

June 27, 2025

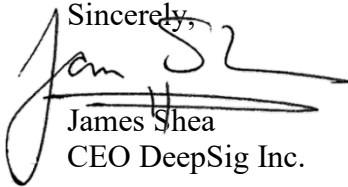
Congress of the United States
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515-6115
Attn: Richard Hudson

Dear Chairman Hudson

Thank you for the opportunity to testify before the Subcommittee on Communications and Technology during the “AI in the Everyday: Current Applications and Future Frontiers in Communications and Technology” held on June 4, 2025.

I am sending my response to the Additional Questions for the Record posed by The Honorable Doris Matsui in your letter dated June 24, 2025 in this letter’s attachment.

Sincerely,



James Shea
CEO DeepSig Inc.

Additional Questions for the Record from the Honorable Doris Matsui

Question: To meet the increased demand for connectivity, we must use our spectrum resources efficiently. Mr. Shea, how can AI maximize the efficiency of a balanced spectrum plan?

Response: AI can maximize the efficiency of a balanced spectrum plan in three ways: First, AI based spectrum sensing detects wireless signals 100X faster than conventional approaches and has the ability learn new signals in a matter of hours providing accurate and up to date information enabling Dynamic Spectrum Sharing (DSS).

Second, AI DSS can learn patterns of use such as increased wireless traffic during commuting hours, predict the needs of high priority incumbent users like military radars and public safety communications, and understand how signals propagate in the local environment via digital twins. AI DSS then optimizes the overall network capacity, subject to the priority of each user class, by controller transmitted power, beam pointing, and spectrum allocations.

Finally, AI-Native wireless technologies proposed for 6G and other applications inherently increase spectrum efficiency by learning waveforms that are optimized for the available bandwidth and propagation environment while mitigating sources of interference.