

China Terahertz Technology Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Component (Terahertz Detectors and Terahertz Sources), Application (Medical and Healthcare, Defense and Security, Food and Agriculture, Industrial, Semiconductor, and Others), Type (Terahertz Imaging Systems, Terahertz Spectroscopy Systems, and Terahertz Communication Systems), and Country

<https://marketpublishers.com/r/C741FCCA1598EN.html>

Date: May 2024

Pages: 79

Price: US\$ 3,550.00 (Single User License)

ID: C741FCCA1598EN

Abstracts

The China terahertz technology market size was valued US\$ 76.55 Million in 2023 and is expected to reach US\$ 318.13 Million by 2031; it is estimated to record a CAGR of 19.5% from 2023 to 2031.

Since the early 1990s, a series of technological developments in electronics and photonics have begun to move terahertz (THz)-wave technology from laboratory demonstration to industrial applications such as non-destructive testing, medical, security, and communications. Unlike the well-known infrared and X-rays, which are the least known and developed electromagnetic bands, terahertz is characterized as the "last gap" in the electromagnetic spectrum. Terahertz is progressively becoming a major scientific research topic as science and technology advance. According to scientists, terahertz radiation is quite safe and has good penetration and direction.

Terahertz sources have emerged as a promising field with significant potential for

various applications in science and technology. Recent innovations in terahertz sources have made the terahertz spectrum accessible to technologists and scientists in diverse areas, including medicine, biology, pharmaceuticals, chemistry, and environmental sciences. While there is still room for improvement in terms of functionality and performance, existing commercially available terahertz sources have already paved the way for researchers to explore scientific problems within the scope of terahertz waves. These advancements have opened up new opportunities for scientists and technologists to leverage the unique properties of terahertz waves.

The next-generation mobile network technology, 6G, is expected to have a transformative impact on China's terahertz technology market. In November 2022, NOKIA Bell Labs partnered with Keysight Technologies, Inc. to verify the performance of its 5G advanced and 6G transceiver modules using terahertz technology. This collaboration highlights the growing importance of terahertz technology in the development of 5G and 6G networks. Additionally, other manufacturers, such as Das-Nano and TeraSense Group, are expanding their presence in the terahertz technology market. These advancements and expansions are driving the adoption of terahertz technology across various industries, including automotive, aerospace, wind energy, and plastic components.

Based on component, the market is segmented into terahertz detectors and terahertz sources. The terahertz sources segment held the largest China terahertz technology market share in 2023. Based on application, the market is segmented into medical & healthcare, defense & security, food & agriculture, industrial, semiconductor, and others. The medical and healthcare segment held the largest share in the China terahertz technology market share in 2023.

Quenda Terahertz Technology Co., Ltd.; Nuctech Company Ltd; Advanced Photonics; Advantest Corporation; Luna Innovations Inc.; Menlo Systems; Canon Inc.; Horiba; Terasense Group; and Toptica Group are among the prominent players profiled in the China terahertz technology market report. The China terahertz technology market forecast is estimated on the basis of various secondary and primary research findings such as key company publications, association data, and databases.

The overall China terahertz technology market size has been derived using both primary and secondary sources. Exhaustive secondary research has been conducted using internal and external sources to obtain qualitative and quantitative information related to the China terahertz technology market analysis. The process also helps obtain an overview and forecast of the market with respect to all the market segments.

Also, multiple primary interviews have been conducted with industry participants to validate the data and gain analytical insights. This process includes industry experts such as VPs, business development managers, market intelligence managers, and national sales managers, along with external consultants such as valuation experts, research analysts, and key opinion leaders, specializing in the market.

Contents

1. INTRODUCTION

- 1.1 The Insight Partners Research Report Guidance
- 1.2 Market Segmentation

2. EXECUTIVE SUMMARY

- 2.1 Key Insights

3. RESEARCH METHODOLOGY

- 3.1 Secondary Research
- 3.2 Primary Research
 - 3.2.1 Hypothesis formulation:
 - 3.2.2 Macro-economic factor analysis:
 - 3.2.3 Developing base number:
 - 3.2.4 Data Triangulation:
 - 3.2.5 Country level data:

4. CHINA TERAHERTZ TECHNOLOGY MARKET LANDSCAPE

- 4.1 Overview
- 4.2 PEST Analysis
- 4.3 Ecosystem Analysis
 - 4.3.1 Solution and Service Providers:
 - 4.3.2 End Users
 - 4.3.3 List of Vendors in the Value Chain:

5. CHINA TERAHERTZ TECHNOLOGY MARKET – KEY MARKET DYNAMICS

- 5.1 China Terahertz Technology Market – Key Market Dynamics
- 5.2 Market Drivers
 - 5.2.1 Rising Application of Terahertz Technology in Medical Industry
 - 5.2.2 Growing Use of Terahertz Technology in Semiconductor Industry
 - 5.2.3 Growing Applications in Defense and Military
- 5.3 Market Restraints
 - 5.3.1 Lack of Awareness and Unavailability of Skilled Professionals

5.4 Market Opportunities

5.4.1 Processing Applications of Terahertz Technology in Food Industry

5.4.2 Expansion of Next-Gen 6G Wireless Technology

5.5 Future Trends

5.5.1 Rising Use of Terahertz Technology for Satellite Communication

5.6 Impact of Drivers and Restraints:

6. CHINA TERAHERTZ TECHNOLOGY MARKET ANALYSIS

6.1 China Terahertz Technology Market Revenue (US\$ Million), 2021–2031

6.2 China Terahertz Technology Market Forecast and Analysis

7. CHINA TERAHERTZ TECHNOLOGY MARKET ANALYSIS – BY COMPONENT

7.1 Terahertz Detectors

7.1.1 Overview

7.1.2 Terahertz Detectors: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

7.2 Terahertz Sources

7.2.1 Overview

7.2.2 Terahertz Sources: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8. CHINA TERAHERTZ TECHNOLOGY MARKET ANALYSIS – BY APPLICATION

8.1 Medical and Healthcare

8.1.1 Overview

8.1.2 Medical and Healthcare: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8.2 Defense and Security

8.2.1 Overview

8.2.2 Defense and Security: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8.3 Food and Agriculture

8.3.1 Overview

8.3.2 Food and Agriculture: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8.4 Industrial

8.4.1 Overview

8.4.2 Industrial: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8.5 Semiconductor

8.5.1 Overview

8.5.2 Semiconductor: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

8.6 Others

8.6.1 Overview

8.6.2 Others: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

9. CHINA TERAHERTZ TECHNOLOGY MARKET ANALYSIS – BY TYPE

9.1 Terahertz Imaging Systems

9.1.1 Overview

9.1.2 Terahertz Imaging Systems: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

9.2 Terahertz Spectroscopy Systems

9.2.1 Overview

9.2.2 Terahertz Spectroscopy Systems: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

9.3 Terahertz Communication Systems

9.3.1 Overview

9.3.2 Terahertz Communication Systems: China Terahertz Technology Market – Revenue and Forecast to 2031 (US\$ Million)

10. COMPETITIVE LANDSCAPE

10.1 Heat Map Analysis By Key Players

10.2 Company Positioning & Concentration

11. INDUSTRY LANDSCAPE

11.1 Overview

11.2 Market Initiative

11.3 Product Development

11.4 Mergers and Acquisitions

11.5 Partnerships and Collaboration

12. COMPANY PROFILES

12.1 Advanced Photonix Inc

- 12.1.1 Key Facts
- 12.1.2 Business Description
- 12.1.3 Products and Services
- 12.1.4 Financial Overview
- 12.1.5 SWOT Analysis
- 12.1.6 Key Developments

12.2 Advantest Corp

- 12.2.1 Key Facts
- 12.2.2 Business Description
- 12.2.3 Products and Services
- 12.2.4 Financial Overview
- 12.2.5 SWOT Analysis
- 12.2.6 Key Developments

12.3 Luna Innovations Inc

- 12.3.1 Key Facts
- 12.3.2 Business Description
- 12.3.3 Products and Services
- 12.3.4 Financial Overview
- 12.3.5 SWOT Analysis
- 12.3.6 Key Developments

12.4 Menlo Systems GmbH

- 12.4.1 Key Facts
- 12.4.2 Business Description
- 12.4.3 Products and Services
- 12.4.4 Financial Overview
- 12.4.5 SWOT Analysis
- 12.4.6 Key Developments

12.5 Canon Inc

- 12.5.1 Key Facts
- 12.5.2 Business Description
- 12.5.3 Products and Services
- 12.5.4 Financial Overview
- 12.5.5 SWOT Analysis
- 12.5.6 Key Developments

12.6 Terasense Group Inc

- 12.6.1 Key Facts

- 12.6.2 Business Description
- 12.6.3 Products and Services
- 12.6.4 Financial Overview
- 12.6.5 SWOT Analysis
- 12.6.6 Key Developments
- 12.7 Nuctech Company Limited
 - 12.7.1 Key Facts
 - 12.7.2 Business Description
 - 12.7.3 Products and Services
 - 12.7.4 Financial Overview
 - 12.7.5 SWOT Analysis
 - 12.7.6 Key Developments
- 12.8 Toptica Photonics AG
 - 12.8.1 Key Facts
 - 12.8.2 Business Description
 - 12.8.3 Products and Services
 - 12.8.4 Financial Overview
 - 12.8.5 SWOT Analysis
 - 12.8.6 Key Developments
- 12.9 Horiba Ltd
 - 12.9.1 Key Facts
 - 12.9.2 Business Description
 - 12.9.3 Products and Services
 - 12.9.4 Financial Overview
 - 12.9.5 SWOT Analysis
 - 12.9.6 Key Developments
- 12.10 Quenda Terahertz Technology Co., Ltd.
 - 12.10.1 Key Facts
 - 12.10.2 Business Description
 - 12.10.3 Products and Services
 - 12.10.4 Financial Overview
 - 12.10.5 SWOT Analysis
 - 12.10.6 Key Developments

13. APPENDIX

- 13.1 Glossary
- 13.2 About The Insight Partners

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