High Isolation, Carrier-Grade Wi-Fi Switch

Peregrine Semiconductor has developed one of the highest performance carrier-grade Wi-Fi switches on the market. With the very high isolation, Peregrine’s switch also sets a high bar in linearity, which makes it ideally suited for the fast-growing market of 802.11ac Wi-Fi access points. Based on Peregrine’s UltraCMOS® technology, the PE42423 is the first in its class to offer 41 dB of port-to-port isolation at 6 GHz. This best-in-class isolation enables multi-radio access points to perform at peak levels without interference between the radios. Exceeding the stringent 802.11ac standard, Peregrine’s switch also offers 65 dBm of linearity to achieve higher data rates. In addition, UltraCMOS technology delivers equally high performance at either 3.3 or 5 V, unlike GaAs switches that experience performance degradation below 5 V. Peregrine’s switch gives networking-product designers the flexibility to operate at lower power supplies and reduce energy consumption.

Peregrine’s PE42423 is a single-pole double throw (SPDT) RF switch featuring low insertion loss (0.8 dB at 2.4 GHz, 0.95 dB at 5.8 GHz), fast switching time (500 ns) and high ESD ratings (3.0 kV HBM on all RF pins). It operates over a wide frequency range from 100 MHz to 6 GHz and supports 802.11 a/b/g/n/ac. In addition, it has high power handling of 47 dB at 2.4 GHz and 43 dB at 6 GHz. The switch supports +1.8 V standard logic control. It provides stable RF performance over a power supply range between 2.3 and 5.5 V. The packaging is RoHS compliant, 16-lead QFN and measures 3 x 3 mm. Peregrine is committed to meeting the Wi-Fi data-rate and capacity demands of the future, and it is already helping networking vendors achieve unprecedented performance using this switch in their Gigabit Wi-Fi access points.


Space Saving Components

Aeroflex / Weinschel is a leading manufacturer of high power attenuators and terminations, covering 25 to 1000 W. Although these are good as free standing units for a lab environment, they are not suitable for system integration with package density constraints. To meet that demand, Aeroflex / Weinschel has introduced a new series of slim, low profile (flat pack) conduction cooled coaxial fixed attenuators and terminations to be utilized by cellular carriers and defense integrators who find the need to deploy broadband high power, high performance RF components needed at a system level.

Aeroflex / Weinschel’s newer flat pack design provides the end user the capability to design smaller form factor solutions for tightly confined telephone closets, cable end heads, DAS cellular repeater stations and tactical RF transmission systems. Optimized for use in the most common communications bands, these new designs offer DC to 6 GHz frequency range coverage in 50, 100, 250, 400 and 550 W average power handling and 10 kW peak, conduction cooled configurations with a choice of Type N or SMK (2.92mm) male or female connector options. Attenuators are available in values of 6, 10, 20, 30 and 40 dB.

Other key features include:
- Low IM distortion option
- Precision connectors with high temperature support beads
- Designed to meet the environmental requirements of MIL-DTL-3933
- Rugged construction
- Custom configurations available.

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