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Sensor Electronics Technology, Inc. demonstrates AlInN epitaxial materials growth on bulk GaN substrats, wins STTR Phase II to develop AlInN/GaN HFETs on bulk GaN

Columbia, SC – October 9, 2011 – Sensor Electronic Technology, Inc. (SETi) announced that it has been awarded an STTR (Small Business Technology Transfer) Phase II program to further develop AlInN/GaN based HFETs on free standing bulk GaN substrates.

The Phase II program was awarded through the Missile Defense Agency (MDA) following successful demonstration of the epitaxial growth of an entirely strain-free HFET structure, comprising of lattice matched AlInN on bulk GaN substrates in the Phase I program. During Phase I, AlInN/GaN heterostructures were deposited on bulk GaN substrates with Indium compositions ranging from 0-25%, with minimum sheet resistances of ~235 ohm/square.

This new program will target further reductions in defect density in the epitaxial GaN and AlInN layers and demonstrate increased device reliability over conventional AlGaIn/GaN HFETs. Increased reliability in GaN HFETs is essential in the defense and satellite markets, which account for over a quarter of the entire GaN RF device market.

SETi, famous for its deep UV LED products UVTOP® and UVClean® emitting light shorter than 365 nm, is the world leader in Al(In)GaIn semiconductor material technologies and with its patented process MEMOCVD® has a very novel process for defect reduction in AlGaIn-based epitaxial structures on sapphire substrates. The application of MEMOCVD® in UVLED structures enabled SETi to become the first UV LED company to offer LEDs with wavelengths shorter than 365nm on the commercial market and continues to ensure its lead in this market today. SETi has now demonstrated the benefits of its Al(In)GaIn materials growth technologies on bulk Nitride substrates and through further development from programs such as this MDA funded program, will push AlInN material technology further to the development of next generation high power, very high-frequency RF components.

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