

EVEREST™ AND NAVX™ RF DELIVERY SYSTEM

UNLEASH THE POWER





Ultimate Control of Plasma Characteristics

● AC On
● RF On
● InterLock
● Power Limit
● Over Temp
● Alarm

Advanced
Energy

Max

eVerest™ and NavX™ RF Delivery System

Forming a complete RF delivery system, the eVerest™ RF generator and NavX™ matching network propel process innovation as chips approach Angstrom scale geometries.

Direct generator-match synchronization accelerates tuning speed and enables tuning to multi-level pulse states. A $\pm 10\%$ frequency range provides faster electronic tuning and access to a wider impedance range than previously available. In addition, scalable pulse states open new energy regimes.

BENEFITS

- Ultimate control of plasma characteristics
- Expanded access to new energy regimes
- Increased power stability during pulsing and process transitions
- Unprecedented RF power repeatability run-to-run

FEATURES

- $\pm 10\%$ frequency range
- PowerInsight by Advanced Energy® IoT platform
- Multi-level pulse tuning
- Accelerated internal signal processing
- Frequency tuning

APPLICATIONS

- Etch
- PECVD
- PVD
- Chamber Clean
- HDP-CVD

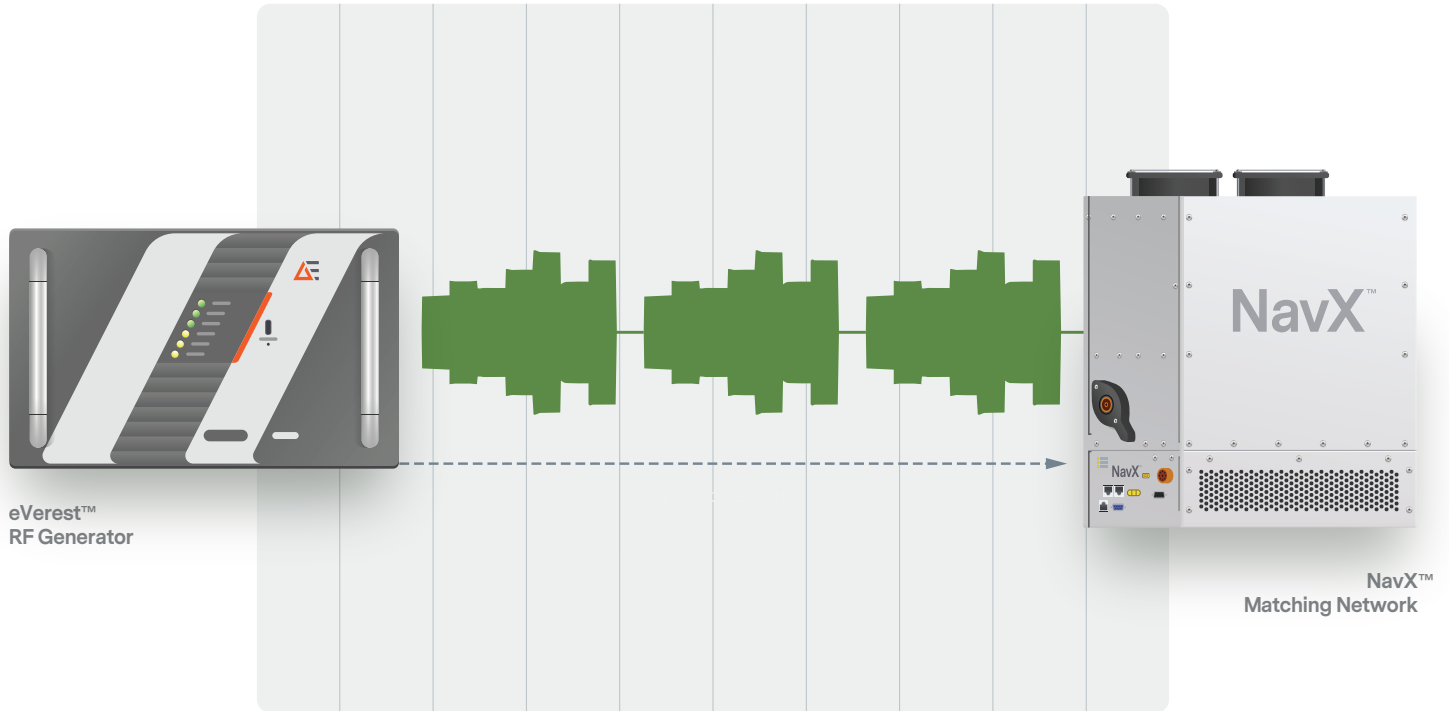
MARKETS

- Semiconductor
- Solar
- Flat Panel Display
- MEMs
- Industrial Coatings

EVEREST™ AND NAVX™ RF DELIVERY SYSTEM

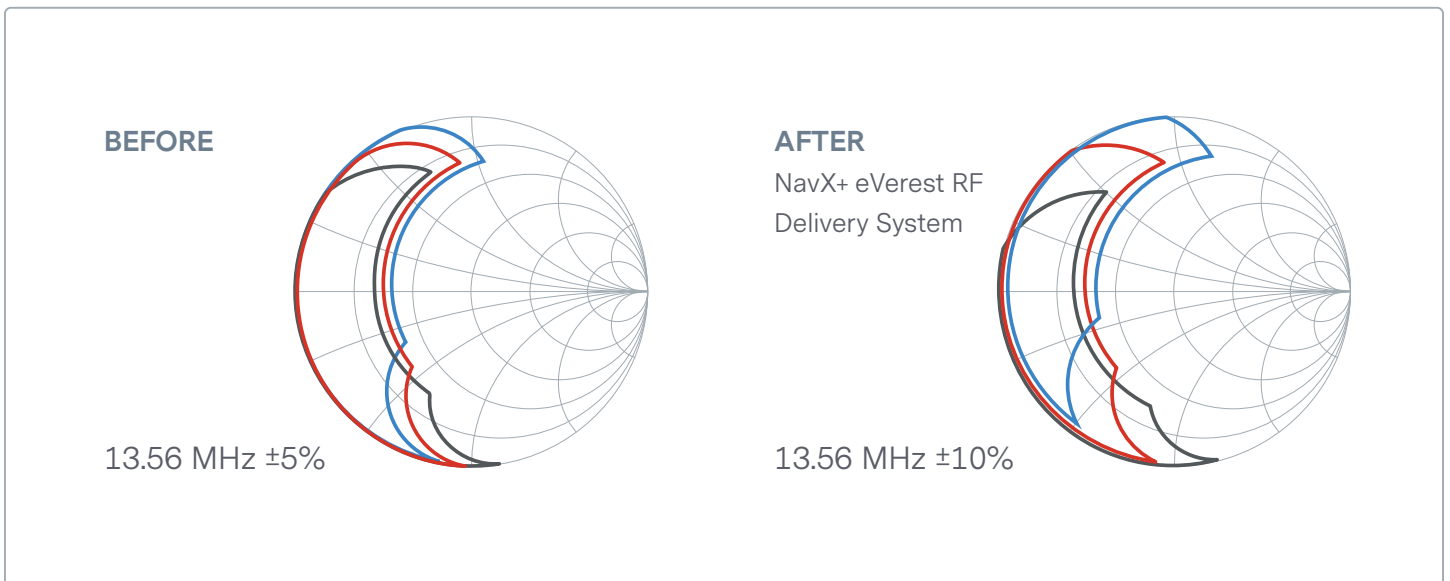
Direct Match-Generator Synchronization

Ultrafast Tuning/Match Response

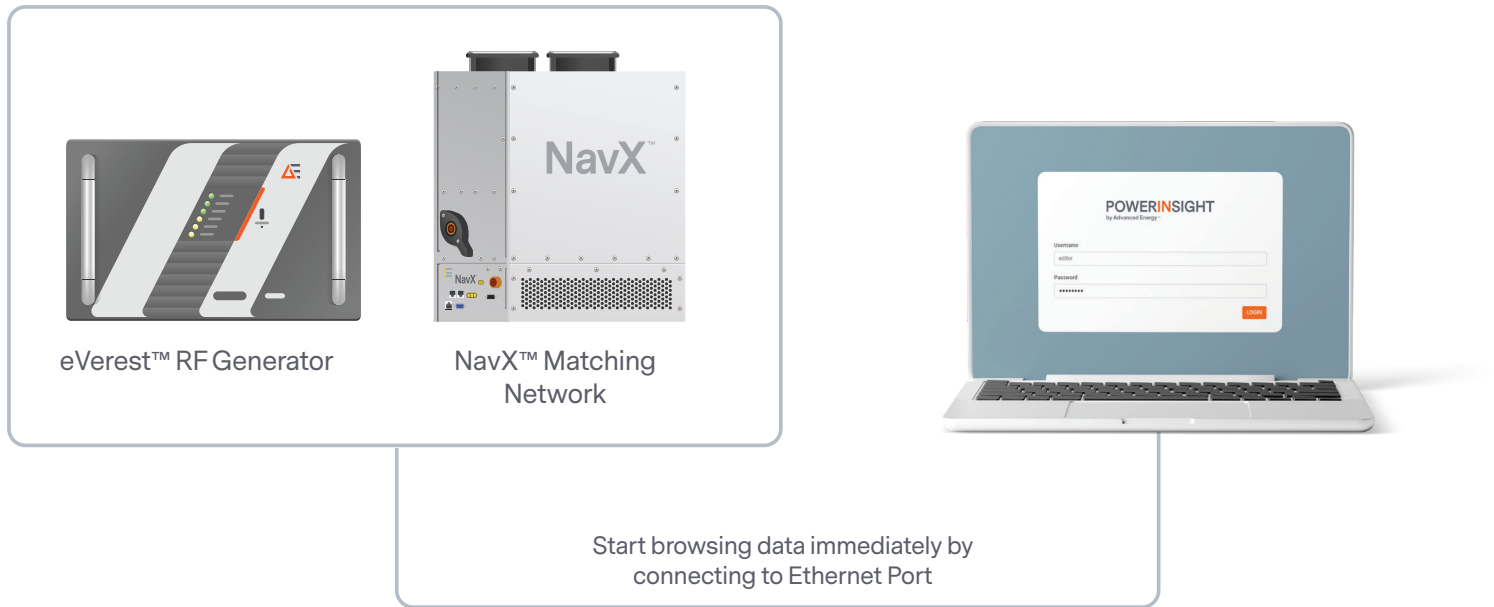


±10% Frequency Range

Expanded Impedance Range



PowerInsight by Advanced Energy® IOT Platform



BENEFITS

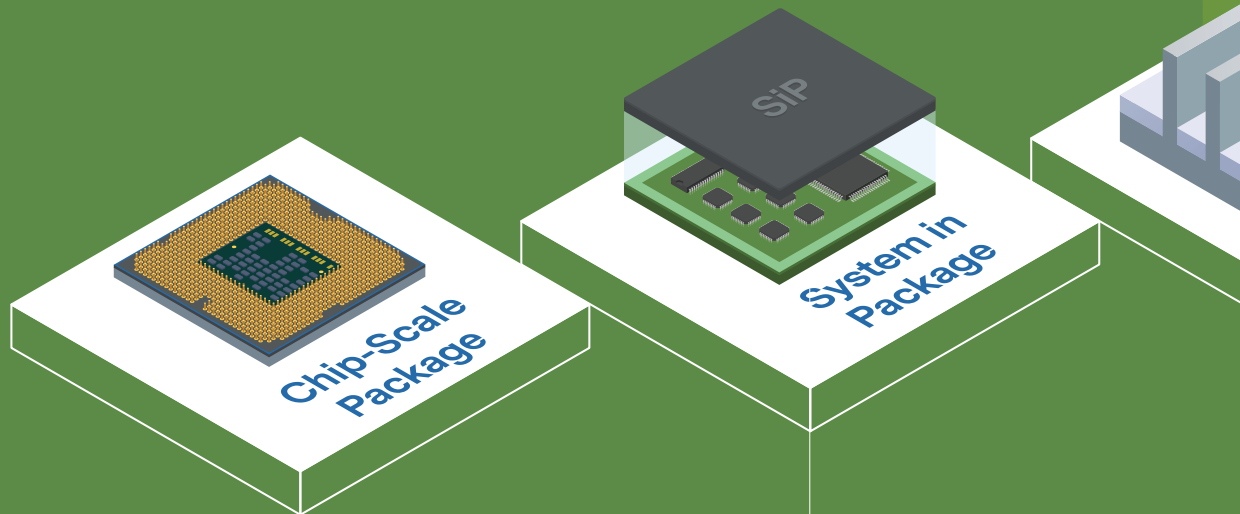
- Actionable insights and data-driven decision making
- Reduced need to open chamber to install an oscilloscope
- Reduced “no problem found” returns and faster troubleshooting

FEATURES

- Auto-reconnect after generator power cycle
- Configurable onboard oscilloscope data recording in nanoseconds for critical events (FastDAQ™)
- Cybersecure, comprehensive real-time and long-term data collection
- Exclusive customer control of data with local or remote access
- Virtually unlimited historical data storage
- Customizable, browser-based dashboards (no need to install software)
- Tailor-made algorithms based on AE’s decades of experience

Over 20 Years of Full RF Systems

Advanced Energy has offered full RF delivery systems for over 20 years, with multiple options for matching solutions and intelligent SyncTech™ synchronization.



RF Plasma Generators



RFG
Digital/Analog



APEX®
Digital/Analog

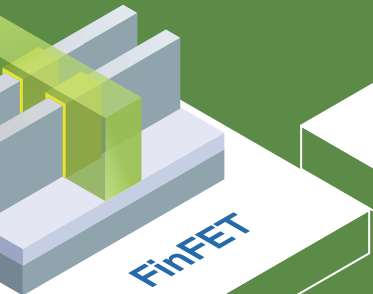
RF Match Networks



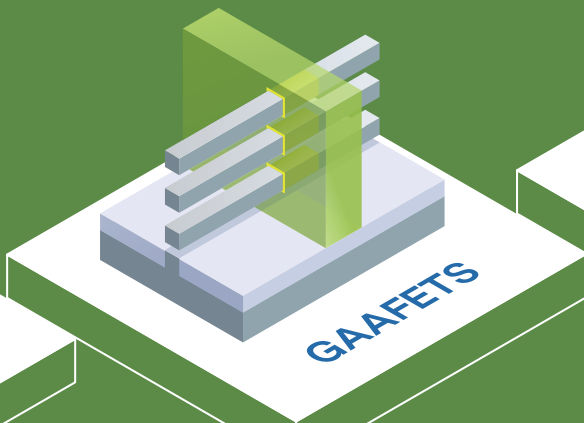
Navigator®
All Digital



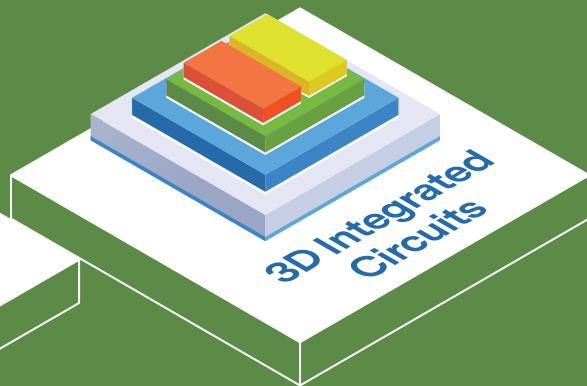
Navigator®
All Digital



FinFET



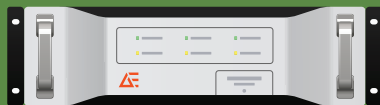
GAAFETS



3D Integrated Circuits



Paramount®
Higher Density



Paramount®+
Digital Control



eVos™
Tunable Ion Energy



eVerest™
Accelerated Digital Control



Navigator® II
Model-Based



Navigator® II
Model-Based

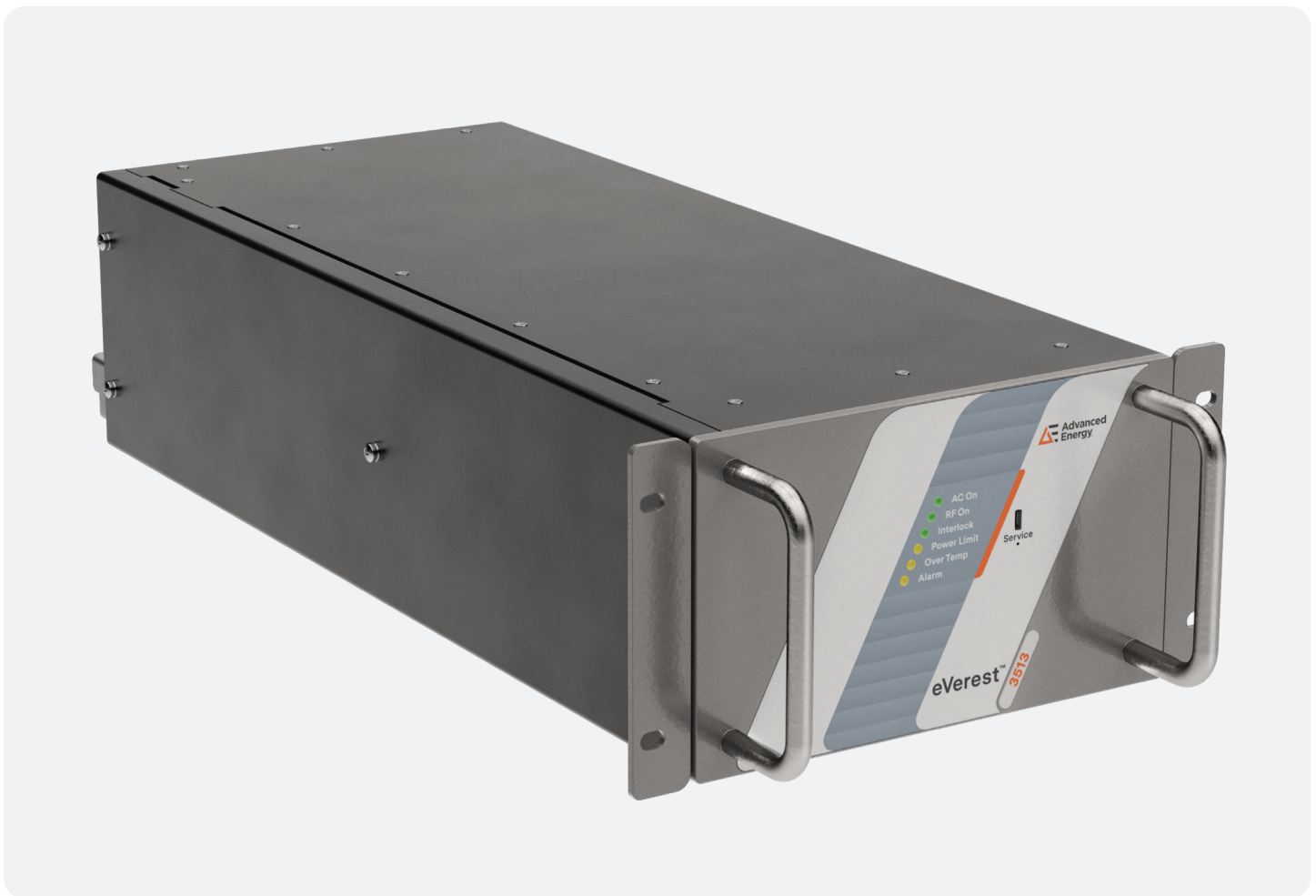


NavX™ Matching Network
MLP Tuning
In-State Pulse Tuning

Specifications eVerest™ RF Generator

eVerest RF Generator	
General Specifications ¹	
RF Output Power	3.5 to 10 kW
Frequencies	1 to 60 MHz
Power Accuracy into 50 Ω	± 1 W or ± 1% of setpoint, whichever is greater
Auto Frequency Tuning	Available
Pulse State Time	11 μsec to 250 msec
Available Communication Interfaces	EtherCAT®, RS-232, Ethernet

¹Electrical specifications vary by model number. Please contact an AE representative for more information.





Specifications NavX™ Matching Network

Electrical Specifications	
Match Types	Single Frequency Dual Frequency
Available Matching Topologies	L match, T match, design per customer's tune range requirements
Frequency Range	1 to 60 MHz
Current Range	0.1 to 150 A, design per customer's requirements
Voltage Range	1 to 10 kVpk, design per customer's requirements
RF Output Power Range	1 to 10 kW
Communication Interface	Serial (RS-232) EtherCAT Ethernet
Pulsing State Time	11 μ sec to 250 msec



For international contact information,
visit advancedenergy.com.

sales.support@aei.com
+1 970 221 0108

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE | TRUST

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