

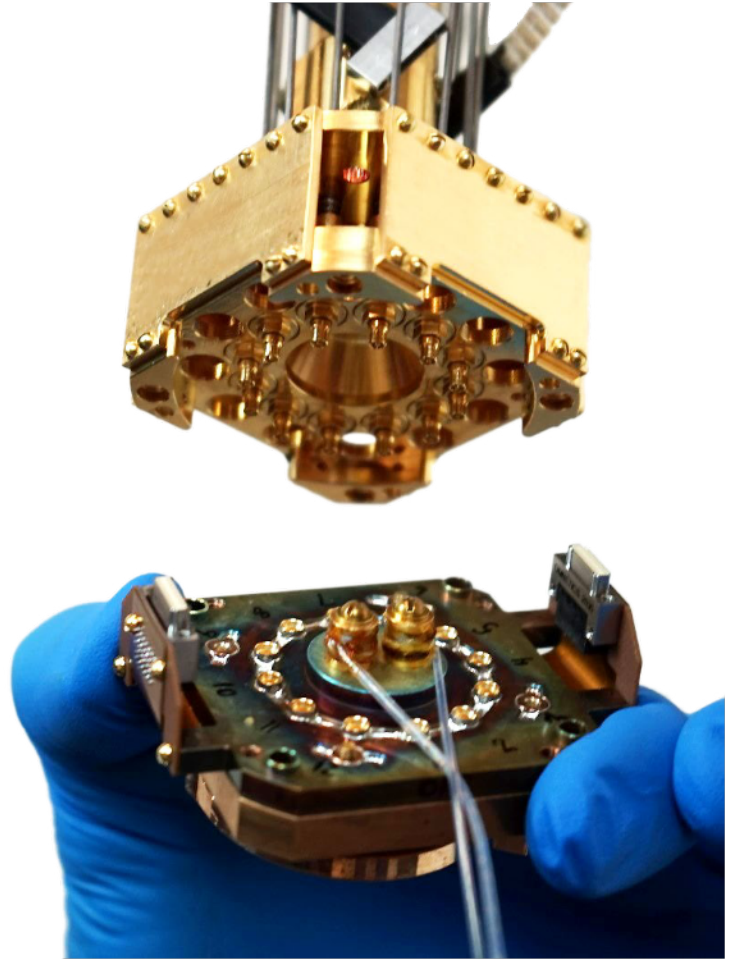
# HPD PQ500

## Cryogenic Probe Socket Solution

### ➤ Overview

The HPD PQ500, an innovative, high-density RF and DC socket interface for FormFactor's HPD cryostats, enables developers to test chips without days-long delays for wire bonding and packaging, providing faster time to data. The new test system, the first commercial product of its kind, allows scientists to easily probe DUT pads at temperatures lower than 50 mK, providing the means for earlier and simpler characterization of device features in superconducting or silicon spin qubits, and other devices tested at cryogenic temperatures.

As the quantum industry matures and scales up the number of qubits for commercialization, accelerating test setup and ease-of-use becomes a priority. The PQ500 simplifies the test process for singulated die to accelerate test setup.

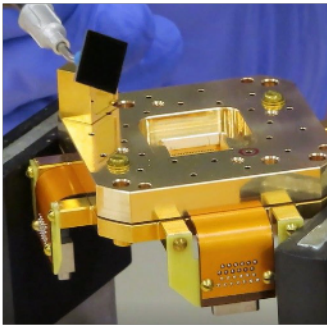
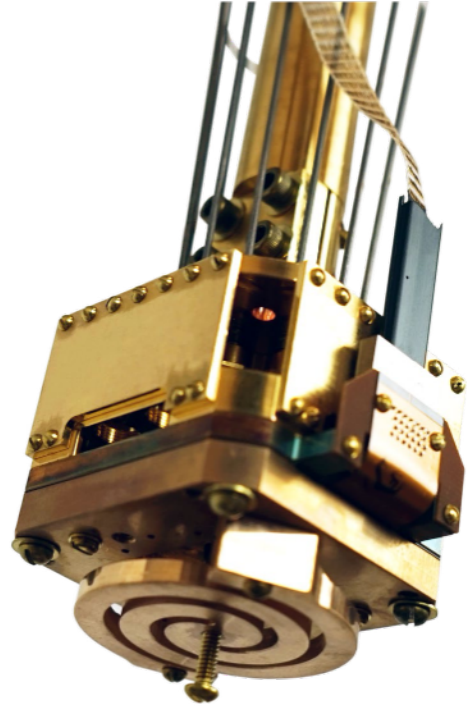


## > Features

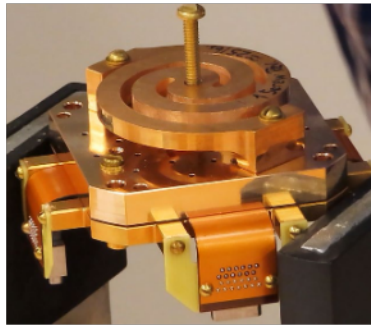
- **Comprehensive I/O connections:** Standard setup of up to 24 RF 10 GHz lines and 100 DC lines, with optional extensions for unique customer requirements.
- **Non-magnetic construction:** Capable of characterizing qubits down to 50 mK without magnetic interference.
- **Sample size:** Proven with chips up to 10x10 mm in size.
- **Pressure-based contact:**
  - Connect test and measurement I/O to DUT pads using pressure only.
  - No permanent connection required.

## > Design Specifications

- DC lines; 48 shielded twisted pairs
- RF lines; 24 coax with < 20 GHz
- Options for more DC and RF lines with higher bandwidth
- Compatible for use < 40 mK
- Minimum pitch: 150 um
- Perimeter or full-array layouts can be used
- Custom space transformers for superconducting circuits
- Accurate DUT temperature readout with embedded temperature sensor



Chip Loading



Thermal Clamp

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