

Anokiwave and Ball Aerospace enable the future of wireless with new family of phased array antenna Innovator Kits

Anokiwave's AWMF-0129 Active Antenna Innovator Kit Named Most Valuable Product in the April, 2017 Edition of Microwave Journal

HONOLULU, June 7, 2017 /PRNewswire/ -- 5G is coming. This new form of wireless connection will help us keep up with the explosion of smart devices requiring the internet.

Cars, appliances, security cameras, virtual reality platforms and many other traditionally "inactive" devices – are beginning to require mobile internet connections to help us stay connected, and not just with other people via mobile devices and computers, but with the things we depend on every day.

With predictions of more than 20 billion internet-connected devices by 2020 requiring lightning-quick connections, 5G will redefine our world.

Anokiwave, Inc. and Ball Aerospace announced a collaboration on May 9, 2017 that will enable the 5G wireless revolution.

The collaboration accelerates mmW 5G phased array developments with the introduction of a family of commercial, active phased array Innovator Kits. Included are kit offerings like the 64-element, 28GHz AWMF-0129 (named *Microwave Journal's* April MVP) enable improved mmW 5G network efficiency and ease of developing commercial phased array antennas.



"A major obstacle to the implementation of 5G connectivity and use cases in the marketplace is the learning curve commercial companies are navigating to build phased array active antennas," says Robert Donahue, Anokiwave CEO. "We collaborated with industry leader, Ball Aerospace, a company with decades of active antenna expertise. The AWMF-0129 highlights the unique performance of our AWMF-0108 28 GHz 5G IC. The compact and rugged hardware design and user friendly interface is typical of the high standards we have enjoyed working with Ball over the years."

The AWMF-0129 is a 64-element, single polarization 5G phased array antenna designed to cover the 27.5-30 GHz frequency band. It is a planar antenna that can be used either as a stand-alone component, or combined and synchronized with other arrays to support hybrid beamforming and MIMO functionality as part of a larger array. With 50 dBm of EIRP, the array supports multiple beam widths with functions for remote telemetry and low-latency steering™.

The arrays, which will allow us to live better, smarter, and more connected to our world, are available now for fast prototyping and evaluation of millimeter wave environments for 5G applications.

Anokiwave and Ball Aerospace have worked together on many different projects for more than a decade, including using Anokiwave integrated circuits in several Ball phased arrays for other markets and at a range of mmW frequencies.

"We are pleased to add our expertise in design, development and manufacturing of phased array antennas for commercial space, aerospace and defense to this collaboration," said Bill Nevius, Ball Aerospace business development director. "Together, our combined innovations accelerate the path toward 5G and literally take the benefits of it to a whole new frequency."

Availability:

The AWMF-0129 Innovator Kits are available now.

About Anokiwave:

Anokiwave is a cutting edge provider of highly integrated IC solutions that enable emerging mm-Wave markets and Active Antenna based solutions. Anokiwave's creative system architectures and optimal selection of semiconductor technologies solve the toughest engineering problems.

Anokiwave is based in San Diego, California and operates design centers in Phoenix, Arizona and Boston, Massachusetts. Additional information can be found at www.anokiwave.com.

Ball Aerospace pioneers discoveries that enable our customers to perform beyond expectation and protect what matters most. We create innovative space solutions, enable more accurate weather forecasts, drive insightful observations of our planet, deliver actionable data and intelligence, and ensure those who defend our

freedom go forward bravely and return home safely. For more information, visit www.ball.com/aerospace or connect with us on [Facebook](#) or [Twitter](#).

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Forward-Looking Statements

This release contains "forward-looking" statements concerning future events and financial performance. Words such as "expects," "anticipates," "estimates," "believes," "targets," "likely" and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical fact. Such statements are based on current expectations or views of the future and are subject to risks and uncertainties, which could cause actual results or events to differ materially from those expressed or implied. You should therefore not place undue reliance upon any forward-looking statements and any of such statements should be read in conjunction with, and, qualified in their entirety by, the cautionary statements referenced below. The company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Key factors, risks and uncertainties that could cause actual outcomes and results to be different are summarized in filings with the Securities and Exchange Commission, including Exhibit 99 in our Form 10-K, which are available on our website and at www.sec.gov. Additional factors that might affect: a) our packaging segments include product demand fluctuations; availability/cost of raw materials; competitive packaging, pricing and substitution; changes in climate and weather; competitive activity; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation, power and supply chain influence; changes in major customer or supplier contracts or a loss of a major customer or supplier; political instability and sanctions; currency controls; and changes in foreign exchange or tax rates; b) our aerospace segment include funding, authorization, availability and returns of government and commercial contracts; and delays, extensions and technical uncertainties affecting segment contracts; c) the company as a whole include those listed plus: changes in senior management; regulatory action or issues including tax, environmental, health and workplace safety, including U.S. FDA and other actions or public concerns affecting products filled in our containers, or chemicals or substances used in raw materials or in the manufacturing process; technological developments and innovations; litigation; strikes; labor cost changes; rates of return on assets of the company's defined benefit retirement plans; pension changes; uncertainties surrounding geopolitical events and governmental policies both in the U.S. and in other countries, including the U.S. government elections, budget, sequestration and debt limit; reduced cash flow; ability to achieve cost-out initiatives and synergies; interest rates affecting our debt; and successful or unsuccessful acquisitions and divestitures, including with respect to the Rexam PLC acquisition and its integration, or the associated divestiture; the effect of the acquisition or the divestiture on our business relationships, operating results and business generally.

SOURCE Ball Aerospace

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