

**ADVANTEST®**

**NEW**

**High-Frequency Resolution Option for  
the Terahertz Optical Sampling Analysis System**

**Frequency characteristics measurement  
solution for beyond 5G/6G, ADAS**

**Transmittance  
Reflectance  
Permittivity  
Loss tangent**

***Characterization of materials  
for next gen. radio communication***

***Radio wave absorption materials  
Metamaterials / Polymers***



**TAS7400TS**

**Terahertz Optical Sampling  
Analysis System**

***Realize small foot print measurement from  
millimeter wave to terahertz wave range***

- High frequency resolution: 380 MHz
- Broadband measurement (30 GHz to 2 THz) without switching frequency extenders
- High throughput pulse waveform sampling technology up to 40ms/scan
- Easy switching between measurement setups (transmission/reflection) and simple operation
- Remote programming function enables 2D mapping measurement

**Standard Configuration of TAS7400TS**



Source module **TAS1120**      Detector module **TAS1220**

**NEW**



High Frequency Resolution Option  
**PYSI74-10MNIS**

**NEW**

Time domain measurement  
Frequency domain measurement



**SHT-210067**  
(Transmittance module)

+  
**SHT-710068**  
(Spectroscopic measurement base)

Transmission measurement



**SHT-210068**  
(Reflection module)

+  
**SHT-710068**  
(Spectroscopic measurement base)

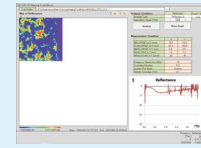
Reflection measurement

Mapping measurement



**SHT-710122X04** (Spectroscopy/Imaging System)  
**PYSI74-08MNIS** (Automatic Control Measuring Option)

Automatic Control Measuring Option



**Measurement Specifications** **NEW**

**TAS7400TS + High Frequency Resolution Option**

Frequency resolution	380 MHz <sup>-1</sup> , 1.9 GHz, 7.6 GHz
Throughput	40 ms/scan <sup>-1</sup> , 200 ms/scan
Frequency accuracy	±5 GHz (at 0.557 THz)(*2), ±10 GHz (at 1.41 THz)
Analysis / display function	Transmittance, reflectance, phase shift, complex permittivity, loss tangent (tan δ)

\*1 When high frequency resolution option is installed

**Terahertz Source Module TAS1120 (Low frequency type)**

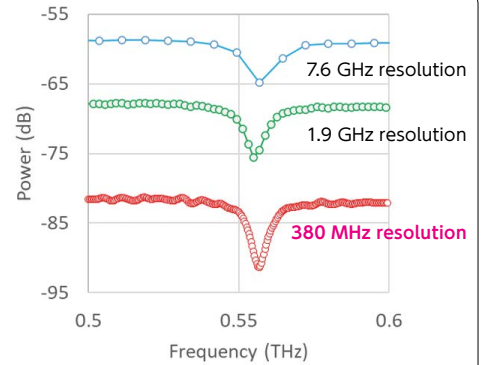
Generation method	Photoconductive antenna
Bandwidth (SNR=1) <sup>2</sup>	0.03 to 2THz
Input Optical Fiber Connector	φ3mm 1550nm polarization maintaining fiber (length: 1.5 m)
Size (without fiber pigtail)	55mm × 20mm × 20mm

\*2 When using the TAS1220 detector module with 7.6 GHz resolution

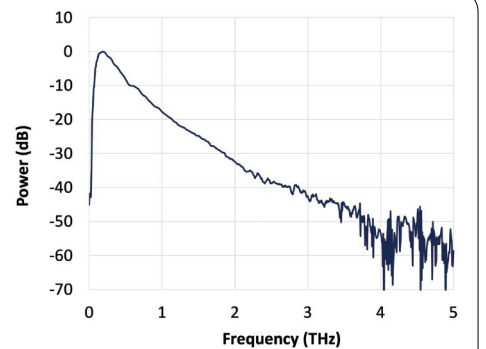
**Terahertz Detector Module TAS1220** **NEW**

Generation method	Photoconductive antenna
Dynamic range (Peak level)	≥50dB (Source: TAS1120) (at resolution: 7.6 GHz)
TIA sensitive	9.7 × 10 <sup>6</sup> V/A
TIA bandwidth (-3dB)	500kHz
Input Optical Fiber Connector	φ3 mm 1550 nm polarization maintaining fiber (length: 1.5 m)
Size (without fiber pigtail)	55mm × 20mm × 20mm

● Specifications and external view are subject to change without notice



Comparison of Frequency Resolution on Around 0.557 THz (Water Vapor Absorption)



Measured spectrum with TAS1120 and TAS1220.



<https://www.advantest.com/>

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