

Taiwan's handsets

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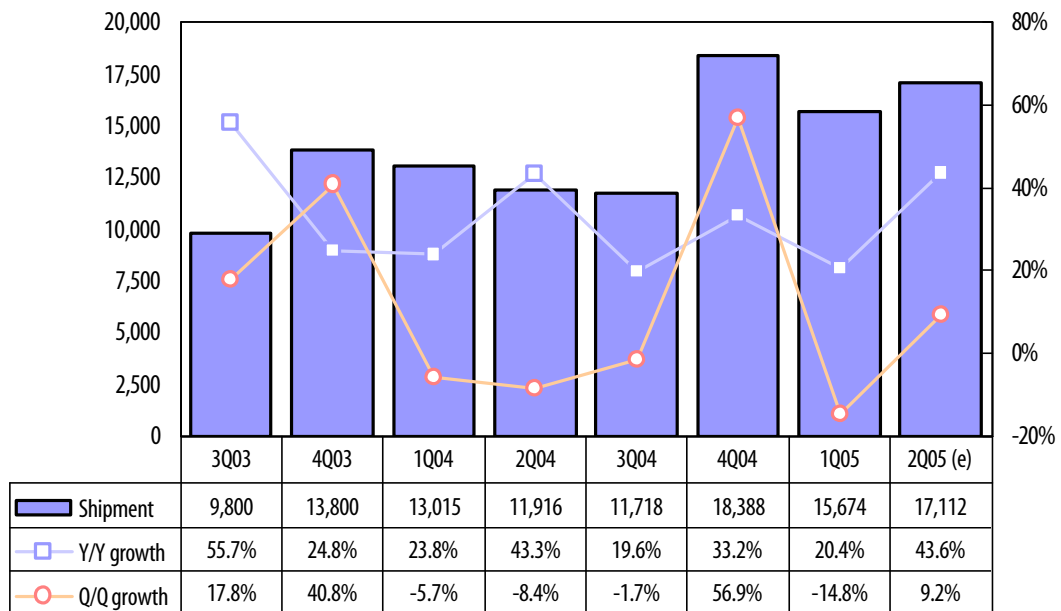
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Introduction

Taiwan's first-quarter handset shipments dropped 14.8% to 15.67 million units from 18.38 million units in the previous quarter mainly due to seasonal factors. Production was unsurprisingly reduced in the wake of the Christmas shopping season and with the long Chinese New Year holiday in February. The launch of fewer new models than the fourth quarter, because of the same seasonal factors, also contributed to the decline. Despite the on-quarter decrease, first-quarter shipments grew 20.4% on the same period in 2004, an indication that Taiwan handset sector is heading for a good 2005.

DigiTimes Research expects Taiwan's second-quarter handset shipment will grow 9% on the first quarter and increase 44% on the same period last year. Second quarter shipments are being boosted by launches of new models by major handset vendors, and strong orders from such major clients as Motorola.

Chart 1: Taiwan handset shipments, 3Q03-2Q05 (k units)



Source: DigiTimes Research, April 2005.

The first quarter

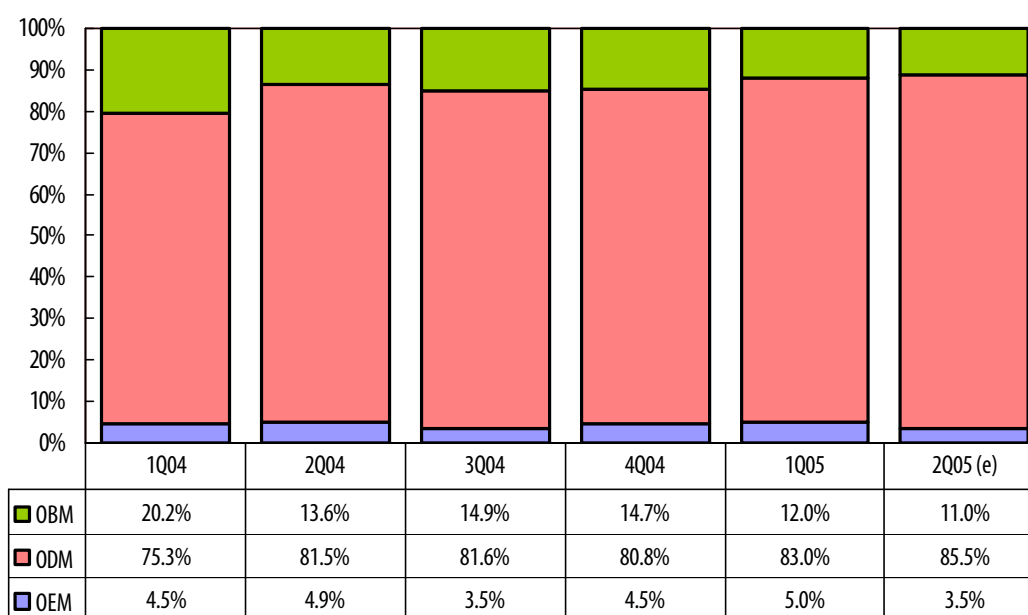
OBM, ODM and OEM shipments

In the first quarter of 2005, OBM (original brand manufacturing) handset shipments dropped to 12% of total shipments, from 14.7% in the previous quarter. BenQ was faring worse than expected, while Dbtel Technology, after seeing a slight rebound in shipments at the end of 2004, quickly relapsed into a downward trend that had begun last year. The poor performance of these two own-brand handset makers' was the chief reason for the decline in the proportion of OBM shipments.

ODM (original design manufacturing) remained the chief mode of production in the first quarter, although many ODM handset makers reported shipment declines. However, Compal Communications' ODM shipments to Motorola were better than expected, allowing the ODM sector in general to register a smaller decline in output than either the OBM or OEM (original equipment manufacturing) production. As a result, the ODM proportion of overall first-quarter handset shipments rose 2.2 percentage points over the previous quarter.

OEM shipments as a proportion of the total stayed level, as there were no major changes in either clients or the models that were contracted for production.

Chart 2: Taiwan handset breakdown by production mode, 1Q04-2Q05



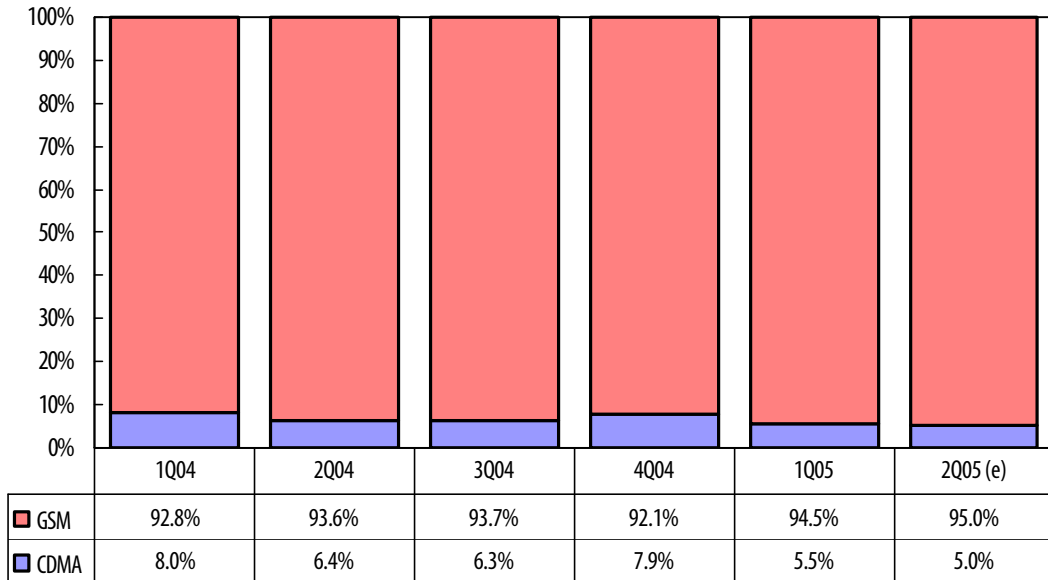
Source: DigiTimes Research, April 2005.

The OBM, ODM and OEM shipment breakdown for the second quarter is expected to stay similar to the first quarter, as makers continue to ship existing models. The launch of new models is not expected to cause any large change to the proportions.

GSM and CDMA

Taiwan shipments of GSM handsets rose 2.4 percentage points compared to CDMA handsets in the first quarter.

Chart 3: Taiwan handset breakdown by transmission technology, 1Q04-2Q05



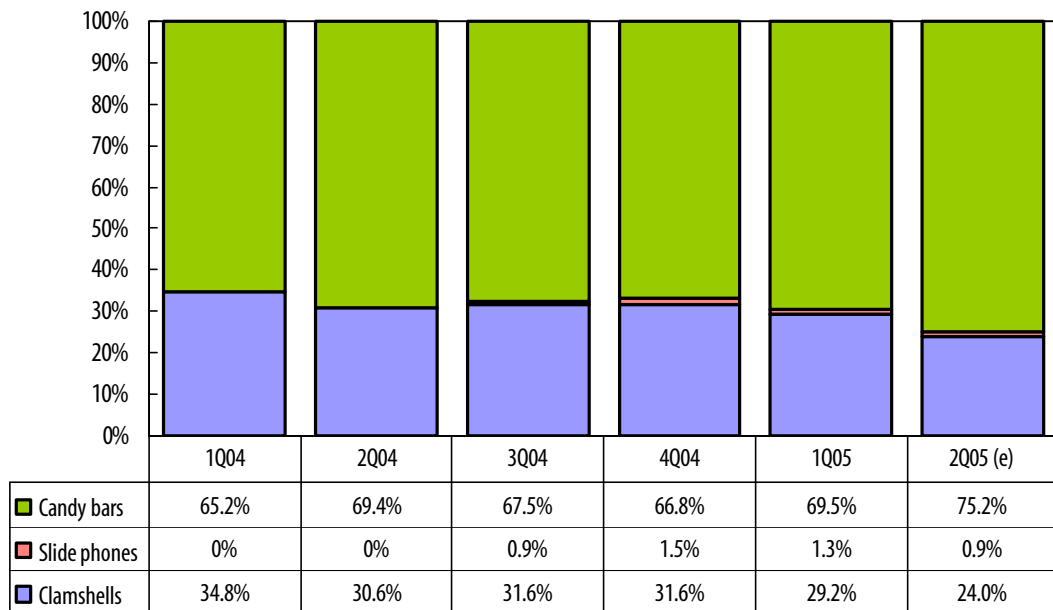
Source: DigiTimes Research, April 2005.

BenQ started shipping WCDMA handsets to Europe at the end of 2004. Asustek and Compal Electronics are expected to ship 3G products later this year. GSM is expected to remain the mainstream technology in the second quarter, although a few more makers have started developing CDMA handsets.

Candy bars, clamshells, and slide phones

Taiwan shipments of candy bar phones rose to 69.5% of total shipments, from 66.8% in the fourth quarter, as Compal Communications' shipments of Motorola's C115 handsets registered staggering growth. These shipments were boosted by the growing popularity of candy bars, such as Arima Communication's K300i. As a result, the proportion of candy bars rose in the shipment mix, while the proportions of clamshells and slide phones both dropped.

Chart 4: Taiwan handset breakdown by phone type, 1Q04-2Q05



Source: DigiTimes Research, April 2005.

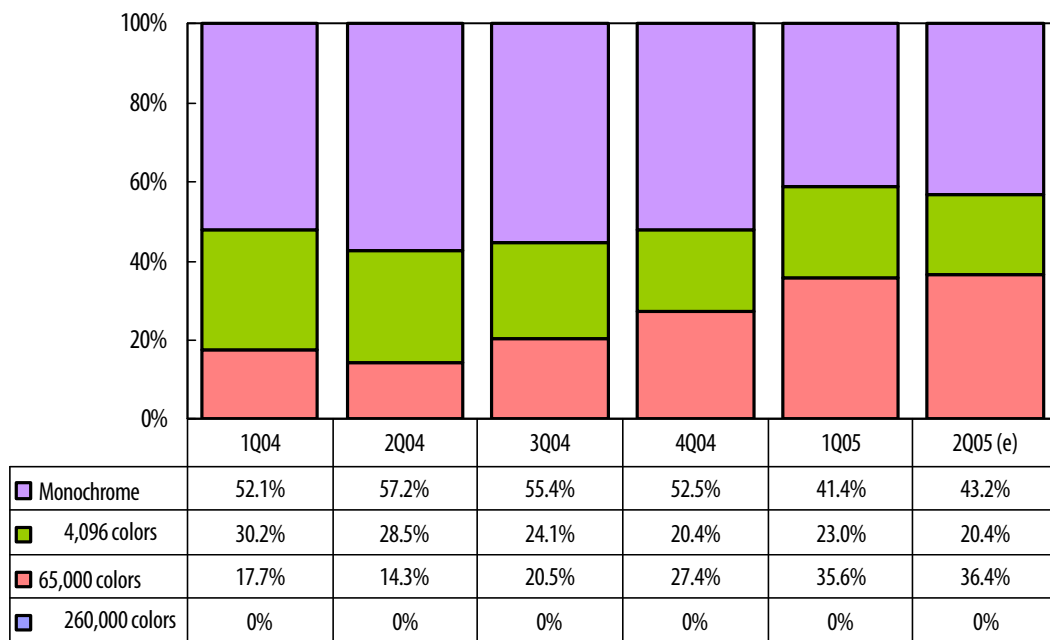
The proportion of clamshells is expected to fall to 24% in the second quarter, from 29% in the first, because of continued strong growth of candy bar shipments from Compal and Arima. For slide phones, no new models reached the market in the second quarter, and a further decline in their share is expected.

Color and monochrome main displays

The proportion of monochrome main displays in candy-bar and slide-phone shipments dropped to 41% in the first quarter from 52% in the previous quarter, because BenQ's contract to make Motorola's monochrome-display handsets ended and Compal Communications' increased shipment of monochrome-main-display handsets was not enough to make up the loss. Nevertheless, monochrome main displays still accounted for the largest chunk in candy bar and slide phones produced by Taiwan makers.

As monochrome handsets' proportion dropped, the percentage of 4,069- and 65,000-color-screen models increased. Handsets with 65,000-color screens grew 8.2 percentage points, a rise higher than 4,096-color screens, thanks to strong shipments of handsets with 65,000-color screens from Arima and High Tech Computer (HTC).

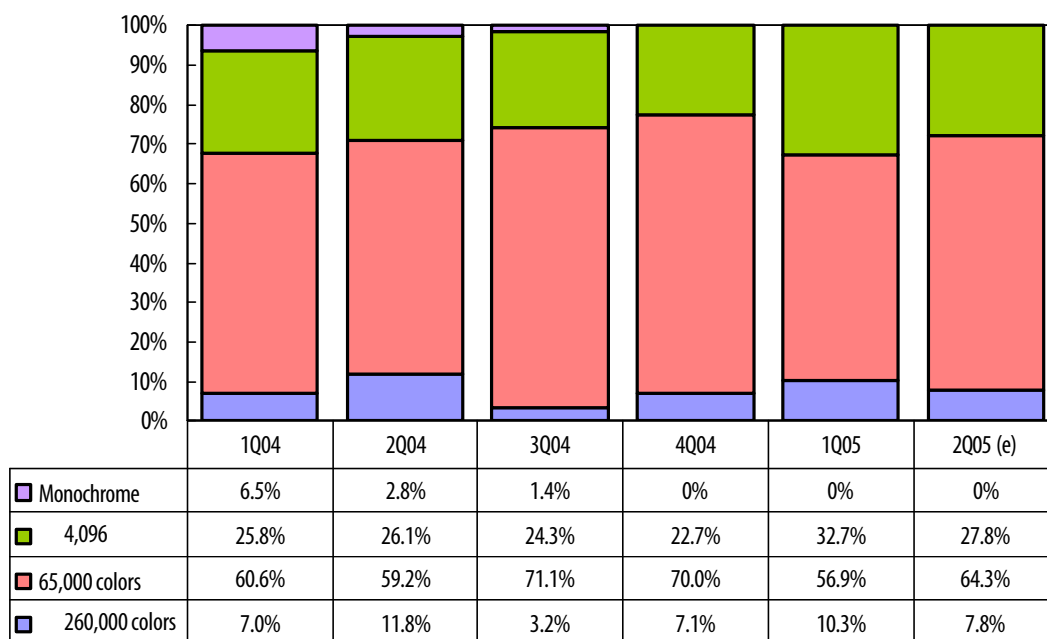
Chart 5: Taiwan candy-bar & slide-phone breakdown by main display colors, 1Q04-2Q05



Source: DigiTimes Research, April 2005.

As it was in the first quarter, the largest shipment growth in the candy-bar-and-slide-phone category in the second quarter will still come from Motorola's low-end handsets, which will also bring a rise in the proportion of monochrome displays shipped.

The main displays of all clamshells shipped in the first quarter were color-screens. Shipments of clamshells with screens of 260,000-color-and-higher and 4,096-color-and-lower grew 14% each. Most of the 260,000-color-screen clamshells were A668 models made by Chi Mei Communication Systems (CMCS) for Motorola. Although BenQ's shipments of 4,096-color-screen clamshells dropped, Compal Communications' increased shipments of Motorola V171 clamshells with 4,096-color screens outnumbered BenQ's decline, contributing to the overall rise in the 4,096-color-and-below category in the first quarter. Compal's shipment of 4,096-color-main-display clamshells doubled from the previous quarter, helping raise the shipment of 4,096-color-main-display clamshells 10 percentage points. The first-quarter shipment of handsets with 65,000-screen main display decreased 36% on quarter.

Chart 6: Taiwan clamshell breakdown by main display colors, 1Q04-2Q05

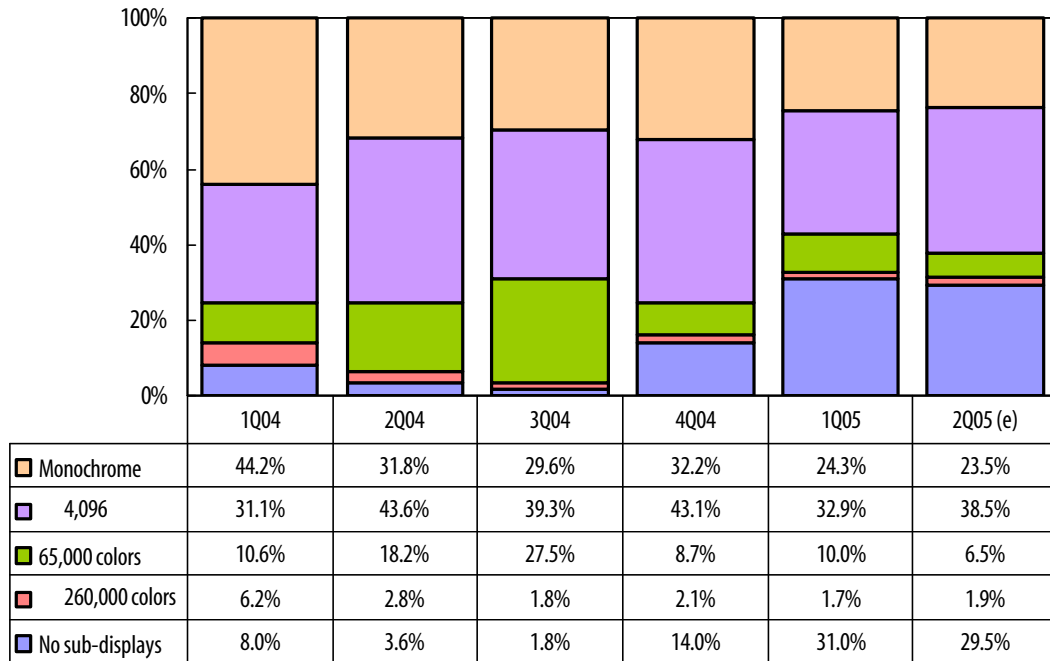
Source: DigiTimes Research, April 2005.

For the second quarter, share of clamshells with 260,000-color main displays may drop because of reduced shipments of the A668 and MPx220 handsets from CMCS. The proportion of clamshells with 4,096-color main displays could also decline because of reduced shipments of this kind from Motorola's contract makers. As a result, clamshells with 65,000-color main displays will see their share go up.

Monochrome and color sub-displays

A shipment breakdown by clamshell sub-displays shows that models with no sub-displays grew 17 percentage points because of Compal's increased shipment of Motorola's V171 handsets. Because of the staggering growth in V171 shipments, the proportion of other clamshell models with sub-displays dropped.

Chart 7: Taiwan clamshell breakdown by sub-display colors, 1Q04-2Q05



Source: DigiTimes Research, April 2005.

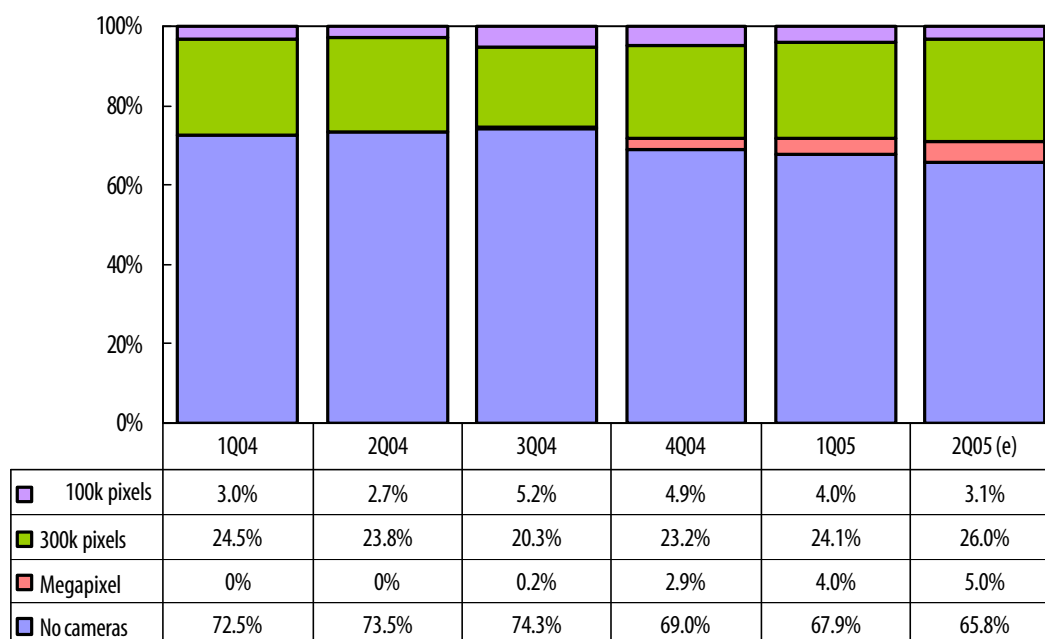
The second-quarter proportion between monochrome and color sub-displays in clamshell shipments will be similar to the first quarter. Within the color section, 4,096-color sub-displays may see a five to six percentage-point rise, because of an increase in their shipments and a decline in shipments of other color screens.

Built-in cameras

The proportion of phones with built-in cameras in the overall first-quarter handset shipments rose slightly from the fourth quarter of 2004 to 32%. There were also more megapixel cameras, while the number of units with 100,000-and-lower pixels dropped. The mainstream remained 300,000 pixels, which accounted for 75% of all cameraphones shipped from Taiwan.

Megapixel cameraphones shipping in volume included the MPx220, A668, Dopod 585 and Dopod 818.

Chart 8: Taiwan handset breakdown by camera resolution, 1Q04-2Q05



Source: DigiTimes Research, April 2005.

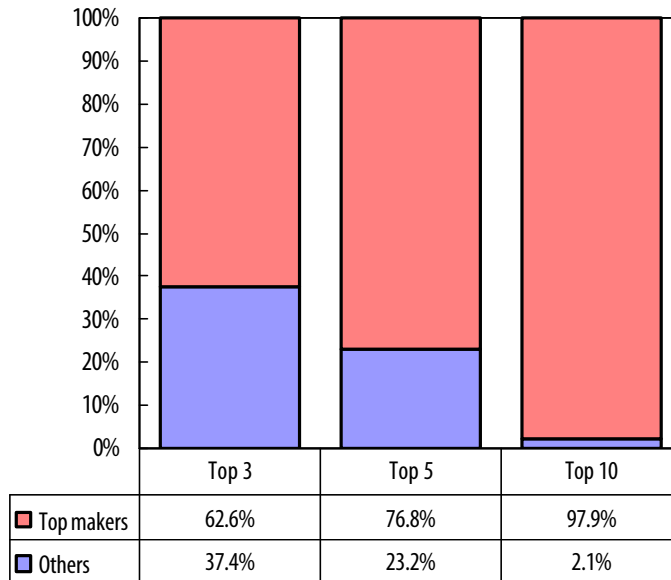
Because of their growing popularity, cameraphones are expected to see a continued rise in shipments from Taiwan in the second quarter. Their share of Taiwan handset shipments is expected to grow to 34% from the first quarter's 32%.

With demand for higher resolutions growing, Taiwan's shipments of handsets with 100,000-pixel-and-lower built-in cameras will continue declining in the second quarter, while shipments of megapixel cameraphones will continue growing. However, the 300,000-pixel class will remain the mainstream.

Concentration of handset production

The top three handset-makers in Taiwan in the first quarter were Compal, Arima, and BenQ. They accounted for 62.2% of all first-quarter Taiwan handset shipments. Their chief clients included Motorola and Sony Ericsson. A further breakdown shows that the top-five handset makers accounted for 76.8% of all shipments.

Chart 9: Concentration of Taiwan handset shipments, 1Q05

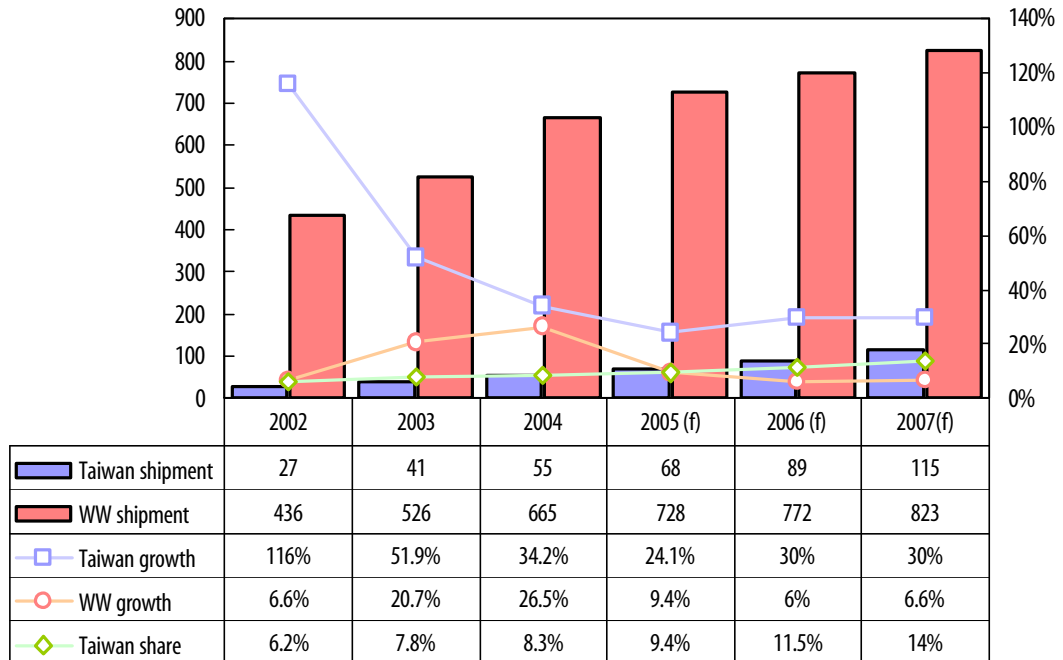


Source: DigiTimes Research, April 2005.

Predictions for 2005-2007

Taiwan's share of the worldwide handset shipment will reach 14% in 2007, with shipments totaling 115.4 million units.

Chart 10: Shipment trend, 2002-2007 (m units)



Source: DigiTimes Research, April 2005.