



MODERNIZATION SOLAR

# Dakar integrated circuit 5g base station





## Overview

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Are Doherty amplifiers used in 5G base station?

Doherty amplifiers, with n-away structures to increase the bandwidth (BW) (Fig. 5), are currently used in 5G base station. Doherty amplifiers require digital predistortion (DPD) that presents some challenges, especially for higher modulation BW in 5G and future 5G+ and 6G.

How many antennas does a 5G RF front-end module have?

A typical 5G RF front-end (RFFE) module for 5G mobile devices has six to nine antennas for under 6 GHz space (5G, WiFi, Bluetooth, GPS, and UWB) and 8/16 channels FR2 mmWave module (Fig. 3). Actual smartphones are equipped with multiple antennas that can cover various frequency bands.

What is 5G & how is it affecting the semiconductor industry?

Worldwide adoption of 5G mobile devices has been one of the main driving engines behind semiconductor industry. Since the initial release in 2020, 5G-enabled devices have surpassed the market penetration of 3G/4G smartphones. 5G brings higher data capacity, low latency, and new applications.

What is a 5G RF front-end (rffe) module?

Reliable high DR and low latency are important in connecting smart devices in 5G. A typical 5G RF front-end (RFFE) module for 5G mobile devices has six to nine antennas for under 6 GHz space (5G, WiFi, Bluetooth, GPS, and UWB) and 8/16 channels FR2 mmWave module (Fig. 3).



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## Selecting the Right Supplies for Powering 5G Base Stations

Additionally, these 5G cells will also include more integrated antennas to apply the massive multiple input, multiple output (MIMO) techniques for reliable connections. As a result, a



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