

ANNEXURE-IV

ITEM SPECIFICATION

4-Channel Single Photon Detection System - SNSPD

PERFORMANCE SPECIFICATION OF SUPERCONDUCTING NANOWIRE SINGLE PHOTON DETECTOR SYSTEM		
A.	SUPERCONDUCTING NANOWIRE SINGLE PHOTON DETECTOR AND ELECTRONICS	
1	Wavelength Range	Atleast ± 30 nm around 1550 nm
2	Detection Efficiency	> 80 % for TE polarization
3	Recovery Time	< 100ns
4	Dark counts @ max SDE:	< 100 Hz
5	Jitter, FWHM:	< 100 ps
6	Detector Fiber coupling	SMF28e+ 9um core fiber
7	Detector Biasing Electronics	Required
8	Room Temperature Low Noise Amplifier	Required
9	Sharp positive or negative pulse output	~150mV pulse height
	Quantity	4
B.	TIME TAGGER FOR COINCIDENCE MEASUREMENTS	
1	Timing Resolution	< 30 ps (FWHM)
2	Number of Input Channels	4
3	Upgradable upto	At least 16 channels
4	Controlled Software	Required
	Quantity	1

C. CRYOSTAT SPECIFICATIONS		
1	4He sorption fridge with base temperature of 0.8K for periods	>28 Hours
2	Compressor with power consumption	<1.5 kW
3	Number of RF (SMA) Inputs	4
4	Optical feedthrough for 4x fibers	with FC/PC input ports
5	Temperature controllers	2
6	software for fridge control and one-click cooldown, cycling, scheduling cycles, graphical monitoring, temperature logging	Must be compatible with Windows & Linux
7	System can be upgraded to	32 fiber and coax channels
8	19" rack-mounting kit	Required
D. Supplier should provide technical compliance including explanations without fail against each point given in the technical specifications for consideration of the offer.		
E. Power requirement: As per Indian electrical standards (230V AC, 50 Hz)		
F. Warranty: Comprehensive warranty for 1 year from the date of installation.		
G. Parent company should be an established company with good number of installations (at least 50) and after sales support in India as well.		
H. Standard configurations will be required. NO CUSTOM-BUILT SYSTEMS WILL BE ENTERTAINED.		
I. OPTIONAL		
1	Vacuum Pump	Vendor should provide suitable oil less vacuum pump with the system.