NEWS RELEASE

Leading Wireless Chipset Providers and RF Front End Vendors Launch OpenRF to Advance RF Front End Development and Drive Interoperability Across the 5G Ecosystem

OpenRF delivers optimum system performance, greater choice in RF front end platforms, faster time-to-market, and lower Total Cost of Ownership for 5G device manufacturers

BEAVERTON, OR, U.S. – October 8, 2020 –The Open RF Association (OpenRF™) today announced its formation as an industry consortium dedicated to expanding the functional interoperability of hardware and software across multi-mode RF front end and chipset platforms into the 5G era, responding to customer demand for open architectures. Its founding members include Broadcom Inc., Intel Corporation, MediaTek Inc., Murata Manufacturing Co., Ltd., Qorvo, and Samsung.

OpenRF aims to deliver an open framework that standardizes hardware and software interfaces without limiting innovation, while enabling total flexibility for 5G device Original Equipment Manufacturers (OEMs) to take advantage of time-to-market, cost, performance, and supply chain benefits. OEMs will be able to choose interoperable best-of-breed solutions from a multi-vendor ecosystem, while using the same RF front end with any 5G baseband.

OpenRF is supported by a diverse group of global chipset providers, RF front end vendors and device manufacturers all working towards enabling a multi-vendor 5G ecosystem. The organization will satisfy customer requests to advance the industry's interests by enhancing the traditional reference design process to drive best-in-class configurable solutions to market faster. OpenRF plans to:

- Create a set of core chipset and RF front end features and interfaces that will enable interoperability across 5G basebands while allowing innovation across vendors
- Build upon industry standards to maximize configurability and effectiveness of the RF front end
- Develop a common hardware abstraction layer enhancing the transceiver/modem and RFFE modules interface
- Define and develop industry-leading approaches to RF power management

OpenRF plans to develop a compliance program to support a robust ecosystem of interoperable RFFE and chipset platforms.

Ongoing development of the MIPI RFFE^{SM} specification, which has become the de facto interface for control of the radio frequency front end since its release in 2010, will continue to be coordinated within MIPI Alliance's RFFE Working Group. OpenRF is currently working toward a liaison agreement with the Alliance.

Joe Madden, principal analyst, **Mobile Experts,** said: "The RF Front End market has become extremely complex, so the industry increasingly needs structure to deal with the complexity. By standardizing some common elements, the Open RF Association will allow RFFE vendors to focus their R&D attention on the sharp point of innovation. Making common building blocks in non-competitive areas will also speed up time-to-market, ensure compatibility across generations and between different platforms, and will save millions of dollars through improved economies of scale. All of this is possible without diminishing the fierce competition between vendors."

Statements of Support (Alphabetized by Company)

David Archbold, Vice President of Marketing, Wireless Semiconductor Division, **Broadcom:** "One of the key issues facing mobile phone OEMs today is time-to-market, delivering leading edge products into a very competitive landscape in a timely fashion. OpenRF provides the framework to streamline and condense the OEM's design cycle, from inception to product launch. This is a critical step to promote a pro-competitive environment, allowing OEMs to freely choose solutions based on performance, size and cost."

Chenwei Yan, Vice President and General Manager of Connected Products and Programs at **Intel**: “As an industry leader, Intel is pleased to join OpenRF to advance developments for the 5G era. Establishing a framework for hardware and software interoperability in RF technology is crucial to accelerate innovation and enable the benefits of 5G for our society. We look forward to collaborating with other industry leaders toward the shared goals of OpenRF.”

Joe Chen, President of **MediaTek:** “The availability of multiple interoperable RFFE solutions is valuable to our customers. OpenRF can extend industry-wide, bringing even more competitive solutions, performance, value and production benefits to our chipset solutions.”

Michael Conry, Director of Product Marketing, **Murata** and OpenRF Board Member**:** “Murata is committed to the success of the OpenRF standards initiative. As an active member, Murata believes OpenRF will streamline the development and minimize the time to market for 5G solutions. This provides high value to our customers that are burdened with the complexity and integration required by 5G systems, in a market demanding both flexibility and ultra-high performance. As a leader in RF Front End modules, Murata is excited to provide high performance products that operate with OpenRF standards.”

Eric Creviston, President of **Qorvo** Mobile Products: “Qorvo strongly endorses the goals of the Open RF Association, and we are excited to support this important initiative. Wireless device manufacturers have historically relied upon a robust ecosystem of best-in-class solutions to differentiate and optimize their products’ overall performance. The Open RF Association essentially standardizes this time-proven framework while simultaneously fostering greater innovation and helping accelerate the delivery of next-generation 5G devices.”

Thomas Byunghak Cho, Executive Vice President, **Samsung Electronics:** "Samsung Electronics fully supports OpenRF's vision and look forward to the robust 5G ecosystem that will be created through this industry-wide collaboration. We expect that the initiative will enable cross-platform interoperability while accelerating innovative high-performance RF solution offerings for device manufacturers. Customers will especially be able to experience greater flexibility in their decisions, which will foster positive growth within the industry as a whole."

Join OpenRF

The OpenRF is open to smartphone chipset, RFFE, and OEM vendors and related industry companies. For information on membership benefits and to complete a membership application, visit www.OpenRF.com/join.

Resources:

- Mobile Experts White Paper – OpenRF: Focused Differentiation to Drive Advanced Technologies

About OpenRF

The Open RF Association (OpenRF) is an industry consortium dedicated to creating a 5G ecosystem of functionally interoperable hardware and software across member multi-mode RFFE (RF Front End) and chipset platforms. OpenRF is led by industry leaders Broadcom, Intel, MediaTek, Murata Manufacturing, Qorvo, and Samsung. For more information, visit www.OpenRF.com.