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Microchip Boosts Gallium Nitride (GaN) Radio Frequency (RF) Portfolio with Ka-band Monolithic Microwave Integrated Circuit (MMIC) with High Linearity for SatCom Terminals

The GMICP2731-10 helps maintain signal fidelity by allowing Earth stations to transmit at high RF levels without sacrificing the quality of the signal

CHANDLER, Ariz., June 21, 2021 (GLOBE NEWSWIRE) -- Satellite communication systems use complex modulation schemes to achieve the blazingly fast data rates required to deliver video and broadband data. To attain this, they must deliver high RF output power while simultaneously ensuring the signals retain their desired characteristics. The new **GMICP2731-10 GaN MMICGaN MMIC** power amplifier announced today by Microchip Technology Inc. (**Nasdaq: MCHP**) helps meet both of these requirements.

The new device, Microchip's first GaN MMIC, is designed for use in commercial and defense satellite communications, 5G networks and other aerospace and defense systems.

The GMICP2731-10 is fabricated using GaN-on-Silicon Carbide (SiC) technology. It delivers up to 10W of saturated RF output power across the 3.5 GHz of bandwidth between 27.5 to 31 GHz. Its power-added efficiency is 20%, with 22 dB of small-signal gain and 15 dB of return loss. A balanced architecture allows the GMICP2731-10 to be well matched to 50-ohms and includes integrated DC blocking capacitors at the output to simplify design integration.

"As communication systems employ complex modulation schemes such as 128-QAM and as the power of solid-state power amplifiers (SSPAs) trends ever upwards, RF power amplifier designers have the difficult challenge of finding higher power solutions while at the same time reducing weight and power consumption," said Leon Gross, vice president of Microchip's Discrete Products Group business unit. "GaN MMICs used in high power SSPAs can achieve greater than 30% lower power and weight as compared to their GaAs counterparts, which is a huge gain for satellite OEMS. This product delivers on the promise of GaN and enables the size, weight, power and cost OEMs are searching for."

Microchip's GMICP2731-10 complements the company's existing portfolio of GaAs MMIC RF power amplifiers, switches, low-noise amplifiers, and Wi-Fi front-end modules, as well as a GaN-on-SiC High Electron Mobility Transistor (HEMT) driver and final amplifier transistors for radar systems.

Development Tools

Microchip provides board design support to help with design-ins, as does the company's distribution partners. The company also provides compact models for the GMICP2731-10, which allow customers to model the performance and expedite the design of the power amplifier in their systems more easily.

Availability
The GMICP2731-10 is available today in volume production. For additional information, contact a Microchip sales representative or visit Microchip's website. To purchase the GMICP2731-10, visit our **purchasing portal** or contact a Microchip authorized distributor.

Resources
High-res images available through Flickr (feel free to publish):

• Application image: **https://www.flickr.com/photos/microchiptechnology/51221720394/**

About Microchip Technology
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