



Press Release

For Immediate Release

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Vubiq Networks Announces New Multimode RFID Hyperimaging Technology Patent Award

IRVINE, CA, December 8, 2020 – Vubiq Networks, Inc., the innovation leader in millimeter wave wireless broadband technology and solutions, today announced that it has been awarded a new radio frequency identification (RFID) patent by the U.S. Patent and Trademark Office. Patent number 10839179 is entitled ***Multimode Millimeter Wave RFID Systems and Methods of Use Thereof.***

Vubiq Networks has a history of innovation in millimeter wave RFID technology. In addition to the new patent award, the company holds two other RFID patents:

- US Patent 7460014 issued 12-2-08 – RFID System Utilizing Parametric Reflective Technology
- US Patent 7498940 issued 3-3-09 – RFID System Utilizing Parametric Reradiated Technology

This multimode patent further expands and protects Vubiq Networks' RFID hyperimaging technology. It describes a new reader design that performs wide-beam polarimetric synthetic aperture radar (POLARSAR), narrow beam reads from chipped tags, and narrow-beam reads and communications with chipped tag and Internet of Things (IoT) devices.

“This patent provides added protection for our unique data-encoding technique that exploits the natural physics of antennas at a tremendously small scale,” said Mike Pettus, founder and CTO of Vubiq Networks. “The patent covers breakthrough technology with dual mode capabilities for identification and communication with various types of RFID tags and smart sensors using POLARSAR while in a wide-beam pattern mode, and then shifting to a narrow-beam steered mode for powering and communicating with the tags and IoT sensors.”

The company's patented technology addresses the downfalls of traditional RFID solutions. The chipless technology addresses today's biggest barrier: the cost of the RFID tag. The company's approach reduces tag costs to pennies per tag. The technology achieves very high density chipless tag encoding through the use of innovative geometrical layout of patch antennas as the tiny tag elements. This provides for optimized element spacing, providing very high bit density for chipless RFID.

Utilizing POLARSAR hyperimaging as opposed to traditional RFID methods greatly expands the use cases by providing the ability to read multiple tags simultaneously, as well as determining their three-dimensional location. The technology can read tags through materials such as cardboard, pill bottles, and envelopes.

Vubiq is now expanding its RFID innovation by incorporating newly available millimeter wave silicon technologies that have integrated radar functions and digital signal processing on the same chip. The ability to do multi-channel POLARSAR – coupled with advanced image processing in low-cost commodity chips – breaks the cost barrier for enabling RFID technology in new applications such as artificial intelligence and mobile devices.

“The reduced size and costs of new radar chip technology hitting the market today will enable our RFID technology to be integrated into low-cost handheld devices and even smartphones,” said Vubiq CEO John Dilworth. “This trend is evident by Google's phone with a radar for hand gestures and Apple's new iPhone 12 with LiDAR.”

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About Vubiq Networks

Vubiq Networks, Inc. is a privately held millimeter wave innovation company headquartered in Irvine, California. With over 15 years of experience in telecommunications and extremely high frequency (EHF) applications, the company continues to expand its global reach into cutting-edge markets such as 5G connectivity, wireless fabric architecture, chipless RFID data tag hyperimaging, IoT smart sensors, EHF medical applications, and more. The company currently offers the HaulPass V10g millimeter wave radio, the only 10Gbps V-Band wireless link in the industry, as well as the HaulPass E10g 10Gbps E-Band radio. For further information, visit www.vubiqnetworks.com.

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