National Centre for Physics

Detailed specification Document

Annex-B

S#	Title of the Project			
	Item	**Specification**	**A/U**	**QTY**
1.	Impedance Analyzer	• Model: IM3536 • Measurnment Frequency Range: 4 Hz to 8 MHz • Resolution Frequency: Up to 10 mHz (frequency dependent) • Impedance Measurement Range: 1 mΩ to 200 MΩ • Accessories Included: Power Cord, Instruction Manual, Communication Software Manual (CD-ROM)	Nos	1

Note: All the components installed should be compatible with the system and each other.
Please tick the relevant box

☐ Installation ☑ Testing ☐ Commissioning ☐ Training

☐ Warranty requirement Any other please specify

Specification of Probe Station:
Vacuum chamber with 110mm high IR transmission optical flange window
Radiation shielding with 100mm low IR transmission optical window
4inch chuck with +-5 micron flatness
6 micropositioner flange adapters
1 KF40 vacuum port and 1 vent port for fast release
Coaxial Vapor-cooled shielding optimizes cryogen efficiency
Cryogen flowback design for radiation shielding
KF flange , System Ultimate vacuum better than 5*10^-4 Pa(with 250L/s turbo pump)
Leak rate better than 1.3*10^-10Pa.M3/s
Cooldown time from RT to 80K (LN2) /10 K(LHe): <40 mins
Temperature stability: +/- 100 mK

Microscope
10 micron tip diameter probe, 5PC/BOX
Triaxial (Female) HS adapter
Field-of-View (High-Mag.):0.91 x 1.22 mm
Working Distance:89 mm
150W High Power LED White Light Intensity Stepless Control LS-2
Vibration Free Table
Dimension: 75cm x 65cm (For reference only,The actual size will be adjusted according to the probe station)
Veritical Natural Frequency 1.5Hz
Horizongtal Natural Frequency 1.2Hz
Weight Around 400kg
Leybold Turbo station
Pumping rate(N2):90l/s for NW40 bellow
Ultimate vacuum better than 5*10^-8 mbar
Compression ratio(N2):>1*10^11
For vacuum measurement (Pirani gauge and ionization gauge)
Temperature Controlling systems
Two PID channels output and 3 channels input
Loop1 Heater output 600 watts, current controlled
Loop2 Heater output 200 watts for radiation shielding
Temperature range :77K-770K(LN2)
Temperature resolution :0.001°C
Chuck surface temperature compesation function
Sensor Temperature deviation:0.5%
3 PT100 Sensors for Chuck, radiation shielding and tip holder

LN2 flow rate automatic control
LN2 Dewar with rollers and brakes
LN2 Flow modual and temperature module working together to control chuck temperature
Manual and automatic LN2 control available

21.5 inch HD display
HDMI interface HD (2 megapixels) CCD 16