Advanced Printed Circuit Board (PCB) Industry Report, 2007-2008

Advanced printed circuit board or PCB, refers to the fields requiring a high entry threshold. IC substrate has a closer relationship with semiconductor packaging, so it is beyond the research scope of the report.

In 2007, China's mobile phone output exceeded 600 million units. At present, 90 percent of mobile phones adopt HDI board. Based on the estimation that one square meter of HDI board fits the production of around 180 units of mobile phones, we get the results that the market demand of China's mobile phones for HDI board is 3 million square meters. In addition, from the perspective of production capacity of China's key HDI manufacturers, China's HDI production capacity still can not meet the rapid growth in market demand, although some manufacturers have expanded their production capacity. The companies in Mainland China that are able to mass produce HDI board include Multek Corp., Compeq Manufacturing Co., United Power, AT&S, Ibiden, Shanghai Meadville, Shantou Goworld, Huafeng Weixian, Meiko, and Shanghai Unitech Electronics Co., Ltd.

Multek is a large PCB works affiliated to Flextronics, and United Power is the subsidiary of Unimicron, the world's largest handset PCB producer, which supplies PCB for Nokia and Motorola via Foxconn. Compeq Manufacturing (Huizhou), with Motorola as its key client, is the unit of Compeq, Taiwan's mobile phone PCB producer. AT&S is the subsidiary of Austria AT&S in Mainland China. Ibiden with Nokia as its sole client is based in Beijing. Shanghai Meadville is affiliated to Hong Kong Meadville Group, and Huafeng Weixian is a unit of Daisho Microline Holdings Ltd. Meiko is of the ability of mass production, but its main business is focused on flat-panel TV and automobile. Shanghai Unitech is the subsidiary of Taiwan Unitech. Among these companies, only Shantou Goworld belongs to Mainland China.

Due to the successive price cut in the promotion of laptop, HDI laptop market is limited mainly to several types with screen size below 13-inch in consideration of cost, although Intel gives much support. HDI laptop market currently amounts to 10 percent of laptop shipment and HDI design won't be introduced completely to the laptop market due to cost. HannStar and Gold Circuit Electronics Ltd. jointly dominate the global laptop PCB market, taking up 75 percent of the market, and the rest market is shared by Unimicron, Compeq and Unitech. Market entry threshold is very high for a new entrant.

Entry barrier for memory board is not low as well. Gross profit margin of memory PCB board is very low, at most about 10%, and profit will be a single digit, given deduction of related operating expenses. Only large scale production of memory board can be profitable, especially considering equipment depreciation. The global leading memory PCB board manufacturers are SIMMTECH in South Korea and Tripod, both of which occupy more than 80% of the global market.

At present, Tripod is still the largest photovoltaic panel producer in Taiwan. WUS Printed Circuit Co. believes that TFT-LCD industry has entered a period of maturity, and it is impossible to again achieve a rapid growth in the industry. Furthermore, TFT-LCD market fluctuates much, so WUS Printed Circuit decided to exit photovoltaic panel field, and to focus on PCB for mobile phones and laptops. After the exit of WUS Printed Circuit, Taiwan PCB TechVest Co. entered the market aggressively.

As for auto electronics PCB market, the entry threshold is even higher. The well-known manufacturers in the market include Viasystems Group, CMK, Meiko, Jinghua in Mainland China and Unitech in Taiwan. The market has maintained its layout for many years.

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