

Key Specifications

		TAS7500IM Terahertz Imaging System	TAS7500SL Terahertz Spectroscopic System Low-Frequency Coverage	TAS7500SP Terahertz Spectroscopic System	TAS7500SU Terahertz Spectroscopic System Wide-Band Coverage
Primary measurement applications ^{(*)1}		Tablet imaging and analysis	Spectroscopy (transmission/reflection modes) ^{*1}	Spectroscopy (transmission/reflection/ATR/ transmission polarization analysis modes) ^{*1}	Spectroscopy (transmission/reflection/ATR modes) ^{*1}
Analytical object		Pharmaceutical tablets	Dielectric material, other reagents and chemical materials	Dielectric material, pharmaceutical tablets, pharmaceutical products (powder, liquid), other reagents and chemical materials	Pharmaceutical tablets, pharmaceutical products (powder, liquid), other reagents and chemical materials
Specimen dimensions		Imaging and analysis mode: Round tablet, Oval tablet, Oblong tablet Diameter: 5 to 20 mm or less, Thickness: 2.5 to 8.5 mm or less, Weight: 2 g or less (only in case of no engraved marks or score lines ^{(*)2})	Transmission/reflection mode: Horizontal dimensions: 20 to 30 mm, Vertical dimensions: 10 mm or less	Transmission/reflection mode, transmission polarization analysis (TAS7500SP only): Horizontal dimensions: 5 to 30 mm, Vertical dimensions: 10 mm or less ATR mode: Powder/Liquid: Sample boat horizontal dimensions: Less than 5 mm Solid: Horizontal dimensions: 5 to 20 mm, Vertical dimensions: less than 10 mm	Transmission polarization analysis (TAS7500SU only): Horizontal dimensions: 5 to 30 mm, Vertical dimensions: 10 mm or less
Imaging function	Spatial resolution	Less than 0.3 mm (2 THz)	—	—	—
	Min. scanning resolution:	0.05mm	—	—	—
	Coating thickness measurement range:	30 μm and higher	—	—	—
	Automatic measurement:	Max.10 tablets on a dedicated cassette, measures automatically	—	—	—
Analysis/display function		Point display (reflection intensity, reflection spectrum), Tomographic image display, 3D mapping display (thickness, surface reflectance, interface reflectance, FCSI) ^{*3} FCSI: Film Coating Strength Index	Spectral display (transmittance, reflectance, phase difference, absorbance, absorption coefficient, complex refractive index, complex permittivity), Time response display (electric field strength), Quantitative analysis ^{*3}	Spectral display (transmittance, reflectance, ATR, phase difference, absorbance, absorption coefficient, complex refractive index, complex permittivity birefringence phase difference, birefringence, optical retardation, optical rotation, optical ellipticity, optical rotation angle), Time response display (electric field strength), Quantitative analysis ^{*3} , Jones Vector representation	Spectral display (transmittance, reflectance, ATR, phase difference, absorbance, absorption coefficient, complex refractive index, complex permittivity), Time response display (electric field strength), Quantitative analysis ^{*3}
Measurement performance	Frequency range ^{(*)4}	0.1 to 4 THz	0.03 to 2 THz	0.1 to 4 THz	Transmission/ reflectance mode: 0.5 to 7 THz ATR mode: 0.5 to 6.5 THz
	Frequency accuracy ^{(*)4}	Max. ±10 GHz (1.4 THz)	Max. ±10 GHz (0.56 THz)	Max. ±10 GHz (1.4 THz)	
	Frequency resolution	30.4GHz	7.6GHz		
	Dynamic range ^{(*)4} ^{(*)5} (under peak frequency)	70 dB or higher	60 dB or higher	70 dB or higher	Transmission/reflection mode: 70 dB or higher ATR mode: 65 dB or higher
	Polarization extinction ratio	—	—	30 dB or higher (at maximum value)	—
	Throughput	<15 min (32 x 32 points, integrate 32 times)	8ms / scan		
Purge	Dry air unit (external air supply required)				
Controller	Standard (OS: Windows7 Pro. 64 bits)				
Data file format	Binary format, JCAMP-DX, SPC, CSV				
General specifications	Usage environment	Temperature range: +10 to +30 °C, Relative humidity: 80% or less (no condensation)			
	Storage environment	Temperature range: -10 to +50 °C, Relative humidity: 80% or less (no condensation)			
	Power	Analysis unit: AC100V (100-120) / 200V (220-240) ± 10%, 50/60 Hz, 160 VA Measurement unit (TAS7500IM) : AC100V (100-120) / 200V (220-240) ± 10%, 50/60Hz, 180 VA Measurement unit (TAS7500SL/SP/SU) : AC100V (100-120) / 200V (220-240) ± 10%, 50/60Hz, 150 VA (Does not include analysis PC)			
	Size/weight	Analysis unit: Approx. 430 (W) x 540 (D) x 330 (H) mm/28 kg or less Measurement unit: Approx. 500 (W) x 490 (D) x 410 (H) mm/48 kg or less (TAS7500IM), 40 kg or less (TAS7500SL/SP/SU)			

^{(*)1}: When purchasing a terahertz spectroscopic system, user must select at least one measurement accessory (transmission, reflection, ATR, transmission polarization analysis) ^{(*)2}: Please contact us for analysis of tablets with engraved marks or score lines ^{(*)3}: Option ^{(*)4}: At temperatures of 23°C ± 5°C ^{(*)5}: The peak level frequency varies in each system, and the dynamic range on each frequency varies in each system.
Number of integration:262144

Thermal Control Accessory Specification

	TAS1020	TAS1030	Notes
Temperature range	-10.0~+80.0°C	Room temperature ~ +300°C	—
Resolution	0.1°C	1.0°C	—
Control interface	USB		Can be controlled independently of system
Accessories supported	Transmission accessory		—