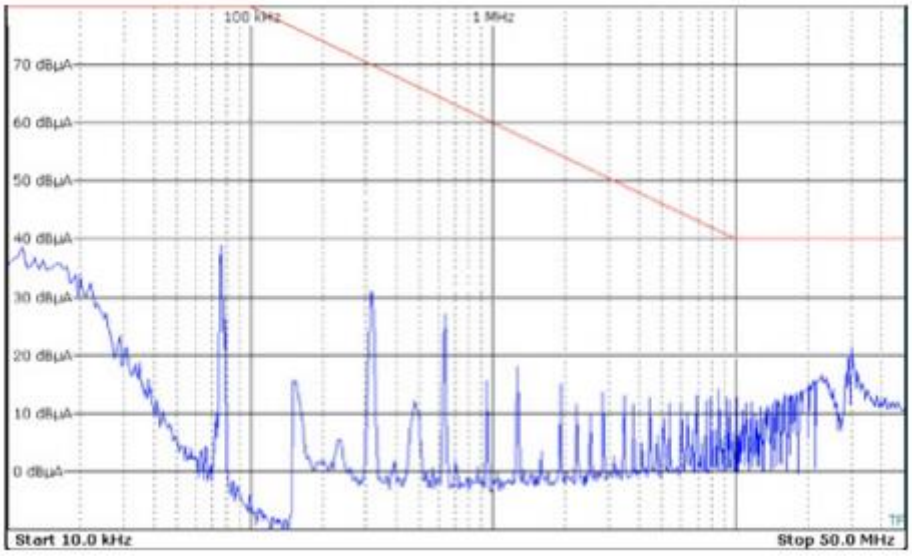

Fig. 2. Conducted emissions for the SLNP17-100CQ, measured according to the MIL-STD-462 setup.