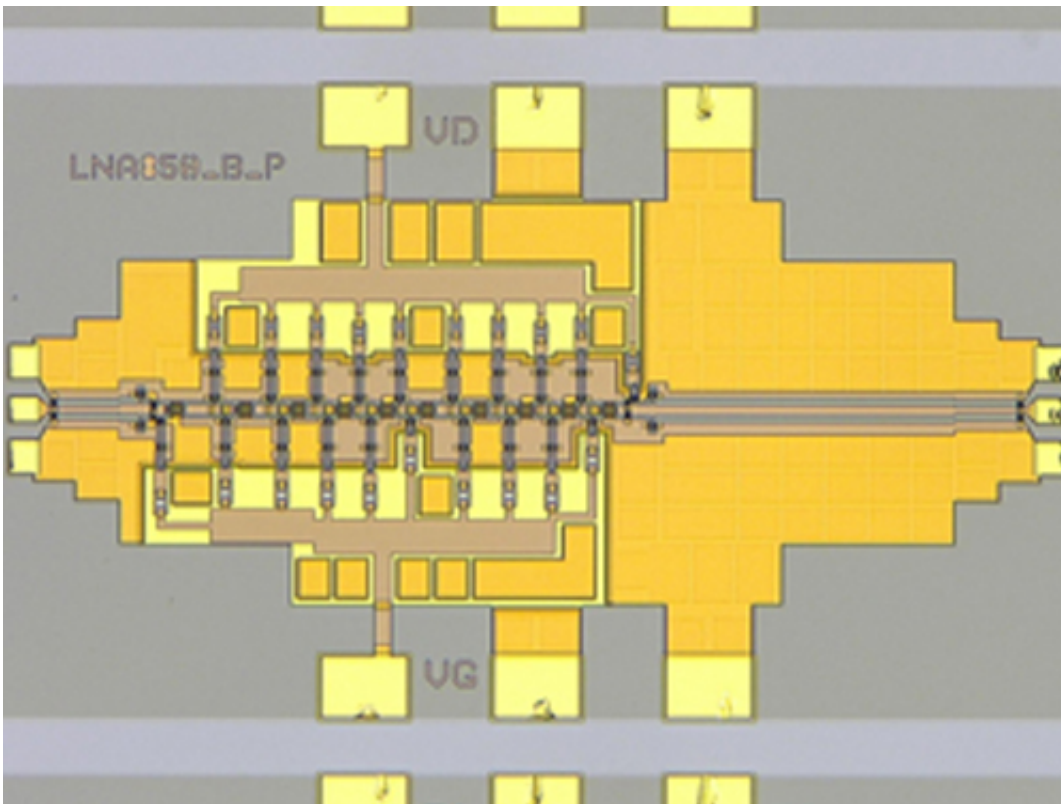


DARPA clears path for advanced communications, sensors

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DARPA researchers have created the world's first solid state receiver to demonstrate gain at 0.85 terahertz (THz).

This is the latest breakthrough in the DARPA THz Electronics program in its quest for transistor-based electronics that will enable electronic

capabilities at THz frequencies. This represents progress toward the second major technical milestone on the way to 1.03 THz integrated circuits. Previous milestones included demonstrations at 0.67 THz. Operating at these high frequencies enables a host of DoD electronics capabilities such as advanced communication and sensor systems.

“Realizing circuits at 0.85 THz is a remarkable achievement for the program and is the latest success from a long-term investment in frequency-scaled RF transistors,” explained John Albrecht, DARPA program manager. “The ability to coherently process signals at 0.85 THz provides a means to generate and radiate the high frequency signals needed for applications such as [DARPA](#)’s Video Synthetic Aperture Radar (ViSAR) program. VISAR seeks to develop and demonstrate a targeting sensor which operates through clouds as effectively as today’s infrared (IR) [sensors](#) operate in clear weather. This revolutionary advance would give U.S. warfighters an advantage in an especially challenging portion of the RF spectrum.”

Provided by DARPA

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