

# New Power Amplifiers With On-Chip Power Detection Enable Wider Range In WLAN Systems

March 7 2005

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SST Communications, a developer of RF integrated circuits for a wide range of wireless and multimedia applications, and a subsidiary of SST, a leader in flash memory technology, today announced two new power amplifiers for 802.11a and 802.11b/g [WLAN](#) systems. The products offer the industry's highest linear output power, up to 3 dB higher than competing products in a wide operating temperature range of -40C to +85C, to enable WLAN systems with wider transmission range and higher sustained data rates. The devices' ultra-wide dynamic range and on-chip temperature-stable power detector allows system designers to optimize the transmitter output power for each individual user, thereby minimizing the adjacent channel interference and achieving maximum capacity. The power amplifiers are targeted at WLAN equipment including PCMCIA, MiniPCI and [USB](#) cards, as well as wireless access points.

“The performance breakthroughs offered by our new power amplifier products are an ideal way for our WLAN customers to gain a competitive advantage in the marketplace,” said Frank Chang, vice chairman and CTO, SST Communications. “Testing has shown that our new power amplifiers enable up to a 40 percent increase in range when compared to alternative offerings. Additionally, by integrating the power detector on-chip, we enable our customers to realize significant savings in BOM costs. Our experience in working with the leading WLAN baseband and RF transceiver providers has allowed us to design our

power amplifiers with the full system considerations in mind.”

For maximum output power performance, SST Communications offers the SST12LP15 power amplifier for 802.11b/g systems, and the SST11LP12 power amplifier, which supports the entire 802.11a frequency band for U.S., European and Japanese markets (4.9-5.8 GHz). Specifically, key features include:

## **SST12LP15**

- 35 dB gain (typical) with 26 percent power-added efficiency at 24 dBm output power for 802.11g, and 29 percent power-added efficiency at 25 dBm for 802.11b systems
- Excellent linearity of approximately 4 percent added EVM (error vector magnitude) at 24 dBm output power, which is essential for 54 Mbps 802.11g operation while meeting the standard's spectrum mask up to +25 dBm
- On-chip power detection range of >25 dB (from 0-25 dBm), with superior temperature stability of +/-0.5 dB over 80°C

## **SST11LP12**

- 35 dB gain (typical) with 16 percent power-added efficiency at an output power of 23 dBm for 802.11a (covering the complete 4.9-5.8 GHz frequency range)
- Linearity of approximately 4 percent-added EVM at 21 dBm output power and meeting the 802.11a spectrum mask up to +23 dBm
- On-chip power detection range of >23 dB (0-23 dBm), with superior temperature stability of +/-0.5 dB over 0°C to 85°C

Both devices feature single-ended/differential power detectors, which lower users' power control cost.

SST Communications' power amplifiers are manufactured using a reliable InGaP/GaAs HBT technology, with tested MTTF exceeding  $6 \times 10^8$  hours at  $100^\circ\text{C}$ . The company has supplied power amplifiers to leading WLAN system vendors who adopt WLAN transceiver solutions from companies including Atheros and Broadcom.

## Pricing and Availability

The SST12LP15 and SST11LP12 are available now in production quantities. Pricing for the devices is \$0.72 for the SST12LP15 and \$1.21 for the SST11LP12, each, in 10K unit quantities. Both devices are offered in a 16-pin VQFN package.

Citation: New Power Amplifiers With On-Chip Power Detection Enable Wider Range In WLAN Systems (2005, March 7) retrieved 23 April 2024 from <https://phys.org/news/2005-03-power-amplifiers-on-chip-enable-wider.html>

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