



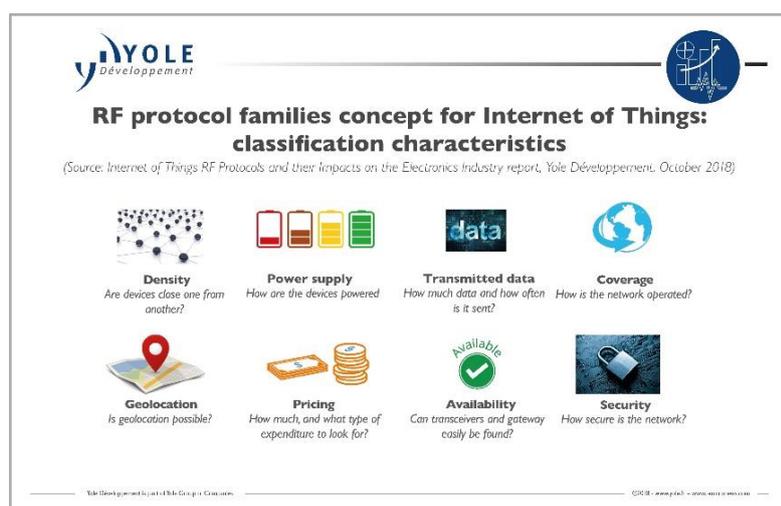
FOR IMMEDIATE RELEASE:

RF electronics for IoT: the value is in data transmission, processing, and data usage

Extracted from: Internet of Things RF Protocols and their Impacts on the Electronics Industry report, Yole Développement

LYON, France – January 14, 2019: The challenge for RF¹ electronics manufacturers to secure value in the IoT² industry stays relevant today, announces the market research and strategy consulting company [Yole Développement \(Yole\)](#). IoT is often described as a wireless network of electronics-based components. RF, part of an IoT device is thus extremely important as it is linked to critical characteristics of the product, such as power consumption, data throughput or security....

Yole's Power & Wireless team proposes today a comprehensive technology & market analysis dedicated to RF protocols for IoT and their impacts. Titled [Internet of Things RF Protocols and their Impacts on the Electronics Industry](#), this analysis proposes a detailed description of the ecosystem with dynamics, barriers, enablers and product acceptance. This new report reveals the value repartition across the whole industrial chain and points out a comprehensive analysis of radio protocols. Technologies are also well investigated in this report, combined with a detailed technology competitive analysis. Yole's analyst offer you today a relevant snapshot of the RF protocols for IoT applications, within the electronics industry.



Silicon technologies linked to the IoT and dedicated to currently commercial protocols have long been developed. They are therefore mature and available. Kits embedding all discrete RF components on a single PCB³ have also appeared, such as STMicroelectronics' STM32 node or the Hager Group's Hager Smart RF Module.

In term of commercial appeal for silicon manufacturers, currently existing IoT components are low

¹ RF : Radio-Frequency

² IoT : Internet of Things

³ PCB : Printed Circuit Board

cost, low margin products, with low volumes in the IoT field. The niche IoT market is more of a prospective investment opportunity than an area of potential income. In IoT systems, whichever the protocol, the RF transceiver remains relatively low cost with open IP⁴ and the adjacent electronics stay relatively basic and unchallenging. As an example, STMicroelectronics' STM32 IoT platform includes 192kB of flash memory, 20kB RAM and 6kB EEPROM. This performance has long been attained by inexpensive technologies.

*“At Yole, we think, typically, from the total cost of ownership of a device, less than 5% is expected to go to the component manufacturers,” asserts **Antoine Bonnabel, Technology & Market Analyst at Yole.** “40% would go for data transmission and processing and 50% for the data analysis and its application.”*

“Value is not in protocols,” confirms Claire Troadec, Director, Power & Wireless activities at Yole. “The truly tremendous value of IoT lays not in the electronics, but mostly in data transmission and processing, and in data usage...”

In addition to an impressive collection of RF reports, a detailed description of [Internet of Things RF Protocols and their Impacts on the Electronics Industry report](#) is available on i-micronews.com, [RF Electronics reports section](#).

⁴ IP : Intellectual Property

ABOUT THE REPORT:

[Internet of Things RF Protocols and their Impacts on the Electronics Industry](#)

The challenge for Radio-Frequency (RF) electronics manufacturers to secure value in the Internet of Things (IoT) industry stays relevant today. – Produced by Yole Développement (Yole).

Companies cited in the report:

Agora Opinion, Amazon, Analog Devices, Asus, AT&T, Bosch, Bouygues Telecom, Carrefour, Cisco, Cycleo, Disruptive Technologies, Dust Networks, EnOcean, Ewatch, Fitbit, Geonate, Geotab, Google, Honeywell, Hewlett Packard, IBM, Libellium... [Full list](#)

Authors:

- Claire Troadec** is Director of the Power and Wireless Division at Yole Développement, part of the Yole Group of Companies. These activities cover power electronics, batteries and energy management, compound semiconductors and emerging materials and RF electronics. Based on her valuable experience in the semiconductor industry, Claire is managing the expansion of the technical and market expertise of Power and Wireless team. Daily interactions with leading companies allow these analysts to collect a large amount of data and cross their vision of market segments' evolution and technology breakthroughs. In addition, Claire's mission is focused on the management of business relationships with leading companies of this sector and the development of market research and strategy consulting activities inside the Yole group.

Claire Troadec holds a Master's degree in Applied Physics specializing in Microelectronics from INSA in Rennes, France. She then joined NXP Semiconductors, and worked for seven years as a complementary metal-on-silicon oxide semiconductor (CMOS) process integration engineer at the IMEC R&D facility. During this time, she oversaw the isolation and performance boosting of CMOS technology node devices from 90 nm down to 45 nm.

She has authored or co-authored seven US patents and nine international publications in the semiconductor field and managed her own distribution company before joining Yole Développement in 2013

- Antoine Bonnabel** works as a Technology and Market Analyst for the Power & Wireless team of Yole Développement. He carries out technical, marketing and strategic analyses focused on RF devices, related technologies and markets.

Prior to Yole, Antoine was R&D Program Manager for DelfMEMS in France, a company specializing in RF switches. He supervised Intellectual Property and Business Intelligence activities of this company. In addition, he also has co-authored several market reports and is co-inventor of three patents in RF MEMS design.

Antoine holds a M.Sc. in Microelectronics from Grenoble Institute of Technologies in France and a M.Sc. in Management from Grenoble Graduate School of Business, also in France.

RELATED REPORTS

- 5G's Impact on RF Front-End Module and Connectivity for Cell Phones 2018** – *How is 5G enabling new business opportunities despite flat mobile growth?...* [More](#)
- Connected Medical Devices Market and Business Models 2017** - *The Internet of Medical Things (IoMT) powers industry momentum in digital health and reinvents healthcare organization...* [More](#)
- Sensors and Sensing Modules for Smart Homes and Buildings 2017** - *Turning homes and buildings into sensitive machines for living in...* [More](#)

**ABOUT YOLE DEVELOPPEMENT**

Founded in 1998, Yole Développement (Yole) has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services, reverse engineering and reverse costing services and well as IP and patent analysis. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 80 collaborators worldwide covering MEMS &

Sensors - Imaging - Medical Technologies - Compound Semiconductors - RF Electronics - Solid State Lighting - Displays - Photonics - Power Electronics - Batteries & Energy Management - Advanced Packaging - Semiconductor Manufacturing - Software & Computing - Memory and more...

The “More than Moore” market research, technology and strategy consulting company Yole Développement, along with its partners System Plus Consulting, PISEO and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business. . For more information, visit www.yole.fr and follow Yole on [LinkedIn](#) and [Twitter](#).

- Consulting & Financial Services: Jean-Christophe Eloy (eloy@yole.fr)
- Reports: David Jourdan (jourdan@yole.fr)

Yole Développement, System Plus Consulting, Knowmade, PISEO and Blumorpho are part of Yole Group of Companies.

Yole Group of Companies - Press Relations & Corporate Communication: Sandrine Leroy (leroy@yole.fr).

###