
Elite RF LLC Expands High-Power RF Amplifier System Capabilities with Solutions up to 200 kW Across L-Band to X-Band Frequencies

[Elite RF LLC](#), a U.S.-based designer and manufacturer of RF (radio frequency) and microwave amplifiers, expands its **high-power RF power amplifier** design and manufacturing capabilities.

Elite RF will showcase its broad portfolio of RF amplifier modules and systems at **Booth #16025** during **IMS 2026**. The company is among the few U.S.-based manufacturers with the capability to develop RF power systems up to 200 kW and is actively collaborating with defense industry system integrators on high-power system programs.

These developments over the past year have positioned the company at the forefront of advanced RF technology. The new capabilities are designed to meet the increasing demands of 5G infrastructure, radar systems, satellite communications, and electronic warfare applications requiring higher power density, wider bandwidths, and long-term operational reliability.

Advanced RF Engineering for Modern Applications

As RF amplifier systems continue moving toward higher RF power and compact footprint, design for a highly efficient amplifier have introduced critical challenges in design and manufacturing process. Elite RF's latest GaN RF amplifier modules and systems address these market needs through advanced thermal management, precision impedance matching, and optimized RF power combining techniques for stable phase and gain performance.

“Our customers demand both high performance and long-term reliability,” said Deep Patel, COO of [Elite RF LLC](#). “Our new high-power RF systems across UHF/VHF band, L-band, S-band, C-band, and X-band are built on years of real-world RF design experience, enabling reliable operation in demanding environments. **We have successfully delivered systems ranging from 500W to 20kW RF power.**”

Strategic Growth for 2026 and Beyond

The expansion of Elite RF's next-generation GaN RF amplifier platform reflects the company's continued investment in high-power RF innovation, advanced testing infrastructure, and scalable manufacturing capabilities. Elite RF supports OEMs and system integrators with production-ready RF solutions for defense, aerospace, telecom, medical, and industrial applications.

Key Focus Areas for 2026

- Next-generation GaN RF amplifier architectures for high-power applications
- Advanced thermal/current monitoring and optional liquid-cooled systems
- Improved efficiency while maintaining application-specific linearity
- Wideband, low-VSWR impedance matching up to 40 GHz
- Enhanced reliability for continuous high-power operation

Media Contact

Company: [Elite RF LLC](#)

Contact: Deep Patel

Email: sales@eliterf.com

Location: Hanover Park, Illinois, USA