

Middle East & Africa RF Power Amplifier Market Forecast to 2031 - Regional Analysis - by Frequency (Less than 10 GHz, 11-20 GHz, 21-30 GHz, and Above 30 GHz), Technology (Gallium Arsenide (GaAs), Gallium Nitride (GaN), Silicon Germanium (SiGe), and Others), and Application (Consumer Electronics, Aerospace and Defense, Automotive, Medical, and Others)

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Abstracts

The Middle East & Africa RF power amplifier market was valued at US\$ 366.56 million in 2023 and is anticipated to reach US\$ 829.19 million by 2031; it is estimated to register a CAGR of 10.7% from 2023 to 2031.

Advancements in Gallium Nitride, Gallium Arsenide (GaAs), Complementary Metal-Oxide-Semiconductors (CMOS) Bolster Middle East & Africa RF Power Amplifier Market

GaAs, gallium nitride (GAN), and complementary metal-oxide-semiconductor (CMOS) components offer energy-efficient and compact solutions for RF power amplifiers, making them highly suitable for various applications. Gallium nitride (GAN) is well-suited for high-power and high-temperature microwave applications due to its high breakdown voltages, high electron mobility, and saturation velocity. It is ideal for RF power amplifiers used in high-speed wireless data transmission, power grids, and microwave ovens. GAN-based RF transistors are known for their ability to maintain performance at higher temperatures compared to silicon transistors, which enhances their reliability and efficiency. Gallium arsenide (GaAs) is another compound semiconductor that is widely used in RF power amplifiers. GaAs power amplifiers are commonly used in cell phones and cover various frequency ranges. They offer high power levels and are designed for maximum power-added efficiencies. Complementary metal-oxide-semiconductor

(CMOS) technology is also emerging as a promising option for RF power amplifiers. CMOS-based RF power amplifiers offer advantages such as low power consumption, small form factor, and integration with other CMOS components. These characteristics make CMOS-based RF power amplifiers suitable for applications where power efficiency and compactness are crucial. The adoption of GaAs, GAN, and CMOS components in RF power amplifiers is driven by the need for energy-efficient and compact solutions. Companies are collaborating for the development of these technologies; for instance, in May 2022, STMicroelectronics and MACOM Technology Solutions Holdings Inc. achieved a significant milestone by successfully creating prototypes of radio-frequency gallium-nitride-on silicon (RF GAN-on-Si) technology. These emerging technologies are expected to continue driving the growth of the RF power amplifier market, enabling advancements in wireless communication, data centers, and other industries.

Middle East & Africa RF Power Amplifier Market Overview

The MEA RF power amplifier market is segmented into South Africa, Saudi Arabia, the UAE, and the Rest of MEA. Governments of the MEA countries are indulging in the deployment of wireless networks such as Wi-Fi 6E to enable advanced technologies. For example, in February 2022, Saudi Arabia's Communications and Information Technology Commission (CITC) issued its "WLAN Regulations," thereby strengthening the country's global and regional dominance in the field of Wi-Fi and license-exempt technologies, activating its latest generation of high-speed telecommunication technologies, and enabling the use of emerging and future technologies. The WLAN Regulations lay out a regulatory policy for the use of WLAN applications in the country and make new spectrum accessible in the 6 GHz and 60 GHz bands to encourage the continued usage of WLAN applications. RF power amplifiers play a significant role in amplifying and adapting signals.

Middle East & Africa RF Power Amplifier Market Revenue and Forecast to 2031 (US\$ Million)

Middle East & Africa RF Power Amplifier Market Segmentation

The Middle East & Africa RF power amplifier market is categorized into frequency, technology, application and country.

Based on frequency, the Middle East & Africa RF power amplifier market is segmented into less than 10 GHz, 11-20 GHz, 21-30 GHz, and above 30 GHz. The less than 10

GHz segment held the largest market share in 2023.

In terms of technology, the Middle East & Africa RF power amplifier market is segmented into gallium arsenide, gallium nitride, silicon germanium, and others. The gallium arsenide segment held the largest market share in 2023.

By application, the Middle East & Africa RF power amplifier market is segmented into consumer electronics, aerospace and defense, automotive, medical, and others. The consumer electronics segment held the largest market share in 2023.

By country, the Middle East & Africa RF power amplifier market is segmented into the UAE, Saudi Arabia, South Africa, and the Rest of Middle East & Africa. The UAE dominated the Middle East & Africa RF power amplifier market share in 2023.

Qorvo Inc, NXP Semiconductors NV, Qualcomm Inc, Infineon Technologies AG, Broadcom Inc, Mitsubishi Electric Corp, STMicroelectronics NV, and Analog Devices Inc. are some of the leading companies operating in the Middle East & Africa RF power amplifier market.

Contents

1. INTRODUCTION

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

2. EXECUTIVE SUMMARY

- 2.1 Key Insights
- 2.2 Market Attractiveness

3. RESEARCH METHODOLOGY

- 3.1 Coverage
- 3.2 Secondary Research
- 3.3 Primary Research

4. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET LANDSCAPE

- 4.1 Overview
- 4.2 PEST Analysis
- 4.3 Ecosystem Analysis
 - 4.3.1 Raw Material/Components Providers
 - 4.3.2 Manufacturers
 - 4.3.3 Distributors/Suppliers
 - 4.3.4 End Users
 - 4.3.5 List of Vendors in the Value Chain

5. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET - KEY MARKET DYNAMICS

- 5.1 Market Drivers
 - 5.1.1 Increasing Demand for RF Power Amplifiers
 - 5.1.2 Increased Demand in Consumer Electronics
- 5.2 Market Restrains
 - 5.2.1 High Manufacturing Costs and Complex Design
- 5.3 Market Opportunities
 - 5.3.1 Miniaturization of RF Power Amplifiers

5.3.2 Surge in Penetration of IoT

5.4 Future Trends

5.4.1 Advancements in Gallium Nitride, Gallium Arsenide (GaAs), Complementary Metal-Oxide-Semiconductors (CMOS)

5.5 Impact of Drivers and Restraints:

6. RF POWER AMPLIFIER MARKET - MIDDLE EAST & AFRICA MARKET ANALYSIS

6.1 RF Power Amplifier Market Revenue (US\$ Million), 2021-2031

6.2 RF Power Amplifier Market Forecast Analysis

7. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET ANALYSIS - BY FREQUENCY

7.1 Less than 10 GHz

7.1.1 Overview

7.1.2 Less than 10 GHz: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

7.2-20 GHz

7.2.1 Overview

7.2.2-20 GHz: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

7.3-30 GHz

7.3.1 Overview

7.3.2-30 GHz: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

7.4 Above 30 GHz

7.4.1 Overview

7.4.2 Above 30 GHz: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

8. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET ANALYSIS - BY TECHNOLOGY

8.1 Galium Arsenide (GaAs)

8.1.1 Overview

8.1.2 Galium Arsenide (GaAs): RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

8.2 Gallium Nitride (GAN)

8.2.1 Overview

8.2.2 Gallium Nitride (GAN): RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

8.3 Silicon Germanium (SiGe)

8.3.1 Overview

8.3.2 Silicon Germanium (SiGe): RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

8.4 Others

8.4.1 Overview

8.4.2 Others: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

9. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET ANALYSIS - BY APPLICATION

9.1 Consumer Electronics

9.1.1 Overview

9.1.2 Consumer Electronics: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

9.2 Aerospace and Defense

9.2.1 Overview

9.2.2 Aerospace and Defense: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

9.3 Automotive

9.3.1 Overview

9.3.2 Automotive: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

9.4 Medical

9.4.1 Overview

9.4.2 Medical: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

9.5 Others

9.5.1 Overview

9.5.2 Others: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

10. MIDDLE EAST & AFRICA RF POWER AMPLIFIER MARKET - COUNTRY ANALYSIS

10.1 Middle East and Africa

10.1.1 Middle East and Africa: RF Power Amplifier Market - Revenue and Forecast Analysis - by Country

10.1.1.1 Middle East and Africa: RF Power Amplifier Market - Revenue and Forecast Analysis - by Country

10.1.1.2 United Arab Emirates: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

10.1.1.2.1 United Arab Emirates: RF Power Amplifier Market Breakdown, by Frequency

10.1.1.2.2 United Arab Emirates: RF Power Amplifier Market Breakdown, by Technology

10.1.1.2.3 United Arab Emirates: RF Power Amplifier Market Breakdown, by Application

10.1.1.3 Saudi Arabia: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

10.1.1.3.1 Saudi Arabia: RF Power Amplifier Market Breakdown, by Frequency

10.1.1.3.2 Saudi Arabia: RF Power Amplifier Market Breakdown, by Technology

10.1.1.3.3 Saudi Arabia: RF Power Amplifier Market Breakdown, by Application

10.1.1.4 South Africa: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

10.1.1.4.1 South Africa: RF Power Amplifier Market Breakdown, by Frequency

10.1.1.4.2 South Africa: RF Power Amplifier Market Breakdown, by Technology

10.1.1.4.3 South Africa: RF Power Amplifier Market Breakdown, by Application

10.1.1.5 Rest of Middle East and Africa: RF Power Amplifier Market - Revenue and Forecast to 2031 (US\$ Million)

10.1.1.5.1 Rest of Middle East and Africa: RF Power Amplifier Market Breakdown, by Frequency

10.1.1.5.2 Rest of Middle East and Africa: RF Power Amplifier Market Breakdown, by Technology

10.1.1.5.3 Rest of Middle East and Africa: RF Power Amplifier Market Breakdown, by Application

11. COMPETITIVE LANDSCAPE

11.1 Heat Map Analysis by Key Players

11.2 Company Positioning & Concentration

12. INDUSTRY LANDSCAPE

12.1 Overview

12.2 Market Initiative

12.3 Product Development

13. COMPANY PROFILES

13.1 Qorvo Inc

13.1.1 Key Facts

13.1.2 Business Description

13.1.3 Products and Services

13.1.4 Financial Overview

13.1.5 SWOT Analysis

13.1.6 Key Developments

13.2 NXP Semiconductors NV

13.2.1 Key Facts

13.2.2 Business Description

13.2.3 Products and Services

13.2.4 Financial Overview

13.2.5 SWOT Analysis

13.2.6 Key Developments

13.3 Qualcomm Inc

13.3.1 Key Facts

13.3.2 Business Description

13.3.3 Products and Services

13.3.4 Financial Overview

13.3.5 SWOT Analysis

13.3.6 Key Developments

13.4 Infineon Technologies AG

13.4.1 Key Facts

13.4.2 Business Description

13.4.3 Products and Services

13.4.4 Financial Overview

13.4.5 SWOT Analysis

13.4.6 Key Developments

13.5 Broadcom Inc

13.5.1 Key Facts

13.5.2 Business Description

13.5.3 Products and Services

- 13.5.4 Financial Overview
- 13.5.5 SWOT Analysis
- 13.5.6 Key Developments
- 13.6 Mitsubishi Electric Corp
 - 13.6.1 Key Facts
 - 13.6.2 Business Description
 - 13.6.3 Products and Services
 - 13.6.4 Financial Overview
 - 13.6.5 SWOT Analysis
 - 13.6.6 Key Developments
- 13.7 STMicroelectronics NV
 - 13.7.1 Key Facts
 - 13.7.2 Business Description
 - 13.7.3 Products and Services
 - 13.7.4 Financial Overview
 - 13.7.5 SWOT Analysis
 - 13.7.6 Key Developments
- 13.8 Skyworks Solutions Inc
 - 13.8.1 Key Facts
 - 13.8.2 Business Description
 - 13.8.3 Products and Services
 - 13.8.4 Financial Overview
 - 13.8.5 SWOT Analysis
 - 13.8.6 Key Developments
- 13.9 Texas Instruments Inc
 - 13.9.1 Key Facts
 - 13.9.2 Business Description
 - 13.9.3 Products and Services
 - 13.9.4 Financial Overview
 - 13.9.5 SWOT Analysis
 - 13.9.6 Key Developments
- 13.10
- 13.11 Analog Devices Inc
 - 13.11.1 Key Facts
 - 13.11.2 Business Description
 - 13.11.3 Products and Services
 - 13.11.4 Financial Overview
 - 13.11.5 SWOT Analysis
 - 13.11.6 Key Developments

14. APPENDIX

14.1 About The Insight Partners

14.2 Word Index

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Product name: Middle East & Africa RF Power Amplifier Market Forecast to 2031 - Regional Analysis - by Frequency (Less than 10 GHz, 11-20 GHz, 21-30 GHz, and Above 30 GHz), Technology (Gallium Arsenide (GaAs), Gallium Nitride (GaN), Silicon Germanium (SiGe), and Others), and Application (Consumer Electronics, Aerospace and Defense, Automotive, Medical, and Others)

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