



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref No.(PR No. 100035812)

(Rfx No. 6100001554)

Technical Specifications of 3T Digital PET/MR:

Sr. No.		Compliance (Yes/No)	Vendor's Remark
1	<p>Requirement of a light weight portable bench-top pre-clinical gamma camera unit for high-throughput in vivoscintigraphic screening of small animals.</p> <p>1.Gamma Scintigraphy System:</p> <p>(a)Type of detectors: PSPMT / SiPM detectors</p> <p>(b) Scintillator Material: NaI / CsI / GaGG:Ce based, with good sensitivity (at least 50 cps/MBq or more with Tc-99m)</p> <p>(c) Collimator design:</p> <p>i) Parallel hole / diverging hole design suitable for whole body real-time image construction of small animals.</p> <p>(ii)Constructed of material suitable for efficient imaging of a wide range of isotopes in the energy range of at least upto 320 keV or more.</p> <p>(d) Field of View: At least 5 x 10 cm. Suitable for whole body imaging of mice.</p> <p>(e)Energy resolution: $\leq 20\%$ at 140keV or better.</p> <p>(f) Image spatial resolution: $\leq 2\text{mm}$, with Tc-99m</p>		
	<p>2. Image Acquisition / Processing Laptop Specifications:</p> <p>a) Processor: 64-bit processor i5 or better with minimum 8 cores (or higher)</p> <p>b) RAM: 16GB RAM (capable of upgrade up to 32GB or greater)</p> <p>c) SSD: 512GB or greater SSD for running OS and all programs.</p> <p>d) HDD: 2TB or greater storage HDD Internal / External (with high-speed USB connection)</p> <p>e) Graphics: Suitable quality on-board / external GPU</p> <p>f) Network: Apart from all connections to the</p>		

	<p>instrument, laptop should have at least one Ethernet port to accommodate intranet connection for ease of file transfer.</p> <p>g) OS: 64-bit user-friendly Linux / Windows based OS, compatible with hardware specifications and image processing programs. Should include a facility for network connection and a web browser for accessing the intranet.</p> <p>h) The supplier or their authorized local agent will take full responsibility for any servicing, including all hardware and OS/Software related issues with the laptop. A certification to this effect must be provided with the quotation.</p>		
	<p>3. Animal Beds / Phantoms / Anesthesia</p> <p>(a) Animal beds: Motorized animal Bed(s) suitable for mice should be included with the system, with necessary facilities for keeping the animal warm during imaging.</p> <p>(b) Phantoms and calibration standards: All necessary phantoms and calibration standards should be provided.</p> <p>(c) Gas anesthesia system: System should be compatible with our existing isoflurane gas anesthesia unit in the department, with necessary inlet and exhaust ports for keeping the animal continuously under isoflurane gas anesthesia during the entire imaging process.</p>		
	<p>4. Additional Parameters – Installation, Servicing, Updates, Warranty</p> <p>Authorized local agent: The supplier must have an authorized local agent in Mumbai or at least in India, who will undertake installation, demonstration, training and all necessary on-site calibration, servicing and repair activities.</p>		
	<p>5. Warranty: The instrument must have a minimum warranty of 3 years, covering all the components including the image acquisition / processing computer and all pre-installed software. The vendor should provide any software updates / upgrades during this period at no additional cost. As part of the support, application scientists should be available to advise on study design as per user's requirements to achieve best use of the system.</p>		
	<p>6. Annual Maintenance Contract: The supplier must undertake to ensure availability of authorized local agents to give a minimum of 5</p>		

	<p>years of onsite maintenance / repair service beyond the period of warranty against AMC. Any software updates for the supplied hardware during the period of AMC should be provided at no additional cost.</p>		
	<p>7. Physical Dimensions, Power and Other Requirements: (a) Space (L x W X D in cm): 70 x 70 x 70 cm (b)Weight: 70kg or lighter, should be easily portable without mechanical aids like forklift, able to set up in multiple locations based on end-user needs. (c) Power requirements: System should be compatible with 230V 50Hz power supply. Wherever required, suitable adapter and connections compatible with Indian power sockets should be provided. (d) PC connectivity: USB and Ethernet connections. All necessary cables and accessories should be provided. Proprietary connectors should be avoided.</p>		
	<p>8. Environmental requirements: (a) Room temperature: Instrument should be compatible with operation in room temperature conditions of 20-35 degree, or better. (b) Humidity: System should be compatible with operation with Mumbai room humidity conditions (60- 90%). For maximum operations, the system will be housed in a centrally air conditioned facility.</p>		