



FCC Open RAN Showcase

14 July 2021

Artificial Intelligence Solutions for 5G O-RAN

DeepSig Profile



- Based in Arlington VA, a venture-backed technology company developing Artificial Intelligence 5G software using cutting-edge Machine Learning
- Develops dual market AI wireless software products addressing commercial and government applications
- Established 5G Wireless AI Innovation Lab for AI product testing



Artificial Intelligence in 5G Networks



- AI improves performance in 5G radio access networks (RAN)
- AI will reduce 5G RAN power consumption and carbon footprint
- AI enables 5G RAN to Learn and be Smarter from local conditions
- AI achieves real cost savings

DeepSig uniquely combines expertise in wireless signal processing with Deep Learning to deliver transformational improvements in 5G

5G Open RAN Enables Innovation



- Innovation from domain experts is superior to large suppliers who have their own timeframes and internal priorities
- Open RAN ensures the most competitive technology and commercial solutions an entry to the global market; ends vendor lock-in
- Open RAN expands IP and R&D investment from a select group of large global companies to new innovators

Our Solutions



■ OmniPHY™ 5G

Launch 2021

- DeepSig Machine Learning software uses real-world radio data to:
 - Reduce power consumption
 - Increase user throughput
 - Lower CapEx and OpEx
- Deployed as component software in commercially available 5G Open RAN baseband software platforms
- Designed for MNOs, CSPs, Private and Government Networks

OmniPHY is a critical solution to reduce the extreme complexities of 5G applications like massive MIMO and is an enabler to future 6G frameworks

Our Solutions



■ OmniSIG™

Currently Available
and Widely Deployed

- New generation of ML-driven spectrum awareness and sensing software
- Ultra-fast signal detection, classification and real time analytics
- Enables intelligent awareness of RF activity not previously feasible
- Data driven approach rapidly learns new radio signatures
- Use Cases:
 - Ensuring network resiliency: Interference and fault detection
 - Network security, threat detection
 - Spectrum monitoring, spectrum sharing

Our Solutions



Currently Available
and Widely Deployed

■ OmniSIG Studio

- An advanced Machine Learning studio that collects real-world RF signals and quickly generates highly accurate neural network models
- Complementary tool set to OmniSIG
- New data models can be created in hours instead of days or weeks
- Greatly reduces cost and time to create new neural network models
- New signals of interest can be rapidly added for new use-cases

Summary



- DeepSig's advanced AI products make 5G Open RAN more competitive
- Operators will have smarter, greener and more cost efficient 5G networks, with greater capacity
- Enables operators to support and reduce the extreme complexities of critical 5G applications, and implement the foundations of future 6G services

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