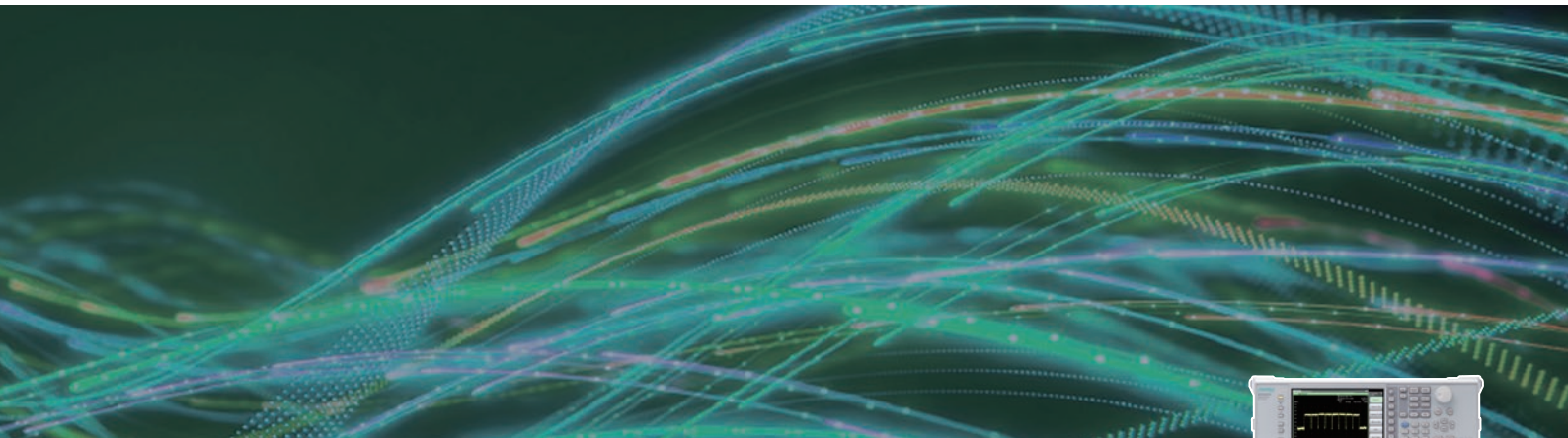




Spectrum/Signal Analyzers
MS2850A

TAMAGAWA ELECTRONICS VIETNAM CO., LTD

Rapid Deployment of Automated Test Systems Using a Signal Analyzer to Ensure Test Reproducibility for Wireless Infrastructure Products and Stable, Efficient Production

Value proposition

Close collaboration with Anritsu enabled the rapid development of an automated test system, and the proven reliability of the signal analyzer ensures stable and continuous operation of production lines.

Background and Challenges

Expanding production of wireless communication infrastructure equipment while maintaining strict communication quality assurance

Reasons for Selection

In addition to balancing the required technical specifications and implementation costs, the availability of local technical support proved to be a key factor

Introduction Results

Rapid deployment of an automated test system using the MS2850A to enable stable operation of the production line

Prospects

Accelerating global business expansion with Vietnam and Indonesia as strategic entry points

Mr. Junichi Suzuki
General Director
(at the time of the interview)

Currently:
President, Tamagawa Electronics Co., Ltd.



Name TAMAGAWA ELECTRONICS VIETNAM CO., LTD

Established April 10, 2015

Number of Employees Approximately 100

Business It is a specialized manufacturer in high-frequency wireless communications that is engaged in the design, production, and sales of products for mobile, next-generation, and public wireless communications, as well as weather radar applications. The company has inherited core technologies from its parent company, Tamagawa Electronics Co., Ltd., and it serves as a key manufacturing base supporting the group's device business.

Products RF synthesizers and power dividers, directional couplers, RF attenuators and terminations, coaxial connectors and cables, RF filters, antennas, master remote units, Points of Interface (POI), public wireless communication-related products, and weather radar-related products

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URL <https://tmev.com.vn>



Product introduced

Spectrum Analyzer/Signal Analyzer MS2850A

Capable of incorporating modulation analysis functions
Contributes to test automation and improved production efficiency

Background and Challenges

Expanding Production of Wireless Communication Infrastructure Equipment While Maintaining Strict Communication Quality Assurance

TAMAGAWA ELECTRONICS VIETNAM CO., LTD. (hereinafter "TMEV") was established in 2015 as an overseas base of Tamagawa Electronics Co., Ltd., which is headquartered in Japan (hereinafter the "headquarters"). As a specialized manufacturer in the field of high-frequency wireless communications, TMEV designs, produces, performs quality control, and supplies products for mobile communications and public wireless applications in Vietnam. In addition to this integrated operational structure, the company expanded its production capacity in 2025 with the introduction of a new factory. By leveraging the globally standardized quality and advanced technical expertise that has been developed at its headquarters, the company achieves high quality and cost competitiveness. Furthermore, TMEV is expanding its "out-out" business model (local production combined with overseas sales) and moving into the Indonesian market as part of its broader business development efforts in the ASEAN region.

The company's greatest strength lies in its ability to manage all its processes in-house, from product design and manufacturing to supply. This enables rapid decision-making and efficient production. So even amid intense competition with overseas manufacturers, it can offer customers optimal cost structures and timely product proposals. In addition, its ability to fine-tune the RF performance of products to meet individual customer specifications (or "tuning") further enhances the company's competitive advantage.

The company has been flexibly adapting its business operations in line with the development of the industry in Vietnam. This flexibility is also one

of the company's key strengths. Underpinning this approach is a commitment to selecting optimal business policies that reflect local needs and conditions. Junichi Suzuki (who at the time of the interview was the general director of the company but is now the president of Tamagawa Electronics Co., Ltd.), explained this approach as follows:

We place great importance on conducting our business with respect to Vietnamese culture while considering local values and customs. Rather than adhering rigidly to Japanese practices or approaches, we strive to respond flexibly to local conditions and needs to achieve optimal business operations.

Such business operations and contributions that are rooted in the local culture have been widely recognized in Vietnam, leading the company to be selected as among the top 12 companies for the "National Strong Brand 2025" and "Outstanding Business Leader 2025" awards. In addition to its strong social reputation and brand value, the company has also been highly evaluated for its contributions to developing human resources, and it is regarded as a company with strong growth potential.

Against this backdrop of social recognition and expectations, the company has expanded its production of wireless communication infrastructure products. This initiative, one of the largest production in the company's history, involved highly complex and technically demanding processes and strict assurances of wireless signal quality for customers. This required developing a new production-oriented test system utilizing a signal analyzer (SA).

Reasons for Selection In Addition to Balancing the Required Technical Specifications and Implementation Costs, the Availability of Local Technical Support Proved to be a Key Factor

TMEV has proactively invested in production facilities, and the initial candidates for the SA were highly functional flagship instruments available in the market. However, after carefully reassessing the balance between the required performance and functionality of the SA and the cost of implementation, the company decided to broaden its range of options, as Mr. Suzuki explains:

During the selection process, we were attracted to the highly functional flagship instruments offered by other vendors. However, Anritsu's Signal Analyzer MS2850A met our technical requirements, including wideband*¹ and EVM*² performance. Also, it was offered at a price point that we found acceptable, which led us to include it as one of the candidates. Furthermore, after closely evalu-

ating its modulation signal analysis capabilities, as well as the availability of technical support from the measurement instrument vendor in Vietnam, we ultimately decided to adopt the MS2850A.

*1: The MS2850A supports an analysis bandwidth of up to 1 GHz.

*2: EVM (Error Vector Magnitude) is a metric used to evaluate the degree of deviation or error in a digital modulation signal relative to an ideal signal.

Introduction Results Rapid Deployment of an Automated Test System Using the MS2850A to Enable Stable Operation of the Production Line

After adopting the MS2850A, TMEV began developing an automated test system for production lines that incorporated the instrument. Traditionally, the company has leveraged its RF performance "tuning" technology, which allows fine adjustments to meet individual customer specifications. This process has provided a strong competitive advantage, particularly for relatively low-volume production and custom-specification products. However, the wireless communication infrastructure products in this project required the largest scale of mass production in the company's history. Since tuning each unit in a mass-production environment would significantly increase production

workloads, it became essential to establish a process that ensured stable RF performance without tuning. Against this background, the primary objectives of developing the automated test system were threefold: (1) to ensure test reproducibility, (2) to improve production efficiency, and (3) to enable stable RF performance during mass production without tuning. In addition, particular emphasis was placed on building a production line that could be operated smoothly by local engineers who were not yet familiar with the instrument. However, several challenges emerged during the system development process. Mr. Suzuki recalls the situation at the time as follows:

The first challenge was responding quickly to issues that arose while developing the automated test system. Although several problems occurred during system implementation, Anritsu engineers, who were stationed on site and provided hands-on support, worked closely with our engineers to resolve them. So whenever issues arose, the Anritsu engineers promptly proposed effective solutions.

Ensuring correlation between the modulation signal analysis test results obtained locally and those at the headquarters was also a critical challenge. However, a correlation between the two sets of results was established at an early stage, and a correlation was also achieved with our customers' results. As a result, we built the production line, including the automated test system, in a short period of time, which was highly appreciated by our headquarters.

In addition, since the local engineers had no prior experience using the MS2850A, determining how to conduct effective training was another challenge. Initially, some engineers struggled with basic operations and configurations. However, with the training by Anritsu, as well as the prompt and courteous support via phone and email to technical inquiries, these issues were gradually resolved. Being able to receive direct, practical guidance and troubleshooting support from Anritsu on-site was very reassuring.

Since the production line was launched, no major production-related issues have been reported, and stable mass production has continued as planned.



Prospects Accelerating Global Business Expansion with Vietnam and Indonesia as Strategic Entry Points

In 2025, TMEV expanded into Indonesia to increase its supply of wireless communication infrastructure equipment. By further strengthening its presence in the ASEAN market, the company aims to expand into the global market. Mr. Suzuki explains the following:

In our business strategy, we are placing even greater emphasis on strengthening the 'out-out' model to strengthen its locally driven operations. In particular, demand for 5G-related products is rapidly increasing in the fast-growing Indonesian

market, and we are actively expanding our entry into the local mobile communications sector. Looking ahead, we are also considering expanding into the public infrastructure field. To expand supply in the mobile communications sector, testing RF performance is indispensable. Therefore, we intend to continue collaborating with Anritsu while introducing advanced test technologies and automated test systems to further enhance product competitiveness and build trust in the ASEAN market.

Based in Vietnam, TMEV continues to strengthen its competitiveness through an integrated in-house structure covering design, manufacturing, and supply, combined with an approach that meets the demands of global markets. Assisted by Anritsu's measurement technologies, the company is creating new opportunities in global markets by leveraging its advanced RF technologies.