

Testbed for Components and Materials for Quantum Computer

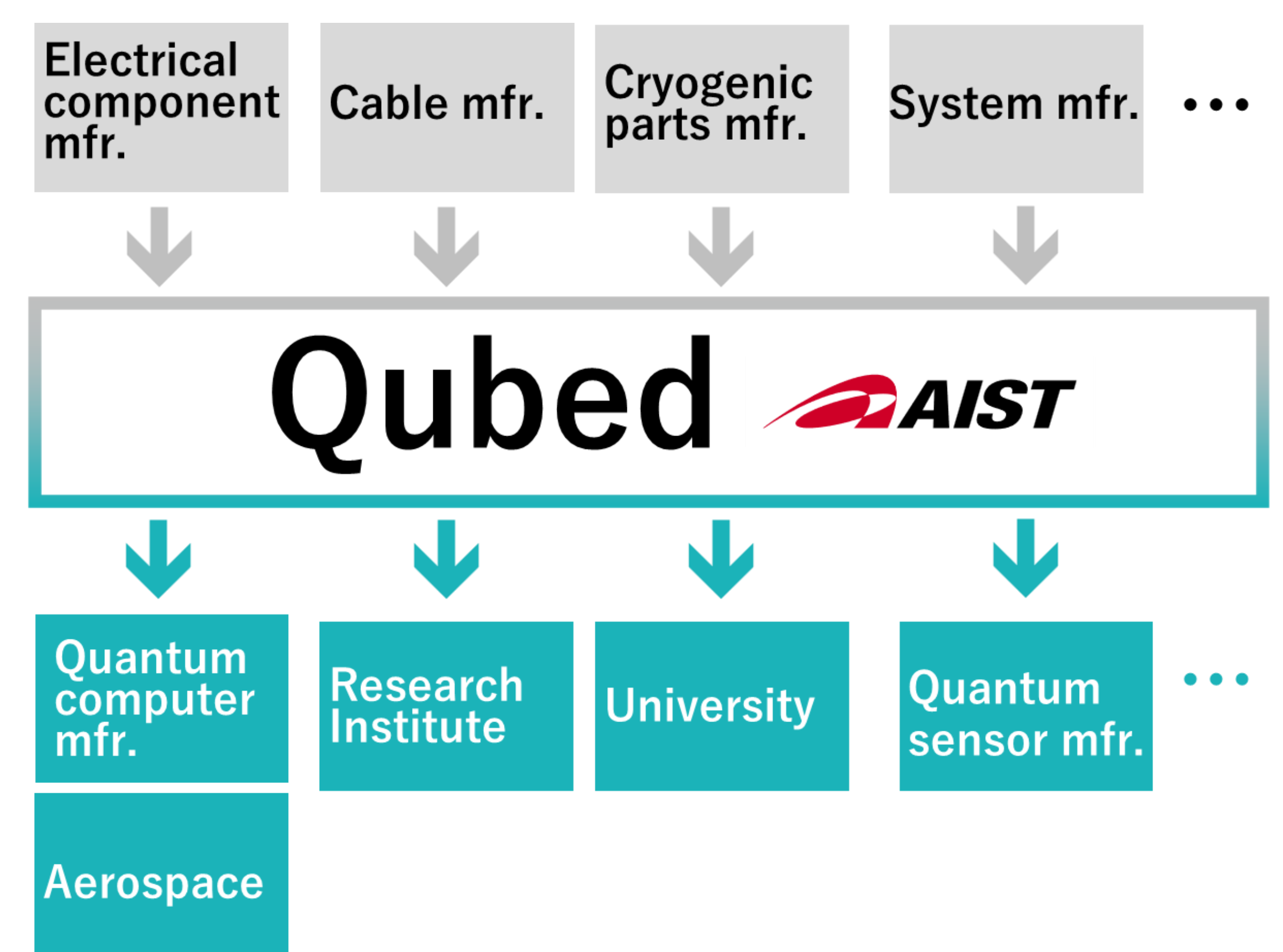
Qubed

- Evaluation environment for components and materials for quantum computers.
- A platform capable of assessing high-frequency, cryogenic, thermal, and optical properties.
- Clarifying evaluation standards for quantum components and materials to support the establishment of a supply chain.

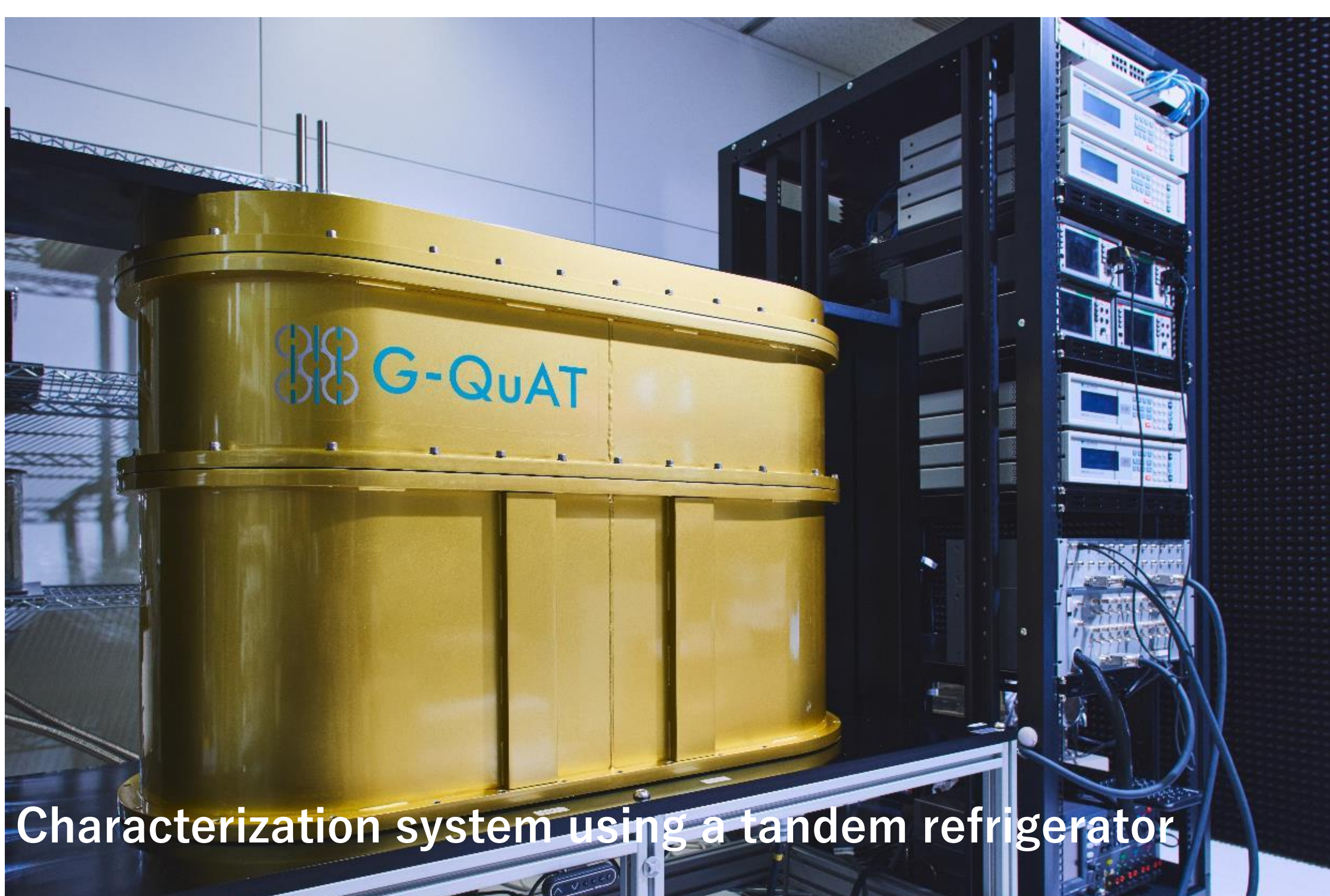
Evaluation Service

To realize **large-scale quantum computers**, a variety of **quantum components**—such as wiring, amplifiers, and connectors with excellent properties—are essential. Establishing a supply chain for these components requires both a **robust evaluation environment** and **clearly defined assessment standards**.

The **Qubed** serves as a platform for evaluating **high-frequency, cryogenic, thermal, and optical properties** of quantum components and materials. Through this initiative, we aim to **lower the barriers** for companies with diverse technologies to enter the **quantum industry**.



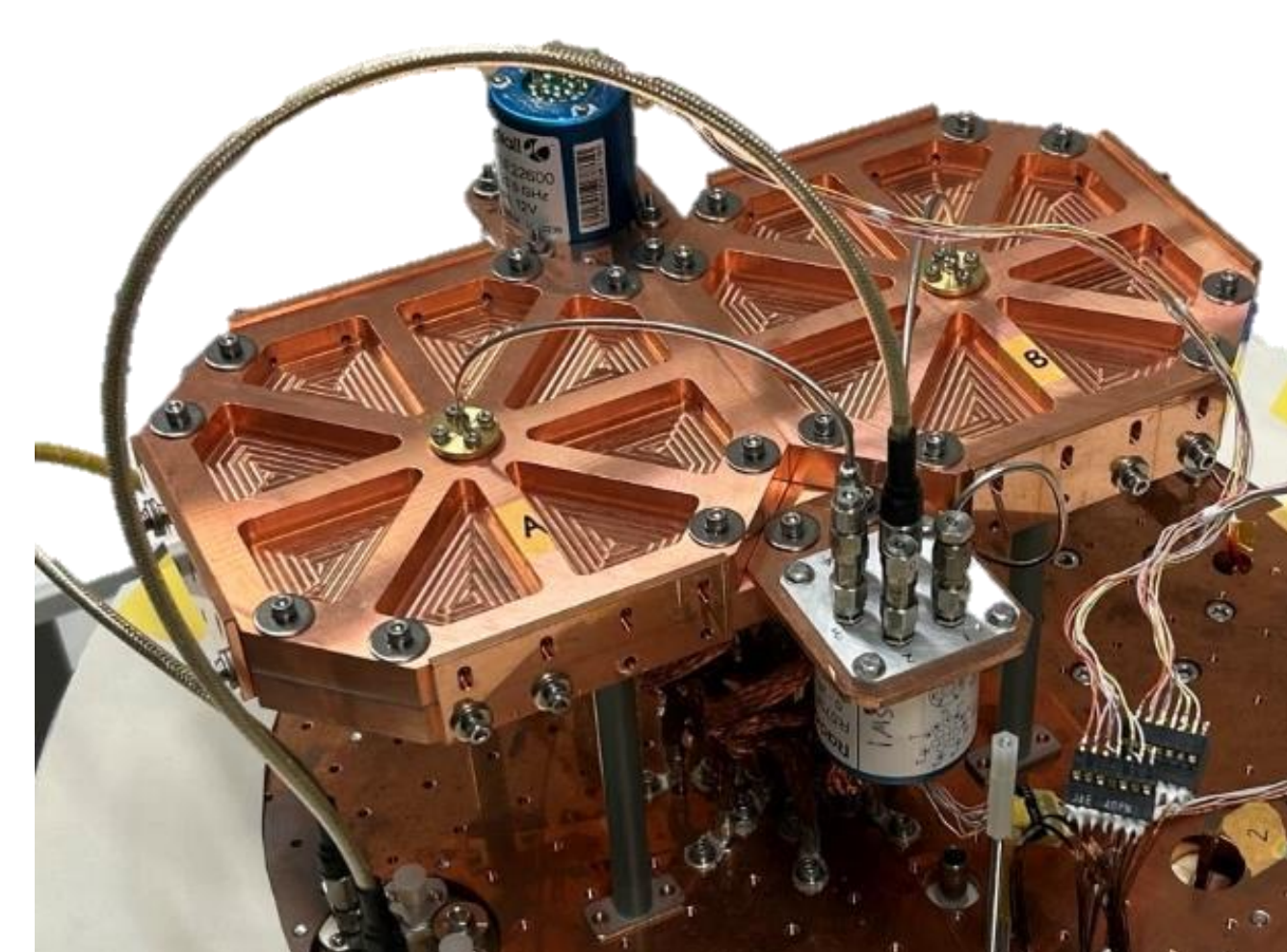
Evaluation of High-Frequency Components



- Emulating quantum computing environments with a **tandem refrigerator** and characterizing **cryogenic RF components** such as cables and circulators.
- **Microwave measurements** calibrated at arbitrary temperatures from 4 K to 300 K using a **high-frequency switch system**
- **S-parameter measurements** and **time-domain analysis** up to 26.5 GHz
- **Simultaneous measurement** of multiple **microwave components** with a **high-frequency system** of up to 8 ports.

Other Measurement Solutions

- Cryogenic characterization of dielectric and metallic materials for high-frequency substrates
- Cryogenic evaluation of magnetic and thermal properties
- Proprietary evaluation methods developed for quantum devices



Resonator for high-frequency material parameter evaluation

