Silicon Photonics Probe Station for O-O, O-E & E-O Characterizations

	MECHANICAL PERFORMANCE SPECIFICATION OF SILICON PHOTONICS PROBE SYSTEM FOR O-O, O-E & E-O TEST SETUP	
A.	**CHUCK X-Y STAGE**	
	It should have independent X & Y axes Control	
1	X-Y Stage Travel Range	155mm x 155mm or more in both X & Y axes
2	X-Y Fine Travel Resolution	5um
3	Load Stroke for Y axes	90mm
4	Z Contact / Separation / Load Stroke	0-3mm Adjustable
	CHUCK THETA STAGE	
5	Theta Travel	±8° Range of Motion
6	Theta Resolution	0.0075 gradient
B.	**DUT DESIGN**	
1	DUT Holder	DUT holder for 7.6 x 5.8mm chip for East/West Edge probing.
2.	Accessories used for optical waveguide coupling	It should facilitate both Grating (10° with respect to vertical) and Edge coupling setup
C.	**PLATEN SYSTEM**	
	The platen top should be large enough to accommodate Optical & Electrical Probing accessories	
1	Material	Stainless Steel
2	Maximum Number of Positioners	up to two Optical & two RF Positioners
3	Platen to Separation Lift Range	200um
4	Separation Repeatability	< 1um
5	Z-height Adjustment Range	≤ 40mm
6	Positioners Mounting	Bolt-Down for optical positioners & Magnetic for RF Positioners
D.	**MICROSCOPE BRIDGE & MICROSCOPE**	
1	Microscope System Mount	Solid Bridge Mounted for stable & Low drift Movement
	Slim Vue Microscope Camera	
1	Magnification	1x - 30x magnification from 600um x 450um to 200um x 150um
2	Working Distance	33.5mm
E.	**Optical/RF POSITIONER & ACCESSORIES**	
1	Motorized Optical Positioners	Two motorized probe positioners, compatible with Nanocube
2	Travel in X, Y, Z axis	12.5mm or better
3	Optical Positioner Resolution	≤ 0.3µm or better
4	NanoCube for Optical Fine Positioning	0.4µm within 100µm Travel Range
5	Manual RF Positioners	Two (Magnetic)
6	Travel in X, Y, Z axis	12.5mm or better
7	RF Positioner Resolution	≤ 1µm or better
8	40GHz RF Probes for OE, EO & S-parameter Measurement	Two set of 40Ghz Infinity probe with angle connectors type

9	Frequency Range	DC to 40GHz
10	RF Probe Tips Configurations	GSG
11	RF Probe Pitch	150um
12	RF Probe Temperature Range	10 °C to 60 °C (+/- 5 °C)
13	RF Cables	2 pieces of male/female flexible cables with length ≥ 1200 mm for angle style probe body with suitable connectors
14	RF Cables Insertion Loss	<4.26dB
15	Corresponding Cal Substrate	Self-developed On-Wafer RF Calibration Substrate or Impedance Standard Substrate for probe pitch 100– 250um, DC – 40 GHz, Short, Open, 50Ω Load, Through standards
16	Contact Substrate	Substrate with Aluminium for RF planarity check
17	RF Cal Software	Self-developed calibration software to support multi-line TRL
F.	**VIBRATION ISOLATION TABLE**	
1	Vibration Isolation Table design	(i) Granite top: 800x800x750 mm (ii) Natural Frequency: 2.5 Hz (Vertical & Horizontal)
2	Vibration Isolation Methodology	Adjustable air damping system, Automatic Load Balancing
3	Load Capacity	≥ 360 kg
G.	Supplier should provide technical compliance including explanations without fail against each point given in the technical specifications for consideration of the offer.	
H.	Power requirement: As per Indian electrical standards (230V AC, 50 Hz)	
I.	Warranty: Comprehensive warranty for 1 year from the date of installation.	
J.	Parent company should be an established company with good number of installations (at least 50) and after sales support in India as well.	
K.	Standard configurations will be required. **NO CUSTOM-BUILT SYSTEMS WILL BE ENTERTAINED.**	
L.	**OPTIONAL**	
1	Vacuum Pump	Vendor should provide suitable oil less vacuum pump with the system.
2	Air Compressor	Vendor should supply suitable air compressor for complete functioning of the table.