K-PA Inc. to Showcase High-Efficiency X-Band GaN MMIC Power Amplifiers and Integrated Single-Chip FEM Solutions at IMS 2026

Specialized Korean RF semiconductor company highlights revolutionary single-chip Front-End Module alongside mass-production portfolios and custom design scalability.

BOSTON, June 2026 – K-PA Inc. (Korea Power Amplifier Innovator), a specialized RF semiconductor company, today announced its participation at the International Microwave Symposium (IMS 2026) in Boston. Exhibiting at **Booth #24016**, K-PA will introduce its latest X-band Gallium Nitride (GaN) Monolithic Microwave Integrated Circuit (MMIC) portfolio, headlined by its **revolutionary integrated single-chip Front-End Module (FEM)** designed to redefine active electronically scanned array (AESA) radar architectures.

Alongside this breakthrough innovation, K-PA will showcase its **fully production-ready high-power amplifiers (HPAs)** and introduce its official **Custom GaN MMIC Design Service**, offering global defense and aerospace OEMs a unique combination of cutting-edge tech, secure volume supply, and flexible tailoring.

The Headliner: KX-FEM-1-3 Single-Chip Radar Front-End

To support the industry's migration toward active electronically scanned array (AESA) and highly compact radar architectures, K-PA is highlighting the KX-FEM-1-3. This fully integrated, single-chip X-band Front-End Module GaN MMIC spans the 8.0 to 11.5 GHz range, integrating an SPDT switch, LNA, and PA networks into a single compact die:

- **Receiver (RX) Performance:** Features a 2.2 dB Noise Figure (NF) and a small-signal gain of 25 dB.
- **Transmitter (TX) Performance:** Delivers 38 to 41 dBm of output power with 28 dB small-signal gain and a high 37% to 43% PAE under pulsed operation.
- **Integration Advantage:** Measuring just 2.9 × 2.2 mm, this single-chip solution eliminates complex sub-system routing losses, reduces overall bill-of-materials (BOM), and ensures repeatable performance in high-density configurations.

Proven Mass Production & Flexible Custom Scalability

Supporting this technical innovation is K-PA's established commercial credibility. Unlike early-stage design houses, K-PA delivers field-proven reliability with dual-track product availability:

- **Mass Production Ready (Available for Immediate Volume Orders):**
    - **KX1-3046 (30W High-Power HPA):** Operating from 8.0 to 10.5 GHz, delivering >30W saturated output power with over 46% power-added efficiency (PAE). With a compact chip size of 2.95 × 3.1 × 0.1 mm, it is currently in active volume production for radar and communication infrastructure.
    - **KX2-2046 (20W Wideband HPA):** Covering 8.0 to 11.5 GHz, providing 20W output power and 46% PAE. . Its compact 2.95 × 1.66 × 0.1 mm die size offers sub-system engineers versatile layout flexibility without sacrificing system-level efficiency. This solution is fully qualified for mass supply.

- **Advanced Engineering Samples (Available for Evaluation):**
    - **KX3-1850 (18W High-Efficiency HPA):** Covering 8.0 to 11.5 GHz, the KX3-1850 achieves up to 50% PAE at a 24V bias, delivering 18W of output power and 28 dB small-signal gain. Designed for thermally constrained architectures, the device is fully optimized for pulsed operations (PW=100µs, DC=10%) within an ultra-compact 2.9 × 1.65 × 0.1 mm footprint.
    - **KX4-4045 (40W High-Power HPA):** Operating from 8.5 to 11.0 GHz, this high-power amplifier delivers more than 40W of saturated output power with over 45% power-added efficiency (PAE). Featuring a compact 2.9 × 3.1 mm die size, it is well suited for high-performance X-band radar and electronic warfare applications.

Recognizing that modern defense systems often require tailored specifications, K-PA is also officially launching its **Custom GaN MMIC Design Service** at IMS 2026. Leveraging its proven production-level IP and deep foundry partnerships, K-PA enables tier-1 integrators to co-develop custom MMICs optimized for specific form factors, frequency variants, and power/efficiency parameters.

Management Commentary

"The defense and aerospace sectors require highly efficient, integrated GaN solutions that can be dropped seamlessly into complex sub-systems without thermal or commercial penalties," said Kiburm (K) Ahn, Managing Director of K-PA Inc. "Our flagship **KX-FEM-1-3 single-chip FEM** is a true game-changer, proving that extreme integration does not require sacrificing power or efficiency. Furthermore, by stabilizing mass production for our 20W and 30W X-band MMICs, K-PA functions as a highly reliable commercial vendor. We are fully equipped to serve the global market as a comprehensive GaN solution provider—delivering revolutionary single-chip FEMs, off-the-shelf production units for immediate scale, and dedicated custom design services to solve our partners' most precise engineering challenges."

Technical Briefings & Sample Availability

K-PA invites regional distributors, defense SI partners, and microwave engineers to visit **Booth #24016** at IMS 2026. Technical datasheets, comprehensive test profiles, and competitive packaging or volume-pricing options will be available for review.

To schedule a technical brief or request advanced sampling, please contact **kpa@k-pa.co.kr**.

About K-PA Inc.

K-PA Inc. (Korea Power Amplifier Innovator) is a specialized RF semiconductor company focused on the development and volume supply of high-power, high-efficiency GaN MMIC solutions for aerospace, defense, and wireless infrastructure applications. Under the corporate banner, "For a safer world, we never stop developing and improving," K-PA delivers cost-effective and practical engineering designs that solve real-world sub-system challenges. For more information, please visit **www.k-pa.co.kr**.

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