Service description

Semi-automated probe system with accessories

Tender number IHP-2026-015

Leibniz Institute
for High
Performance
Microelectronics

The tender aims to procure an integrated system for optical and opto-electrical characterization on wafer and chip level in the visible (VIS) spectral range. The system shall consist of a 200 mm semi-automated probe station equipped with temperature-controlled chuck, microscope and manual manipulators for RF/DC probes, as well as for fibers and fiber arrays. The system should be installed in a laboratory environment outside the cleanroom.

General Remarks:

- user manual must be included
- safety instructions must be in german
- warranty of 24 months for all parts
- no refurbished system (chambers, parts)
- as separated option an annual maintenance contract for 3 years (stage planarization, lubrication and thermal chuck calibration) shall be calculated
- delivery to the point of use (laboratory)
- installation and 2 days training must be included
- full conformity to CE
- has to fulfill the actual “machinery, and amending Directive” (EG-Maschinenrichtlinie)
- operating system: Microsoft Windows 11
- requirements for power connection in the house: 230/400VAC 50 Hz separate PE/N" -TN-S Net
- remote control via GPIB with IEEE-488.2 and LAN
- tool delivery according to INCOTERM 2020 DDP, DAP to a defined place inside IHP (maximum width of 140 cm and max. height 200 cm for Move In)
- if delivery is from outside EU, the supplier is importer

				To be completed by the bidder	
Pos.	Description of the service	Quantity	Unit	Price per unit EUR	Total price EUR
1	**Semi-Automated Wafer Prober for 200 mm wafers with the following properties:** • wafer size up to 200mm • automated wafer size detection • vibration isolation system included • wafer chuck: nickel plated • auxiliary chuck for cleaning and calibration substrates (min. 20 x 20 mm) • auxiliary chuck for single dies for vertical and horizontal optical coupling • automated wafer Θ alignment with pattern recognition • wafer mapping with support of sub-site wafer map • side-view camera (probe tip/fiber contact view) • chuck-temperature control system ○ air cooled (economical solutions reducing CDA consumption are preferred) ○ range: +20°C to +200°C ○ accuracy: 0.1°C ○ resolution: 0.01°C	1	piece		

	• airgun for wafer surface cleaning • vacuum wafer handling tool with holder • mechanical properties of the wafer chuck (at constant temperature) o motorized x, y, z, Θ – axis o xyz-accuracy ≤ 2µm o xyz-repeatability ≤ 1µm o xyz-resolution ≤ 1 µm o Θ travel range ≥ ± 5° o chuck planarity ≤ ±12µm o active contact height correction o Kelvin Triax force and sense connection o vacuum area for single dies (min. 5mm x 5mm) • microscope o top view camera o motorized movement with range ≥ 50mm(X,Y), ≥130mm(Z) o 40x zoom factor o 5x objective lens included o changeable objective lens with automated detection o min. two optical paths with different magnification o working distance object lenses ≥ 45mm o frame rate ≥ 20fps o auto focus and follow mode o software controlled light on/off, shutter o Z-profiling available o optical filter for 840-870nm • additional camera (upper looking) for fiber tip and probe tip inspection • two monitors included • additional space for storing measuring instruments on the rear of the probe station o max. allowed load ≥ 70kg • system upgradable to two 6-axis motorized positioners for automated fiber alignment				
2	**Auxiliary chuck for optical calibration** • system of mirror included • for manual fiber adjustment • optical power sensor: 700 -1800 nm	1	piece		
3	**Manual positioner for fiber optics** • positioner arms included • single fiber holders (in total 2) with adjustable coupling angle from vertical to ≥20º • fiber array holder with adjustable angle from 10 to 16 deg (suitable for arrays with width of 4mm and 2.5mm) • high screw resolution XYZ: ≤ 25 µm • adjustable planarity angle • manual positioner	2	piece		

	• universal version for north and south • travel range: ≥ 12mm in X/Y/Z directions • magnetic				
4	**Manual positioner für RF and DC probes** • compatible with standard RF and DC probes (from e.g. FormFactor, MPI, GGB) • positioner arms included • high screw resolution XYZ: ≤ 300 µm • adjustable planarity angle • manual positioner • universal version for east and west • travel range: ≥ 12mm in X/Y/Z directions • magnetic	2	piece		
5	**Instrument shelf** • integrated with Probe Station • suitable for M9505A (including AWG module M8199B) from Keysight • supporting cable connection < 30cm between output of AWG module M8199B and RF probe • feasibility study of the solution shall be provided (e.g. CAD drawing)	1	piece		
6	**19” Rack for measurement instruments** • height: >1.85m and < 2.00 mm • suitable for 19” instruments • min. 5 adjustable shelfs • power strip on the back side (8 sockets) • wheels for easy transportation • black	2	piece		
7	**Measurements Software** • to control probe station • to control measurement instruments (via GPIB, LAN, RS232) • programming language: C or Python • based on SCIPI commands • configurable for data export • perpetual	1	piece		

Net offer total:	
% VAT	
Gross offer total	

notes:
The service described in the service description is to be providedonce.

After the contract has been awarded, a separate contract will not be drawn up for the requested service. In any case, a letter of engagement will be drawn up.

The contractor is obliged to take back packaging free of charge at the request of the client.

By submitting the bid, the bidder confirms compliance with the execution and delivery deadlines specified in the service description.

Stamp, date and signature of the bidder

The service description with the prices offered must be signed; the signature is valid for all pages, otherwise the offer shall be deemed not to have been submitted.