

Global and China RF Industry Report, 2013-2014

<https://marketpublishers.com/r/GACBC92E3D7EN.html>

Date: May 2014

Pages: 100

Price: US\$ 2,200.00 (Single User License)

ID: GACBC92E3D7EN

Abstracts

This report studies GaAs RF components, including:

Introduction to GaAs

Analysis on GaAs Industry

Analysis on RF downstream market

Trends of mobile RF systems

19 RF companies

Qualcomm's RF360 design is changing the entire mobile RF industry revolutionarily. GaAs PA is facing a fierce attack from CMOS PA. Qualcomm's CMOS PA subverts the opinion that CMOS PA can only be used on low-end phones. Specifically for CMOS PA, Qualcomm designs QFE1100, which is a front-end module involved with envelope tracking technology. QFE1100 can help CMOS PA improve thermal efficiency, reduce heat by 30% and cut down power consumption by 20%.

ZTE's flagship mobile phone Grand S II LTE uses Qualcomm's CMOS PA - QFE2320 and QFE2340 for the first time. The combination of QFE2320 and QFE2340 can cover all major cellular modes, including LTE TDD / FDD, WCDMA / HSPA +, CDMA 1x, TD-SCDMA and GSM / EDGE, with the RF band of 700MHz to 2700MHz. Qualcomm has basically monopolized smartphone Modem or CPU markets, and may dominate the PA field. However, mobile phone vendors will still cooperate with GaAs PA suppliers in

order to ensure their equal status.

Nevertheless, the focus of mobile RF industry has been shifting from PA to filter. In the 4G era, the most valuable part of mobile RF system is filter, especially BAW, rather than PA. The biggest difference between 4G and 3G lies in BAW which is an essential part for 4G. A regional LTE phone needs a BAW valued USD1.25, a SAW worth USD2.25 and a PA which only costs USD1.75. As for a global roaming LTE phone, a SAW tagged with USD3, a BAW with USD3.5 and a PA with USD2 are required.

The biggest event in the RF industry in 2014 must be RFMD's takeover on Triquint. Triquint suffered consecutive losses in 2012-2013; in Q1 2014, its revenue fell by 3.6% year on year, and its operating margin was negative 11.3% (negative 18.8% in the same period of previous year, negative 3.2 % in the fourth quarter of previous year). The company's losses were mainly attributed to the aggressive capacity expansion (as much as seven manufacturing centers) before 2011 and excessive expectations. Additionally, Triquint showed serious dependence on large customers, particularly 57% of its revenue came from Apple. On the contrary, RFMD just went out of its predicament. RFMD placed undue reliance on its client NOKIA in its early years, but it witnessed poor performance in 2011-2012 under the impact of NOKIA. However, RFMD recovered in 2013 and its operating revenue increased substantially. RFMD took a fancy to Triquint's BAW technology.

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