# TCL CSTO issued CSPI transmission technology, GB P2P protocol to achieve mass production

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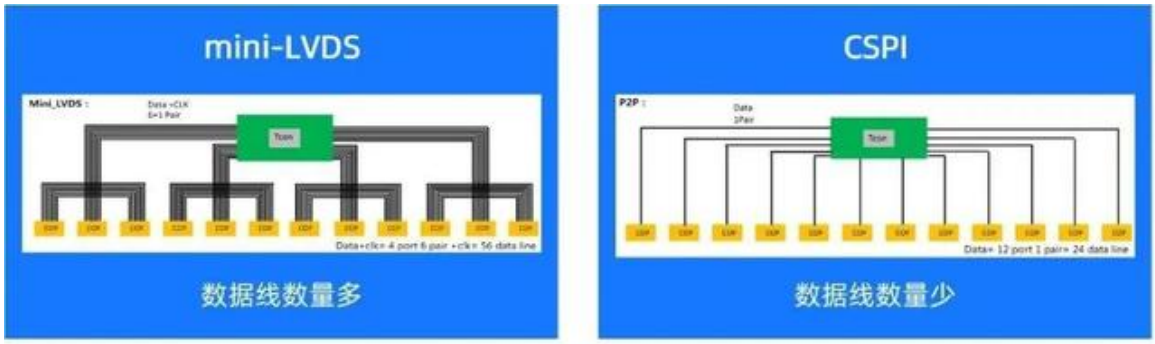
According TO TCL HuAXING (CSOT), HIGHER resolution and higher refresh rate have become the trend OF display development. High resolution high refresh display puts forward higher requirements for data transmission rate, and the traditional Mini LVDS transmission technology can not achieve high speed data transmission. Therefore, all panel manufacturers are actively laying out P2P transmission technology to support high-speed transmission.

TCL CSOT has released the high-speed point-to-point transmission technology CSOT Point to Point Interface (CSPI), which can achieve higher transmission frequency and transmission rate compared with the traditional P2P transmission technology. At the same time, CSPI has been turned into a national Standard China Standard Point to Point Interface, which provides a better solution for high-resolution and high-refresh display data transmission.

IT Home learned that CSPI protocol technology is TCL CSOT's independent innovation of in-screen high-speed transmission technology, for the display in-drive architecture of TCON to Source Driver high-speed signal transmission to provide a solution. For example, for 8K products, if 169Pairs are required for routing with traditional Mini LVDS technology, productization is not feasible.

However, if CSPI is used, the number of cables can be reduced to 48Pairs, reducing the number of cables by 70%.

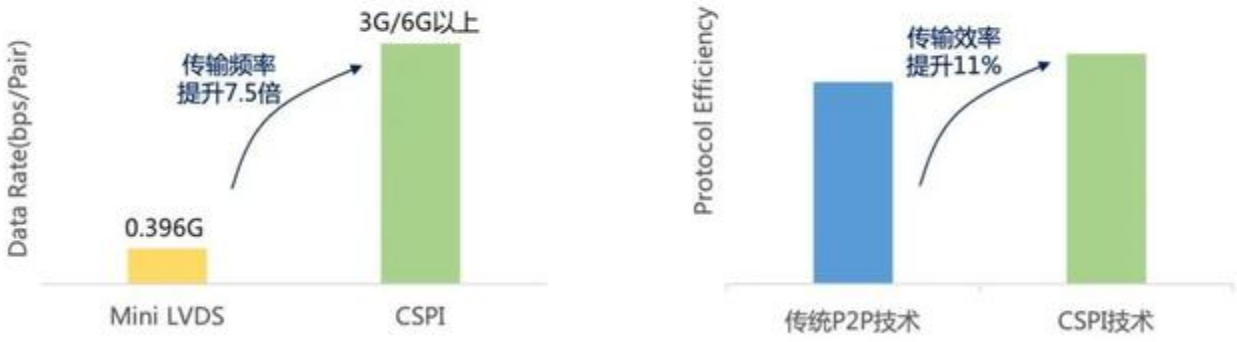
In addition, the traditional P2P transmission technology will have inter-symbol distortion during high-speed transmission. The AEQ adaptive equalizer design independently developed by TCL CSOT can solve this problem and ensure excellent display picture quality under high-speed transmission.




▲The CSPI protocol can reduce the number of cables by 70%

Different from the traditional Multi-Drop architecture, the traditional P2P transmission technology uses the internal clock recovery circuit to recover the clock signal according to the received differential signal (including clock signal and data signal), and obtains the corresponding data signal according to the clock signal sampling, which has the characteristics of fast transmission rate.

Compared with the traditional P2P transmission technology, TCL CSOT CSPI technology adopts 8B/9B codecs and clock embedding technology to further improve the transmission frequency and transmission efficiency. The transmission frequency is 7.5 times higher than the traditional MiniLVDS technology, and the transmission efficiency is 11% higher than the traditional P2P transmission technology.




▲ The transmission frequency and efficiency of CSPI protocol are improved

According to TCL CSOT, it is the first panel manufacturer in China to independently develop P2P transmission technology, and has shipped more than 500 million panels equipped with CSPI technology SDIC by 2022.In terms of patents, TCL CSOT CSPI technology has self-edited decoding and other related patents, and has applied for the national point-to-point signal interface transmission protocol standard for LCD screens, which can be used by domestic manufacturers for free .

TCL CSOT CSPI protocol technology has now covered the full range of TV/MNT/NB product applications. By integrating CSPI transmission technology into UD and 8K products, TCL CSOT has achieved mass production. Among them, 32"UD 240Hz and 75" 8K 265Hz have been equipped with CSPI protocol technology to achieve product technology launch.