Report Information

More information from: https://www.marketresearchfuture.com/reports/rectenna-market-8180

Rectenna Market Research Report - Global Forecast till 2030

Report / Search Code: MRFR/SEM/6708-HCR **Publish Date:** January, 2024

Request Sample

Price	1-user PDF : $ 4950.0	Site PDF : $ 5950.0	Enterprise PDF : $ 7250.0

Description:

Rectenna Market Synopsis

Rectennas are the combination of rectifiers and antennas which are capable of converting electromagnetic waves, solar radiation, and significant forms of energy into electrical signals, which are utilized to power smart devices and other applications. In recent years, the demand for the rectennas are increasing very rapidly owing to the ongoing research in developing the configuration and other adapting facilities. The expansion of crucial applications such as automotive, wireless communication, radar communication systems, charging systems electrical vehicles are impacting the overall growth of the Rectenna market. The Rectenna market value was at USD 325.4 million in 2018 and is expected to grow at a CAGR of 6.53% by 2030

The growing utilization of smart devices in every aspect of life has stimulated the need for longer battery life and convenient charging solutions. Since Rectennas have the capability of performing wireless charging and transmitting the signals in the smart devices, the demand for the rectennas is rapidly increasing.

COVID 19 Analysis:

The COVID 19 pandemic has affected manufacturing and logistics severely across several industrial sectors. The prolonged lockdown and the reduced manpower in the manufacturing sectors have also negatively impacted the end-user industries of the Rectenna industry. However, the governmental organizations and the commercial sectors were deploying the contactless solution to carry out the essential operations and payments. Therefore the demand for contactless payment was rapidly increasing, as this way of payment reduces the risk of getting affected.

The intensive deployment of the Rectennas in the contactless payment cards, smart cards, which are powered by the rectenna element, which are capable of reading the data by powering up the IC have influenced the Rectenna market growth positively.

Market Dynamics:

Market Drivers:

The Rectenna market growth is highly influenced by the advancing technologies in consumer electronics which includes laptops, smartphones, tablets, and other smart devices. They are utilized in smart devices for wireless charging and signal transmission simultaneously. Therefore the requirement for the different components has been reduced, which thereby reduces the costs for manufacturing varied components. Such factors are driving the overall growth of the Rectenna industry in recent times.

Some of the key growth stimulating factors include tremendous growth in cellular wireless communications and the advent of new technologies in the market which include, printed rectennas for the data transmission from the objects to smart devices are considered as major drivers of the Rectenna industry. Therefore the Rectenna market is expected to have steady growth during the forecast period, as the government regulations due to COVID 19 are gradually reducing.

Market Opportunities:

The varied applications for the Rectenna industry which includes wireless power transmission, RFID, proximity cards, Contactless cards, energy harvesting, and significant others are emerging with novel technologies that are presenting lucrative opportunities for the overall growth of the Rectenna market.

The intensive usage of smart devices across the globe has increased the requirement of long battery life. Moreover, the Rectenna is capable of eliminating the charging cables and power adapters. The increasing deployment of microwave power transfer systems in smart devices is presenting lucrative opportunities for the Rectenna industry growth.

Market Restraints:

The manufacturing costs of certain types of rectennas and the lack of awareness across some regions are restraining the overall growth of the Rectenna industry. Other types of rectennas are less complex than the optical rectennas, as the compact form of optical rectennas requires nanotechnology fabrication procedures which are considered as the major challenge in the Rectenna market growth.

The antennas with the limited capturing area and the requirement of several antennas to capture more energy increase the manufacturing costs are expected to hinder the Rectenna market growth.

Market Challenges:

In the Optical rectennas, the process of producing the electron beam is comparatively slower and expensive. Such factors are considered as the major challenge in the manufacturing of these types of rectennas and bringing in advancements.

The drawbacks of the end-user applications such as RFID tags, which includes, privacy and security concern attached to the RFID tags, and the significant governmental regulations imposed on the operation of the RFID tags are affecting the overall growth of the Rectenna industry.

Cumulative Growth Analysis:

The Optical antennas are capable of eliminating the crucial diode and the other components, thereby making it cheaper than photovoltaics. Therefore the Rectennas are gradually replacing Photovoltaics because of the material processing and selection of materials. This factor presents a lucrative growth opportunity for the Rectenna industry. The rectennas are popularly called rectifying antenna which converts the AC electromagnetic waves into DC electricity, thereby potentially used in charging the smart devices. The receiving electromagnetic waves are traveled into these semiconductors and are efficiently transformed into DC voltage, which is then used to recharge batteries. The increasing demand for battery life and continuous usage of smart devices for varied purposes and sectors are fuelling the Rectenna market growth. The Global Rectenna Industry value was at USD 325.4 million in the year 2018 and it is expected to grow at a CAGR of 6.53% during the forecast period 2022-2030 .

Value Chain Analysis:

The Wireless power transmission segment in the Rectenna market is expected to bolster during the forecast period. As the wireless charging of devices includes the advantages such as reducing the manufacturing costs of the chargers, saving electricity, smart devices can be charged anywhere without the need for power sockets or electricity, extremely lower risk of getting electrical shock as there are no exposed conductors, saving time and improved convenience. Such factors are presenting lucrative opportunities for the manufacturers to deploy Rectennas in smartphones and other smart devices. Moreover, the declining manufacturing costs and materials costs are also impacting the overall growth of the Rectenna market. The rectennas are intensively utilized in crucial applications such as smart buildings, automotive, medical devices, and other IoT-based applications where the requirement of remote charging is higher. The advancing technologies in the industrial sectors and IT sectors have presented opportunities for growth in these applications.

Segment Overview:

Based on Technical Type:

- Radio Frequency rectenna
- Optical rectenna

Based on Type:

- Array Antenna
- Patch Antenna
- Slot Antenna
- Tag Antenna
- Dipole Antenna
- Other

Based on Application:

- Wireless Power Transmission
- RFID
- Proximity Cards
- Contactless Cards
- Energy Harvesting
- Proximity Cards
- Other

Regional Analysis:

The Asia-pacific region is expected to lead the Rectenna market share during the forecast period, owing to the numerous advancements in the market across the region. Especially, the leading manufacturers of rectenna are present in countries like China, Japan, and South Korea. Moreover, the stimulating growth of consumer electronics across the region presents a lucrative opportunity for the overall growth of the Rectenna market.

On the other hand, North America is expected to hold the second-largest market share in the Rectenna market. The economic condition of the US and its inclination towards investing in the Rectenna market growth and the manufacturing processes are considered as key growth stimulating factors for the Rectenna market. The US holds over 70% of the market share and is expected to have healthy growth during the forecast period for the reasons mentioned.

Competitive Landscape:

- Murata Manufacturing Co., Ltd (Japan)
- CoolCAD Electronics LLC (US)
- Nihon Dengyo Kosaku Co Ltd (China)
- Allis Communications (US)
- Antenova Ltd (UK)
- API Technologies Corporation (US)
- Ducommun Incorporated (US)
- AVX Antenna Inc (US)
- AH Systems Inc (US)
- AR RF/Microwave Instrumentation (US)
- FURUNO Electric Co., Ltd (Japan)

Recent Developments:

The printed rectennas which are printed onto the objects using electronic inks are developed by researchers in Korea which are considered the cheapest way of transmitting data from objects to mobile phones. These rectennas utilize the radio waves that are transmitted from smartphones for transmitting the data. The technology utilized in these printed rectennas is already used in touch card payments, near field communication. More importantly, these printed Rectennas are cost-efficient alternatives for QR codes.

In the year 2018, one of the leading market players, Antenova Ltd. has launched M20047-1 which is a beneficiary for the compact structure and therefore it can be easily integrated with the tracking devices. This Active GNSS antenna comes with the full antenna and front end.

Report Overview:

This report has covered:

- Market Overview
- COVID 19 Analysis
- Market Dynamics
- Cumulative Growth Analysis
- Value Chain Analysis
- Segment Overview
- Regional Analysis
- Competitive Landscape
- Recent Developments

Table of Content:

Contents

Table of Contents
1 Executive Summary
1.1 Market Attractiveness
2 Scope of the Report
2.1 Market Definition
2.2 Scope of the Study
2.3 Research Objectives
2.4 Markets Structure
3 Research Methodology
4 Market Landscape
4.1 Porter’s Five Forces Analysis
4.1.1 Threat of New Entrants
4.1.2 Bargaining Power of Buyers
4.1.3 Threat of Substitutes
4.1.4 Bargaining Power of Suppliers
4.1.5 Intensity of Rivalry
4.2 Value Chain/Supply Chain of Rectenna
5 Market Landscape
5.1 Introduction
5.2 Growth Drivers
5.2.1 Impact Analysis

5.3 Market Restraints
5.3.1 Impact Analysis
5.4 Challenges
5.5 Opportunities
6 Market Trends
6.1 Technological Trends
7 Rectenna Market, by Type
7.1 Introduction
7.2 Radio Frequency (RF) Rectenna
7.2.1 Market Estimates & Forecast, 2020–2027
7.3 Optical Rectenna
7.3.1 Market Estimates & Forecast, 2020–2027
8 Rectenna Market, by Application
8.1 Introduction
8.2 Wireless Power Transmission
8.2.1 Market Estimates & Forecast, 2020–2027
8.3 RFID
8.3.1 Market Estimates & Forecast, 2020–2027
8.4 Proximity Cards
8.4.1 Market Estimates & Forecast, 2020–2027
8.5 Contactless Cards
8.5.1 Market Estimates & Forecast, 2020–2027
8.6 Energy Harvesting
8.6.1 Market Estimates & Forecast, 2020–2027
8.7 Others
8.7.1 Market Estimates & Forecast, 2020–2027
9 Rectenna Market, by Region
9.1 Introduction
9.2 North America
9.2.1 Market Estimates & Forecast, by Country, 2020–2027
9.2.2 Market Estimates & Forecast, by Type, 2020–2027
9.2.3 Market Estimates & Forecast, by Application, 2020–2027
9.2.4 US
9.2.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.2.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.2.5 Mexico
9.2.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.2.5.2 Market Estimates & Forecast, by Application, 2020–2027
9.2.6 Canada
9.2.6.1 Market Estimates & Forecast, by Type, 2020–2027
9.2.6.2 Market Estimates & Forecast, by Application, 2020–2027
9.3 Europe
9.3.1 Market Estimates & Forecast, by Country, 2020–2027
9.3.2 Market Estimates & Forecast, by Type, 2020–2027
9.3.3 Market Estimates & Forecast, by Application, 2020–2027
9.3.4 Germany
9.3.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.3.5 France
9.3.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.5.2 Market Estimates & Forecast, by Application, 2020–2027
9.3.6 Italy
9.3.6.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.6.2 Market Estimates & Forecast, by Application, 2020–2027
9.3.7 Spain
9.3.7.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.7.2 Market Estimates & Forecast, by Application, 2020–2027
9.3.8 UK
9.3.8.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.8.2 Market Estimates & Forecast, by Application, 2020–2027
9.3.9 Rest of Europe
9.3.9.1 Market Estimates & Forecast, by Type, 2020–2027
9.3.9.2 Market Estimates & Forecast, by Application, 2020–2027
9.4 Asia-Pacific
9.4.1 Market Estimates & Forecast, by Country, 2020–2027
9.4.2 Market Estimates & Forecast, by Type, 2020–2027
9.4.3 Market Estimates & Forecast, by Application, 2020–2027
9.4.4 China
9.4.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.4.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.4.5 India
9.4.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.4.5.2 Market Estimates & Forecast, by Application, 2020–2027
9.4.6 Japan
9.4.6.1 Market Estimates & Forecast, by Type, 2020–2027
9.4.6.2 Market Estimates & Forecast, by Application, 2020–2027
9.4.7 Rest of Asia-Pacific
9.4.7.1 Market Estimates & Forecast, by Type, 2020–2027
9.4.7.2 Market Estimates & Forecast, by Application, 2020–2027
9.5 Rest of the World
9.5.1 Market Estimates & Forecast, by Country, 2020–2027
9.5.2 Market Estimates & Forecast, by Type, 2020–2027
9.5.3 Market Estimates & Forecast, by Application, 2020–2027
9.5.4 Middle East & Africa
9.5.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.4.3 Saudi Arabia
9.5.4.3.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.4.3.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.4.4 UAE
9.5.4.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.4.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.4.5 South Africa

9.5.4.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.4.5.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.4.6 Rest of the Middle East & Africa
9.5.4.6.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.4.6.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.5 South America
9.5.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.5.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.5.3 Brazil
9.5.5.3.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.5.3.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.5.4 Argentina
9.5.5.4.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.5.4.2 Market Estimates & Forecast, by Application, 2020–2027
9.5.5.5 Rest of South America
9.5.5.5.1 Market Estimates & Forecast, by Type, 2020–2027
9.5.5.5.2 Market Estimates & Forecast, by Application, 2020–2027
10 Competitive Landscape
10.1 Overview
10.2 Key Players: Market Share Analysis
10.3 Competitive Benchmarking
11 Company Profiles
11.1 Murata Manufacturing Company
11.1.1 Company Overview
11.1.2 Product/Business Segment Overview
11.1.3 Financial Updates
11.1.4 Key Developments
11.1.5 SWOT Analysis
11.1.6 Key Strategies
11.2 CoolCAD Electronics, LLC
11.2.1 Company Overview
11.2.2 Product/Business Segment Overview
11.2.3 Financial Updates
11.2.4 Key Developments
11.2.5 SWOT Analysis
11.2.6 Key Strategies
11.3 NIHON DENGYO KOSAKU CO., LTD.
11.3.1 Company Overview
11.3.2 Product/Business Segment Overview
11.3.3 Financial Updates
11.3.4 Key Developments
11.3.5 SWOT Analysis
11.3.6 Key Strategies
11.4 Allis Communications
11.4.1 Company Overview
11.4.2 Product/Business Segment Overview
11.4.3 Financial Updates
11.4.4 Key Developments
11.4.5 SWOT Analysis
11.4.6 Key Strategies
11.5 Antenova
11.5.1 Company Overview
11.5.2 Product/Business Segment Overview
11.5.3 Financial Updates
11.5.4 Key Developments
11.5.5 SWOT Analysis
11.5.6 Key Strategies
11.6 API Technologies Corporation
11.6.1 Company Overview
11.6.2 Product/Business Segment Overview
11.6.3 Financial Updates
11.6.4 Key Developments
11.6.5 SWOT Analysis
11.6.6 Key Strategies
11.7 Ducommun Incorporated
11.7.1 Company Overview
11.7.2 Product/Business Segment Overview
11.7.3 Financial Updates
11.7.4 Key Developments
11.7.5 SWOT Analysis
11.7.6 Key Strategies
11.8 AVX Antenna, Inc.
11.8.1 Company Overview
11.8.2 Product/Business Segment Overview
11.8.3 Financial Updates
11.8.4 Key Developments
11.8.5 SWOT Analysis
11.8.6 Key Strategies
11.9 AH Systems Inc
11.9.1 Company Overview
11.9.2 Product/Business Segment Overview
11.9.3 Financial Updates
11.9.4 Key Developments
11.9.5 SWOT Analysis
11.9.6 Key Strategies
11.10 AR RF/Microwave Instrumentation
11.10.1 Company Overview
11.10.2 Product/Business Segment Overview
11.10.3 Financial Updates
11.10.4 Key Developments
11.10.5 SWOT Analysis
11.10.6 Key Strategies
11.11 FURUNO Electric Co., Ltd.

11.11.1 Company Overview
11.11.2 Product/Business Segment Overview
11.11.3 Financial Updates
11.11.4 Key Developments
11.11.5 SWOT Analysis
11.11.6 Key Strategies
12 Conclusion
LIST OF TABLES
Table 1 Global Rectenna Market, by Type, 2020–2027
Table 2 Global Rectenna Market, by Application, 2020–2027
Table 3 Global Rectenna Market, by Region, 2020–2027
Table 4 North America: Rectenna Market, by Country, 2020–2027
Table 5 North America: Rectenna, Market, by Type, 2020–2027
Table 6 North America: Rectenna, Market, by Application, 2020–2027
Table 7 US: Rectenna Market, by Type, 2020–2027
Table 8 US: Rectenna Market, by Application, 2020–2027
Table 9 Canada: Rectenna, Market, by Type, 2020–2027
Table 10 Canada: Rectenna, Market, by Application, 2020–2027
Table 11 Mexico: Rectenna, Market, by Type, 2020–2027
Table 12 Mexico: Rectenna, Market, by Application, 2020–2027
Table 13 Europe: Rectenna Market, by Country, 2020–2027
Table 14 Europe: Rectenna Market, by Type, 2020–2027
Table 15 Europe: Rectenna Market, by Application, 2020–2027
Table 16 Germany: Rectenna Market, by Type, 2020–2027
Table 17 Germany: Rectenna Market, by Application, 2020–2027
Table 18 France: Rectenna Market, by Type, 2020–2027
Table 19 France: Rectenna Market, by Application, 2020–2027
Table 20 UK: Rectenna Market, by Type, 2020–2027
Table 21 UK: Rectenna Market, by Application, 2020–2027
Table 22 Spain: Rectenna Market, by Type, 2020–2027
Table 23 Spain: Rectenna Market, by Application, 2020–2027
Table 24 Italy: Rectenna Market, by Type, 2020–2027
Table 25 Italy: Rectenna Market, by Application, 2020–2027
Table 26 Asia-Pacific: Rectenna Market, by Country, 2020–2027
Table 27 Asia-Pacific: Rectenna Market, by Type, 2020–2027
Table 28 Asia-Pacific: Rectenna Market, by Application, 2020–2027
Table 29 China: Rectenna Market, by Type, 2020–2027
Table 30 China: Rectenna Market, by Application, 2020–2027
Table 31 Japan: Rectenna Market, by Type, 2020–2027
Table 32 Japan: Rectenna Market, by Application, 2020–2027
Table 33 India: Rectenna Market, by Type, 2020–2027
Table 34 India: Rectenna Market, by Application, 2020–2027
Table 35 Rest of Asia-Pacific: Rectenna Market, by Type, 2020–2027
Table 36 Rest of Asia-Pacific: Rectenna Market, by Application, 2020–2027
Table 37 Rest of the World: Rectenna Market, by Country, 2020–2027
Table 38 Rest of the World: Rectenna Market, by Type, 2020–2027
Table 39 Rest of the World: Rectenna Market, by Application, 2020–2027
LIST OF FIGURES
FIGURE 1 Global Rectenna Market Segmentation
FIGURE 2 Forecast Methodology
FIGURE 3 Porter’s Five Forces Analysis of Global Rectenna Market
FIGURE 4 Value Chain of Global Rectenna Market
FIGURE 5 Share of Global Rectenna Market in 2020, by Country (in %)
FIGURE 6 Global Rectenna Market, 2020–2027
FIGURE 7 Sub-Segments of Type
FIGURE 8 Global Rectenna Market Size, by Type, 2020
FIGURE 9 Share of Global Rectenna Market, by Type, 2020 to 2027
FIGURE 10 Sub-Segments of Application
FIGURE 11 Global Rectenna Market Size, by Application, 2020
FIGURE 12 Share of Global Rectenna Market, by Application, 2020 to 2027