3G phones: Supply base expanding

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The line is poised to boom, sustained by support from upstream chipmakers and rising exports to new markets.

China's 3G phone industry enjoys sustained growth as white box and branded handset makers continue to take up the line. The latter began contributing to R&D in 2003, focusing on WCDMA and CDMA2000 as they waited for the homegrown TD-SCDMA to catch on.

White box makers, meanwhile, entered the field spurred by advancements in the domestic 3G commercial networks, which opened a new venue where they coul d try out products.

The V908 model from Qigi Future features a 3.2in WQVGA touchscreen and a 3MP CMOS camera.

How an electronic or telecom device is received locally largely dictates suppliers' export strategies, with companies considering international distribution if the model generates strong orders within China.

Most manufacturers eye business in Africa, the Middle East, Southeast Asia and South Africa, where uptake for new functions and features is generally strong.

Although brand and white box makers already corner a significant share of the market, focusing initially on the local sector actually presents fewer risks. This applies particularly to companies just venturing into the 3G phones industry. Suppliers can start out with only a small investment and incur minimal loss if the product does not fare well in terms of sales.

Another factor driving companies to expand into 3G handsets is the support they have been getting from upstream IC providers such as Qualcomm and Via.

The former has earmarked $100 million to help local enterprises in the development of CDMA-based products, applications and services. China TechFaith, which has been the largest beneficiary of the grant, is NASDAQ-listed.

Qualcomm, the world's largest provider of CDMA solutions, continues to seek local investment targets, with additional funds said to exceed $100 million. And while the companycharges $1 million as a threshold fee in mainland China, it deducts just roughly 3 percent of revenue from domestic CDMA/CDMA2000 mobile phone makers. Foreign makers operating there are charged 5 percent.

Via, on the other hand, has a threshold fee of $200,000.

The mainland's 3G industry is getting another boost with the announcement that MediaTek has reached agreement to produce Qualcomm's WCDMA chipset.

The Taiwan maker maintains strong ties with domestic mobile phone suppliers and design houses.

IC companies such as Fuzhou Rockchip and Hisilicon already in the smartphone business also plan to enter the 3G line, with mass production to begin in 2010.

The shift in focus to 3G also signals the telecom sector's readiness to explore new revenue sources beyond the saturated 2G/2.5G mobile phone market. While 3G wireless technology is not the final solution, it is the most practical to date. CDMA/EV-DO adoption rates will increase because of the need for higher data speeds, according to Qualcomm. It predicted that total 3G subscribers would have reached 750 million in 2H09 and 3G phones would take 70 percent of worldwide shipments by 2012 or 2013.

As 3G gathers more popularity, CDMA2000 and WCDMA are expected to naturally evolve to 3.5G CDMA2000 EV-DO and 3.5G HSPA, respectively.

Products & prices

Industry composition

Products & prices

The growing number of white box makers entering the line has resulted in the influx of entry-level and midrange 3G phones with lower price points. High-end features such as multitouchscreen, Wi-Fi, and GPS technology have even made their way into these products.

WCDMA phones that support HSDPA/HSUPA, and CDMA2000 handsets that back EV-DO are now mainstream. The QWERTY keyboard, which does not bring compatibility and power consumption issues to the table, is expected to be the key design trend in coming months.

Most handsets feature GSM/GPRS/WCDMA/EDGE/HSDPA support. They usually have a 2.2in 260K color screen with 320x240 resolution, a 1.3 to 2MP digital camera, miniSD card capability, and MP3/AAC/AAC+/3GP/MPEG playback.

For the WCDMA standard, Windows Mobile and Android-based smartphones are also popular. Such units come with a UMTS 850/1,900/2,100MHz or GSM/GPRS 850/900/180/1,900MHz chipset, HSDPA, HSUPA, 512MB ROM/256MB RAM, a 2.8in touchscreen with 240x400 resolution and multimedia playback. Some support the RMVB format.

Low-end 3G phones have a 1.5 to 1.8in 65K CSTN screen with a QCIF 128x128 resolution, 32 polyphonic ringtones, games and an alarm clock. Products are from $25 to $45.

Releases in the midrange that feature a 1.8 to 2.4in TFT screen with a 128x160 or 240x320 resolution go for $46 to $90. Models have a 1.3 to 2MP digital camera, Bluetooth, MP3 and MPEG-4 playback, USB, a built-in FM radio, memory card extension and MMS/LMS/WAP support.

High-end units are quoted from $91 to $110. They come with a 2.4 to 3.2in TFT touchscreen with 260K color and 240x320 resolution, 1.3MP to 3MP digital camera, built-in FM radio, Bluetooth and MP3 and MPEG-4 playback.

Smartphones carry additional services and functions such as GPS, Wi-Fi, an autofocus camera and office software management. With a price range of $130 to $350, units run on Windows Mobile 6, 6.5 or 7, orAndroid.

Industry composition

There are 80 suppliers of 3G phones in China, 70 percent of which are white box makers.

Many of the latter offer low-end CDMA handsets and have a yearly output of 2,400 to 12,000 units. Their key export markets are the Middle East, Southeast Asia and Africa.

Brand makers such as Yulong, ZTE and Huawei, meanwhile, cooperate with overseas telecom operators and release 150,000 to 10 million units annually.

Differentiated according to capability, tier 1 manufacturers are strong technically, enabling them to adopt better-performing chips from Qualcomm.

The second group is composed of white box, midrange 3G phone suppliers and a few upcoming brand makers. They have relatively solid R&D capability, but not enough to handle Qualcomm's chip independently.

Tier 3 players are small and midsize white box makers that either do not emphasize or do not have qualified independent R&D. Companies source finished solutions for both CDMA2000 and WCDMA from mobile phone design houses supported by Qualcomm.

Note: All price quotes in this report are in US dollars unless otherwise specified. FOB prices were provided by the companies interviewed only as reference prices at the time of interview and may have changed.