

**Bidder Eligibility Criteria:**

1	<b>Bidder Eligibility Criteria-I</b>	<b>Complied/Not Complied</b>	<b>Ref Pg. No</b>
1	The bidder/OEM should have supplied at least 2 similar items to IITs, NITs, IISERs, CSIR Labs or other Government organizations in India or Reputed research organization in abroad in the last 5 years, PO copies or installation certificates along with contact details of the end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation		

**Technical Specification for FTIR with Far IR capability and ATR accessory**

State of the art Fourier Transform Infrared Spectrometer (FTIR) with Far Infra Red (Far IR) capability and versatile Attenuated Total reflectance (ATR) accessory to be provided. The system should be completely sealed with purging facility. Suitable for routine and advanced laboratory analysis of samples like organic, Inorganic, solid, liquids, polymers, ceramics etc.

S. No	Feature	Specifications	Complied/Not Complied	Ref Pg. No
1	Design aspects	Spectral range 7500 – 80 cm <sup>-1</sup> or wider.  Minimum spectral Resolution of at least 0.2 cm <sup>-1</sup> or better.  S/N 55000:1 Peak to peak or better .  Wave number accuracy 0.01 cm <sup>-1</sup> or better.		
2	Sources	High intensity NIR/MIR/Far-IR/ sources with a lifetime of more than 5 years in the spectral range 7500-80 cm <sup>-1</sup> .		
3	Detectors	Suitable (DLaTGS/DTGS/InGaAs) detectors for entire spectral range 7500-80 cm <sup>-1</sup> .		
4	Beam splitter	Suitable beam splitters to cover the entire range with automatic switchover.		
5	Interferometer	Michelson interferometer with auto alignment mechanism and gold coated optics.		
6	Purging facility	Purging accessories (pressure gauges, tubing, valves etc.) for Interferometer, sample compartment and		

		detector.		
7	ATR accessory	A versatile ATR for analysis of solids, liquids and gels.  ATR accessory with single bounce Diamond crystal for the complete specified spectral range  Work disk: Stainless steel.  Purgeable and sealed beam path.		
8	Additional crystal for ATR	Germanium Crystal for analyzing black samples.		
9	Software	Latest software for data acquisition, processing, evaluation, reporting and options for water vapour and CO2 reduction.  Licensed Spectral library should be available.		
10	Far IR accessory	Suitable vacuum pump /dry air compressor/ Nitrogen purging with accessories.		
11	Chiller/cooling unit	Integrated chilling/cooling unit should be provided where needed.		
12	Sample preparation unit	Hydraulic press, pellet holder(2nos), Thin film holder (2nos) , die set, agate mortar with pestle, Spectrograde KBr powder (minimum 5x100 gms), Spectrograde Polyethylene powder (minimum 5x100gms) and IR lamp for drying KBr.		
13	fixed path Liquid cells	KBr (2 pairs) , CaF2 (2 pairs) and ZnSe (2 pairs)for 0.5 mm path length.		
14	Demountable liquid cells	KBr (2 pairs) for organic solutions and CaF2 (2 pairs) for aqueous samples with varying thickness spacers for different path lengths of 0.2mm,0.5mm, and 1 mm.		
15	Standards	Polystyrene and PET standards for FTIR and ATR to be provided.		
16	PC & printer	Branded PC (HP, Dell, ASUS, Lenovo or equivalent) with i7 core processor, min 8 GB RAM, min 1 TB HDD, with Windows 11 (with permanent licence), 21 inch monitor, keyboard, mouse etc.		

		Branded Laser (HP, Epson, Canon, Brother or equivalent) printer to be included.		
17	UPS	High performance online UPS (5 KVA) with in-built isolation transformer with battery backup for 1-hour (at full load) to be provided.		
<b>Optional items</b>				
18		Variable temperature accessory (RT or lower to 150 °C or higher) for ATR measurements of solid, liquid and gel samples to be quoted.		
19		Variable path length cell for FTIR measurements of liquids to be quoted		
20		The sample holder for analyzing gas samples preferably with KBr and NaCl for the path length 50 mm to be quoted		
21		The automatic sample changer for FT-IR to be quoted		
22		AMC (Annual maintenance contract) charges for 4th and 5th years after warranty period to be quoted		
23		Provision for coupling an IR microscope to be quoted		
<b>Terms and Conditions</b>				
24		3 years comprehensive warranty for FT-IR with Far IR and ATR accessory and 5 years warranty on Interferometer, laser and source to be provided		
25		Range of measurement should be upgradable in future.		
26		Hard and soft copies of the manual to be provided.		
27		Software upgrade should be incorporated by the vendor as and when the new versions are released at no additional cost.		
28		Spares and consumables required for trouble-free operation during Warranty period to be ensured.		
29		One week Onsite training for operation and maintenance to be provided.		
30		Service visit by company Engineer is mandatory as and when required.		

**SIGNATURE OF BIDDER ALONG WITH  
SEAL OF THE COMPANY WITH DATE**

**(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number / or make & model number (comply/not comply) for the above points with document proof as required. Failing which bidders will be technically disqualified)**