

## NUWAVES ENGINEERING WINS NASA SMALL BUSINESS INNOVATION RESEARCH PHASE II CONTRACT FOR C-BAND POWER AMPLIFIER DEVELOPMENT AND PROTOTYPING

Middletown, Ohio, May 19, 2015 – NuWaves Engineering, an international Radio Frequency (RF) and Microwave solutions provider, announced today that the company has been awarded a Phase II Small Business Innovation Research (SBIR) contract from the National Aeronautics and Space Administration (NASA) to develop and prototype a miniature linear and high-efficiency C-band power amplifier (PA) to provide communication range extension for a variety of NASA missions and applications, including Unmanned Aircraft Systems (UAS) integration into the National Airspace System (NAS).

Under the terms of the contract, NuWaves Engineering will develop, prototype and test two distinct C-Band amplifier variants: an efficient linear PA for data links with amplitude-modulated waveforms, such as Orthogonal Frequency Division Multiplexing (OFDM), and a high-efficiency PA for data links with waveforms characterized by having little or no amplitude variation. NuWaves' partner on the Phase II contract is InnoWave, Inc. of Acton, Massachusetts. Together, the Team will incorporate linearization and Doherty amplifier designs into monolithic microwave integrated circuit (MMIC) devices that will serve as the core of what will be connectorized PA modules capable of being integrated into existing command and control and communication systems. In addition to the MMICs, each of the two connectorized PA modules will feature a broad power supply range, advanced thermal management techniques and optional bidirectional circuitry. Finally, the technology will be scalable to higher frequencies, such as X-, Ku-, K- and Ka-bands.

"We're thrilled to continue development of key power amplifier technologies, starting at the component device level and moving up through connectorized modules, in order to decrease size, weight and power consumption for C2 and comms links," said Jeff Wells, President and CEO of NuWaves Engineering. "Beyond C-band, we look to apply these key technologies to higher frequency bands and power levels to support other NASA missions and priorities."

NuWaves Engineering is a premier supplier of RF and Microwave solutions for Department of Defense (DoD), government, and industrial customers. An RF engineering powerhouse, NuWaves offers a broad range of design and engineering services related to the development and sustainment of key communications, telemetry and electronic warfare systems, as well as a complete line of commercially available RF products. NuWaves' products include wideband frequency converters, high-efficiency and miniature solid state power amplifiers and bidirectional amplifiers, high intercept low noise amplifiers and miniature RF filters. NuWaves Engineering...Trusted RF Solutions<sup>TM</sup>.

Contact Ryan Canning, Director of Business Development, at (513) 360-0800, or visit <u>www.nuwaves.com</u> for more information.

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