

**Tuesday, 9 June 2026, 12:00-13:30- Pseudolithic Inc.**

**High-Efficiency X-Band GaN Power Amplifier Using Heterogeneous GaN-on-SiC Integration in an SOI Interposer**

**Abstract:** Pseudolithic is demonstrating a heterogeneously integrated X-band power amplifier utilizing a GaN-on-SiC transistor chiplet embedded within a silicon-on-insulator (SOI) interposer platform. The amplifier employs a fully integrated matching network implemented entirely on the silicon interposer, while leveraging a high-performance GaN power device for RF power generation.

The demonstrated single-stage power amplifier achieves approximately 2 W output power with ~50% power-added efficiency across 10–12 GHz, demonstrating performance competitive with state-of-the-art X-band GaN MMIC power amplifiers. This result validates the ability of heterogeneous integration techniques to combine the RF performance advantages of III-V semiconductor technologies with the scalability and cost advantages of silicon-based integration platforms.

The architecture enables planar integration of bare III-V transistor die while maintaining an efficient thermal path through the GaN-on-SiC device to the backside for effective heat dissipation. Beyond RF performance, this platform establishes a path toward highly integrated RF front-end systems in which CMOS circuitry can be co-integrated alongside high-performance III-V devices. Future implementations may incorporate functions such as bias control, power detection, health monitoring, and system-level power management directly within the interposer platform.



**Presenter:** Justin Kim, Senior Design Engineer

**Bio:** Justin Kim received the B.S. degree in electrical engineering and the Ph.D. degree in electrical and computer engineering from the University of California at Santa Barbara (UCSB) in 2022 and 2026, respectively. His research focused on active-bias terminated distributed amplifiers and large-scale low-resolution transmit arrays at D-Band for joint radar and communication applications. He is currently a Senior Design Engineer at PseudolithIC focusing on heterogeneously integrated front-end modules at X and Ka-Band. Most notably, Justin's work has won the industry best paper award at RFIC 2024.

**Tuesday, 9 June 2026, 14:00-15:30- TMS Test Services**

**Thermal Stabilizer for RF load Pull Characterization**

**Abstract:** The TMST thermal stabilizer extends RF load pull tuner characterization validity over 2 years by maintaining the internal temperature of the tuner through laboratory and cold cycling. Designed for applications such as on wafer testing where tuners are exposed to cold temperatures during cold cycling. Support for up to 3 tuners from a single 2u rack mounted system.



**Presenter:** Michael Majerus, RF/ Measurement Test Engineer

**Bio:** Individual Contributor/ RF load pull lead. 30+ years of experience in RF measurements. Test equipment integration, LabVIEW, and load pull expertise.

**Wednesday, 10 June 2026 (9:30-11:00)- Philowave**

**Interference- From a Problem to a Solution**

**Abstract:** This demo will reveal Philowave's latest wideband interference detection technology. With 20 GHz of instantaneous bandwidth, our detector, Daboia-S, identifies the frequency and power of the interfering signal in less than a microsecond while consuming milliwatt-level dc power. This makes it an ideal solution for spectrum sensing in airborne and edge applications.



**Presenter:** Mohammad Abu Khater, Founder-CEO

**Bio:** Mohammad received his PhD from Purdue University. His technical focus is on adaptive wireless frontends, and he is a Senior Member of the IEEE. He is the founder and CEO of Philowave, a company specializing in spectrum sensing and adaptive wireless devices.

**Thursday, 11 June 2026, 9:30-11:00- JITX**

**Shift Left your SI -- Automate your PCB Optimization with JITX + Ansys + GenAI**

**Abstract:** Modern high-speed designs face a common bottleneck: the combinatorial explosion of via transitions and other structures in a variety of complex stackups. With limited engineering resources and schedule constraints, manually optimizing the stackup and structures to meet stringent requirements can become an impossible task, forcing suboptimal outcomes including limiting decisions that impact product cost. This talk shares a programmatic solution using parametric design in JITX and closed-loop simulation with Ansys HFSS to accelerate SI optimization, beginning at pre-layout. How AI is leveraged will also be covered.



Duncan Haldane CEO at JITX

Duncan started working on JITX because he wanted a better way to design robots. While he was at Berkeley he started collaborating with Jonathan on better design tools for origami robots. Duncan's work in robotics won him a best-paper award from the IEEE International Conference on Intelligent Robots and Systems and a Guinness World Record.

**Thursday, 11 June 2026, 11:00-12:30 - Jones Microwave**

**Live Demonstration of Jones Microwave's Solid-State Plasma Switch**

**Abstract:** Jones Microwave will present a live demonstration of its solid-state plasma microwave switch, illustrating measured RF switching behavior using S-parameter characterization. The demonstration emphasizes the novelty of the approach: highlighting clear ON and OFF states, wideband performance, and low-loss operation in a compact, planar form factor. The underlying device architecture will be briefly introduced, along with how this approach extends to high-power handling, fast switching, and highly linear RF operation. This technology targets demanding applications including 6G base stations, radar, electronic warfare, secure communications, SATCOM, and advanced microwave instrumentation.



**Presenter:** Thomas Jones, PhD, CEO of Jones Microwave Inc.

**Bio:** Dr. Thomas R. Jones is the founder of Jones Microwave Inc., an Alberta-based spinout from the University of Alberta and Purdue University, commercializing IP-protected cutting-edge microwave to sub-THz technologies for telecommunications, instrumentation, aerospace, and defence.

He holds a Ph.D. in electrical and computer engineering from the University of Alberta and previously served as a research scientist at Purdue University. His career includes research and engineering roles across academia and industry, including an NSERC Postdoctoral Fellowship at Purdue.

Dr. Jones's expertise spans high-frequency, high-power, and high-speed microwave, millimeter-wave, and sub-THz systems, including reconfigurable RF front ends and on-chip device fabrication. He has authored work with over 500 citations, holds four patents, and has raised over five million dollars in funding for his company. His awards include the 2023 Douglas R. Colton Medal for Research Excellence and multiple national scholarships. He actively contributes to IEEE, currently serving as MTT-S MGA Regional Coordinator for R7 Canada.

**Thursday, 11 June 2026, 12:30-14:00- EchoICs, Inc.**

**Flexible Spectrum Radio - Wide Bandwidth Without Compromise**

**Abstract:** Software Defined Radio (SDR) has enabled RF systems with widely flexible operating frequency and modulation. However, SDR underperforms fixed-frequency RF hardware in cost, size, power efficiency, and dynamic range. EchoICs' Flexible Spectrum Radio (FSR) eliminates these tradeoffs, with 10x improvement in RX dynamic range and TX efficiency in a single RFIC frontend solution. This demonstration highlights EchoICs' core FSR technology and presents a demonstration of EchoICs FSR frontend RFIC in an antenna-to-bits software-defined communications solution.



**Presenter:** Dr. Thomas Tapen, Co-Founder & CEO, EchoICs Inc.

**Bio:** Thomas Tapen (B.S. '15, Ph.D. '21 Cornell University) is co-founder and CEO of EchoICs Inc, an RFIC startup commercializing advanced widely tunable RF frontend components. He has over 10 years experience in RF, analog, and mixed-signal circuit design with a focus on wideband and widely tunable RF techniques. His research has been published in Nature and multiple IEEE journals, and he received the Outstanding Ph.D. Thesis Award from the Cornell Electrical and Computer Engineering department in 2021 for his Ph.D. research.



**Presenter:** Dr. Olalekan Afuye - Co-Founder & Head of Engineering, EcholCs Inc.

**Bio:** Lekan Afuye is co-founder and Head of Engineering at EcholCs Inc, an RFIC startup commercializing advanced widely tunable RF frontend components. He holds a dual Bachelor's degree in Physics and Electrical Engineering from Columbia University, and a Ph.D. in Electrical and Computer Engineering from Cornell University. He has extensive hardware (analog, mixed-signal, and digital integrated circuits) and software development academic research and industry experience. His PhD. research, which was published in several IEEE journals and conferences focused on developing software frameworks to model and characterize emerging post-CMOS integrated circuits devices.