

## Kynix: The Truth About Chip Prices

Overnight, the sharp drop in chip prices became a hot spot again. What is the truth behind the plunge in chip prices?

HONGKONG, April 27, 2023 /EINPresswire.com/ -- Overnight, the sharp drop in chip prices became a hot spot again.

In the past, <u>Kynix</u> publications have stated that the semiconductor market is currently seeing price reductions, with certain chip costs falling by more than 80%. The price of a particular STMicroelectronics chip originally reached US\$583 last year, but it has since dropped to about US\$100 this year; another chip's pricing was around US\$33 last year, but its current price is only about US\$3.

Prior to this, "core shortage" had nearly overtaken all other concerns in a number of businesses. Even a covert chip war was started last year by numerous new car-making forces. By the end of May, the founder of the automobile had once more complained about the scarcity of chips on social media.

Price reductions and core shortages coexist in the current market environment, in Kynix's estimation. While the costs of industrial and automotive chips were very high, the current cycle of chip price drops mostly affected the consumer electronics sector. Prices of comparable chips have been falling for a while as a result of the drop in shipments of mobile phones and PCs. The survey also noted that, despite an avalanche in some chip prices, there are indications of differentiation in the demand for other chips and that the supply of new automotive products is still only somewhat abundant.

The two chips described above are all <u>MCUs</u> (microprocessing chips), which are frequently utilized in business and the car sector. Industry sources claim that the key drivers of the current decline in chip prices are general-purpose MCU, DDIC (display driver chip), and memory (storage chip). Some power management chips and image sensors, it seems, are currently experiencing price reductions.

Core shortage and avalanche coexist

"Whether it's the general-purpose MCU, DDIC, or Volkswagen's memory, they are all essentially dropping. The current decline in chip prices is a well-known occurrence. In the end, supply outweighs demand. based on analysts. The individual added that this round of chip price

declines is widespread and not just affecting the Chinese market. It has several causes, one of which is the declining demand brought on by changes in the economic climate, "not because of too much expansion of production capacity."

The price decline for chips has expanded throughout the last month or two, though. At the start of the year, several chip plants were still operating, but they now need to make adjustments. an insider in the sector remarked.

But the sudden decline in prices cannot represent the entire sector. Indeed, some of the largest semiconductor companies continue to raise their pricing. Samsung, Intel, TSMC, and other companies recently disclosed plans to raise prices. The price of peripheral items, including personal computer and server CPUs and Wi-Fi chips, will start to increase this fall, from a few percent to 20%, according to a statement made by Intel Corporation in July of this year. This is because of rising costs.

Less than a year has passed since TSMC's most recent comprehensive pricing adjustment, and the company has also previously declared that it will raise the foundry price by 6% starting in January 2023. Samsung also said it intends to raise the foundry pricing, possibly by up to 20%, not long after TSMC announced the price hike. The particular increase varies according to customer order volume, chip type, and contract length.

Along with the consumer electronics sector, the chip demand is still largely fueled by the industrial sector and the automotive sector.

Recently, there have been indications that the semiconductor industry's vulnerability might be growing. Industry insiders claim that the core scarcity is not as severe as it once was, even for automotive chips. Electronic control units (ECUs), a type of industrial semiconductor, are still in short supply. However, not much is lacking.

Panel-related chips, particularly DDIC connected to LCD panels, and mobile computer-related chips, such as memory chips and general-purpose MCUs, currently exhibit the most notable price decline. The inventory levels of different mobile phone manufacturers are currently unhealthy and should be rather high, but the particular data is confidential internal information. There is no way; this cycle of price decrease is cyclical and caused by overstock.

Why did the cost of chips fall?

Why has the price of chips fallen so dramatically?

Before, the price of chips "increased" excessively due to the "chip shortage" backdrop. Players from all facets of society "accumulated food" in the supply chain, which they then used to catch up with the recent drop in consumer electronics industry demand, leading to an "oversupply" situation.

Forward to the year 2020. The supply chain of the worldwide chip industry was quickly disrupted this year as a result of numerous occurrences like diseases, earthquakes, fires, and power outages, which also had a significant impact on supply levels.

How did chip prices fall?

Why has the price of chips fallen by such a large amount?

Previously, the price of chips "increased" too much due to the "chip shortage" situation. Players from all facets of the supply chain "accumulated food" after which they "caught up" with the recent decline in consumer electronics market demand, leading to an "oversupply" situation.

2020 is the previous date. The supply chain of the worldwide semiconductor industry was severely interrupted this year as a result of a number of disasters, including power outages, earthquakes, fires, and epidemics.

On the other hand, the market's need for chips is rising every day. Many businesses have been forced to make early plans and begin rushing for production capacity and large-scale stocking due to the United States chip restrictions on domestic manufacturers like Huawei. The need for chips has increased due to the quick growth of 5G networks and new energy vehicles, which is also encouraging producers from various industries to ramp up their output.

In the third quarter of 2020, mobile phone manufacturers including Huawei and Xiaomi reportedly started stocking up. The automotive chip supply runs out for the first time in Q4 of 2020. To urge TSMC to improve its capacity for manufacturing car chips, some firms that make automotive chips even promised to raise their prices by 20%. As a result of this example, numerous chip players have imitated it. The "curtain of chip price rise" has opened under the severe "supply in short supply" condition.

Following the release of the information, traders began to speculate, commodities were regularly hoarded and roasted, and the price of chips inexorably increased. There have been instances where prices are "rising faster than housing prices in Shenzhen" and "you can't buy for 20 times the price."Attend to the news.

Of course, although the "chip shortage" has led to a continuous surge in chip prices, it has also rapidly promoted chip manufacturers to continue to expand production and increase capacity. According to CCTV reports, according to incomplete statistics, from 2020 to 2024, a total of 25 8-inch and 60 12-inch fabs will be built, with a total investment of nearly 166.6 billion US dollars. At that time, the global 8-inch wafer production capacity will increase by nearly 20%, and the 12-inch wafer production capacity will increase by nearly 50%.

Against this background, the chip inventory levels of terminal manufacturers, channel vendors,

and design factories have increased rapidly in the past period of time. According to reports, some foreign media have sorted out nearly 2,350 chip-related listed manufacturing companies around the world and found that the inventory of these companies in the first quarter of 2022 has increased by about US\$97 billion compared with the end of 2021, and both the remaining inventory and the increase have reached 10. Year-to-date high.

However, while the chip supply capacity continues to rise, the demand side has quietly turned a corner, catching all players in the chip industry chain by surprise.

Demand is declining rapidly, but inventory is piling up due to a large amount of stockpiling in the early stage. Major mobile phone manufacturers and computer manufacturers have to cut orders to upstream chip manufacturers while lowering their shipment targets. According to reports, almost all first-tier PC brands such as Lenovo, HP, Acer, and Asus have lowered their annual shipment targets, with an average reduction of more than 20%; Suppliers, the supply volume after the second quarter of 2022 will be reduced by about 20% compared with the previous plan.

Reflected on the chip manufacturers, according to the research report of TF Securities, Qualcomm Snapdragon 8 series orders have been reduced by about 10-15%, and it is expected to reduce the price of the two flagship mobile chips by 30-40% by the end of the year to clear the inventory. And Intel CFO Dave Zinsner has also said that PC chip revenue is facing a crisis of decline.

The prices of many chips are actually still higher than the normalized pricing prior to the spike in chip prices in 2020, despite the significant decline in price. The STMicroelectronics chip, for instance, had a usual price of only about US\$3 before the sudden spike in 2020, when it went from US\$583 to US\$100 in the CCTV report.

Because of this, some professionals in the business think that although chip prices have lately dropped, it is not really a "price cut" in the traditional sense but rather a logical decline following the absurd surge in chip costs.

Automotive chips are still in short supply

Weak demand in the consumer electronics field has led to a general oversupply of the required chips, but the chips required in the new energy vehicle field are still in short supply.

First of all, from the perspective of the demand of the terminal market, unlike the large-scale decline in shipments of mobile phones and computers, the rise of new energy vehicles is quite gratifying, showing a trend of booming production and sales.

According to data from the China Association of Automobile Manufacturers, in July 2022, domestic automobile production and sales will reach 2.455 million and 2.42 million, a year-on-

year increase of 31.5% and 29.7%, respectively. Among them, the production and sales of new energy vehicles have continued to maintain a rapid growth momentum. The production and sales in July reached 617,000 and 593,000 respectively, a year-on-year increase of 1.2 times, and the market share reached 24.5%, slightly higher than the previous month. From January to July 2022, the production and sales of new energy vehicles nationwide reached 3.279 million and 3.194 million, respectively, a year-on-year increase of 1.2 times.

It is reported that a new energy vehicle needs at least 2,000 chips, which is much more than the 500 to 600 chips required by traditional fuel vehicles. The gap between supply and demand is obviously huge.

As early as March this year, General Motors announced that it would suspend work at a pickup truck assembly plant in Indiana for two weeks in April due to the continued shortage of semiconductor chips.

And it continues. According to data from Auto Forecast Solutions (AFS), an automotive industry data forecasting company, as of August 14, the global auto market has reduced production by about 2.9973 million vehicles due to chip shortages. It is estimated that by the end of 2022, this number will reach 3.8362 million vehicles.

With the supply far short of demand, the prices of many chips in the automotive field are naturally firm. But judging from the current situation where supply and demand are still seriously mismatched, it is clear that a lot of effort is still needed to solve the "core shortage" problem in the automotive field.

For this reason, many car companies have actually made more investments in upstream chip companies. Among them, automotive MCU chips are particularly valued. For example, in the US\$750 million financing completed in June 2022 by CanSemi, a local wafer foundry company located in Guangzhou, there are many car companies including GAC, SAIC, and BAIC. round of investing in this company. It is reported that the funds raised from this financing will be used for the construction of the new phase of Cansemi Semiconductor to develop analog chips for future models on 12-inch wafers.

Will semiconductors usher in a 10-year recession?

This round of sharp drops in chip prices has surprised people outside the industry, but the industry actually had some expectations before. In March this year, Chen Fuyang, CEO of Broadcom, a well-known communication chip giant, mentioned in his financial report: "The growth rate of the semiconductor industry will drop to about 5% in the future." In June this year, Chen Fuyang mentioned again that the prosperity of the semiconductor industry may no longer last.

The current drop in chip prices is also in line with the cyclical laws of the semiconductor industry.

Generally speaking, the semiconductor industry will go back and forth between prosperity and development and severe recession. The usual cycle is 4 years. A complete chip cycle generally includes: demand explosion, out-of-stock price increase, investment expansion, and gradual release of production capacity, There are seven stages of shrinking demand, overcapacity, and falling prices.

Since entering the boom cycle in 2019, the last boom cycle of the semiconductor industry has lasted for three years. Since the beginning of this year, the semiconductor industry has shown signs of shrinking demand.

In June of this year, a report stated that in view of the lack of cores, repeated orders and overheated expansion of production investment in the entire industry, coupled with the current demand slowdown caused by the new crown pneumonia epidemic and high inflation, "the semiconductor industry may decline in 2022." The industry will encounter a downturn in half a year or early 2023."

Many institutions, including Citibank and Fitch Ratings, believe that the semiconductor industry will fall into the worst recession in at least 10 years, and may even be 20 years due to increased inventory and shrinking demand.

One of the reasons behind the sharp drop in chips is the sharp drop in shipments of mobile phones and PCs, as well as the high inventory brought about by hoarding.

Smartphones have been the largest market segment in the chip field for a long time, and they continue to contribute a lot of profits to players in the industry chain. Although in recent years, the average replacement cycle of consumers has been continuously extended to 28 months to 30 months, but under the stimulation of 5G and so on, it is barely worth watching. Until this year, with the recurrence of the epidemic and the occurrence of conflicts between Russia and Ukraine, the demand in the consumer electronics market represented by mobile phones has changed dramatically. With a more cautious consumption attitude, the demand for mobile phones has begun to slow down at a faster rate.

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