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**FOR IMMEDIATE RELEASE**

**No. 3175**

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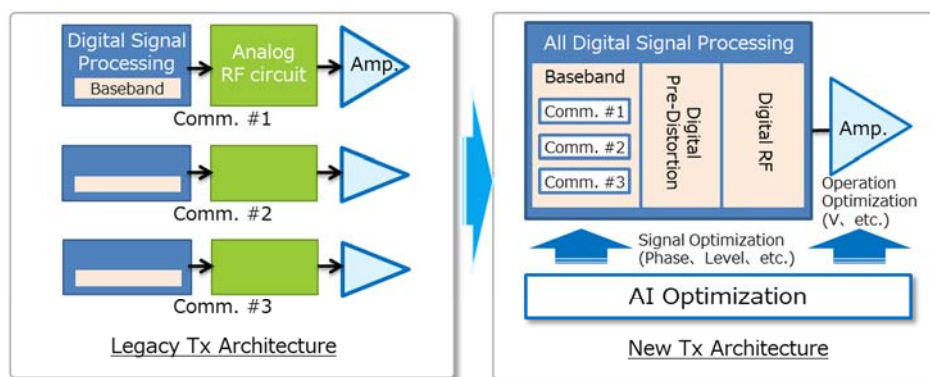
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## **Mitsubishi Electric Develops Intelligent Wireless Communication Technology Supported with Artificial Intelligence**

*Is expected to help reducing IoT device sizes and power consumption*

**TOKYO, February 14, 2018** – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has developed the world’s first wireless communication technology capable of automatic optimization using its Maisart\* proprietary artificial intelligence (AI) and advanced digital technology to enhance both performance and capacity. In tests, the amplifier has been proven to achieve double the normal gain and improve power efficiency by 20 percentage points compared to conventional systems. Furthermore, the transmitter can use various wireless communication access-mode standards while transmitting up to three arbitrary operating frequency bands simultaneously on a single circuit. This novel technology, which incorporates Mitsubishi Electric’s proprietary AI and all-digital technologies, is expected to significantly reduce the power consumption, improve the miniaturization and support the globalization of multiband IoT equipment for multiple communication standards and regulations.

\*Mitsubishi Electric’s AI creates the State-of-the-ART in technology  **Maisart**



### IoT market



## **Details**

- 1) The technology, which uses a proprietary AI algorithm to intelligently control and automatically optimize the input signal and multiple voltage controls of the amplifier, can be applied for both high and very low output power. The result is reduced power consumption in communication equipment compared with amplifiers operated with conventional technology. Under the current hardware configuration, Mitsubishi Electric's AI amplifier can support frequencies of up to 3.8GHz, which is suitable for use with 5G.
- 2) Mitsubishi Electric's all-digital transmitter technology uses software control to simultaneously support up to three arbitrary operating frequencies and communication standards on one circuit. It replaces the conventional analog transmitter with a simplified solution — an innovative programmable digital encoder that can be easily reconfigured with AI and software-defined radio.

## **Performance of New Intelligent Wireless Communication Technology Supported with AI**

	Gain	Efficiency	Bands / standards
New Technology	15 dB	55%	3
Conventional Technology	12 dB	35%	1

## **Background**

The increasing demand for wireless IoT devices such as smartphones, wearable devices, battery-driven sensors and so on is creating a necessity for smaller and more power-efficient devices that can support multiple frequency bands and communication standards simultaneously. Going forward, Mitsubishi Electric will continue to develop intelligent wireless communication technology that contributes to the increasing power efficiency, miniaturization and globalization of IoT equipment.

## **About Maisart**

Maisart encompasses Mitsubishi Electric's proprietary artificial intelligence (AI) technology, including its compact AI, automated design deep-learning algorithm and extra-efficient smart-learning AI. Maisart is an abbreviation for "Mitsubishi Electric's AI creates the State-of-the-ART in technology." Under the corporate axiom "Original AI technology makes everything smart," the company is leveraging original AI technology and edge computing to make devices smarter and life more secure, intuitive and convenient.

## **Patents**

Pending patents for the technology announced in this news release number 10 both in Japan and outside of Japan.

*Maisart is a trademark of Mitsubishi Electric Corporation.*

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### **About Mitsubishi Electric Corporation**

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,238.6 billion yen (US\$ 37.8 billion\*) in the fiscal year ended March 31, 2017. For more information visit:

[www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*At an exchange rate of 112 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2017