DFI

Trustworthy Product Quality and Rapid Derivative Product Services Helped Advance Textile Industry Quality Control

With the advancement of science and technology, the ancient textile industry has already entered the era of highly automated production. Even with the price challenge of many consumer-grade products, DFI has helped a European company that was established in 1927 and known for their excellent quality trusted by customers, by high flexibility paired with quick cooperation with customers to launch derivative products, and long-term supply that industrial computer manufacturers could provide. In addition, customers who started operating auxiliary machines in textile factories and established quality standards for the textile industry for a long time created online fabric inspectors to allow existing automated textile machines to have automated quality inspections.

Region: **Europe**
Industry: **Textile Industry**
Application: **Automated Fabric Inspection**
Solution: **CS101-H310 derivative**

The textile industry refers to the design and manufacture of clothing. It is an ancient industry that has been born since the beginning of human civilization. It is known that the earliest origin of textiles is the bone needles found on the site of the cave in the Paleolithic period in China, much earlier than the time of pottery. Hemp rope, linen, and other first textile hemp fabrics manufactured by humankind can be traced back to Egyptian linen fabric in 4000 BC and hemp fabric unearthed in Caoxie Mountain, Jiangsu, China, in 3600 BC.

Since the textile industry is inseparable from human life, it is also undergoing technological upgrades with industrial automation. Take the automobile industry as an example, "zero defect" has become a mandatory requirement. Applications such as airbags, roofs, vehicle interiors, tires, etc., require 100% perfect quality. Therefore, the textil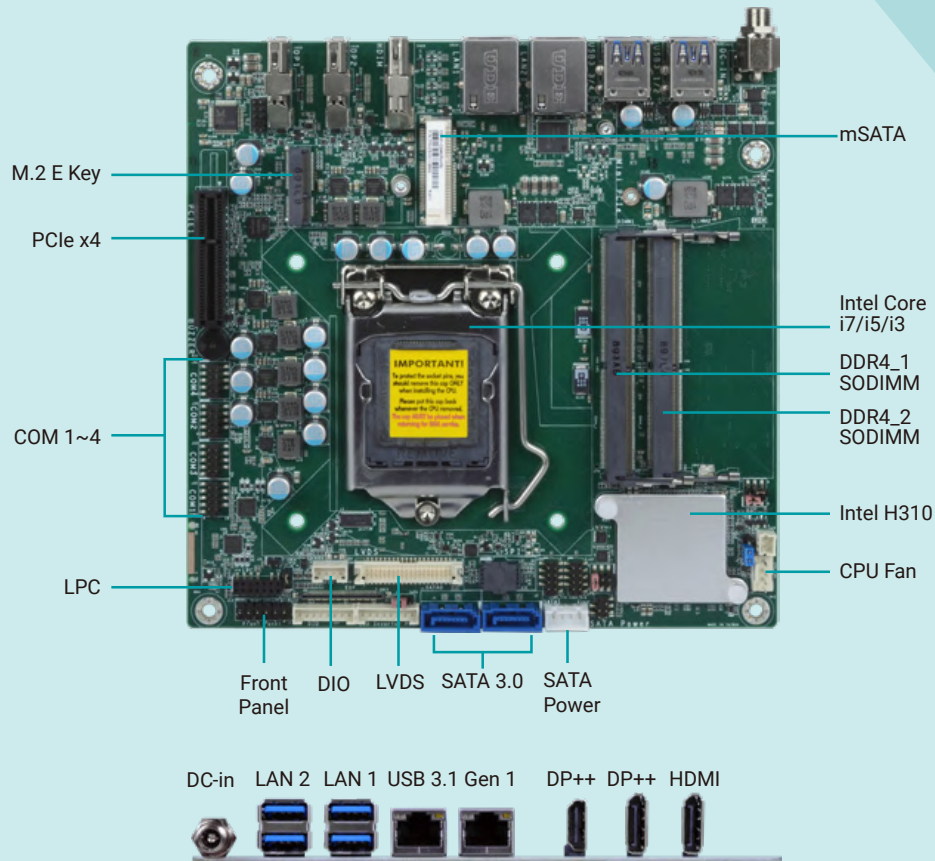e industry is also inevitable. In today's production environment, high-quality automated solutions are the top priority for fabric quality testing. Belonging to one of the Japanese multinational automotive manufacturer in the world, a specific European customer, that was founded in 1875 and begun operating auxiliary machinery for textile factories in 1927 and established textile quality standards since 1957, has launched a series of fabric inspection solution for the entire value chain from weaving to finishing.

Due to the difficulty of existing textile companies to quickly update current equipment, building a fabric detector that can upgrade existing automated textile machinery and automatic quality inspection requires an industrial-grade motherboard with both high reliability and low price as its computing core.

Due to the textile industry's colossal scale and procurement volume, which brought cost pressures,

DFI Application Story
Trustworthy Product Quality and Rapid Derivative Product Services
Helped Advance Textile Industry Quality Control

2

Front View

- M.2 E Key
- PCIe x4
- COM 1~4
- LPC
- mSATA
- Intel Core i7/i5/i3
- DDR4_1 SODIMM
- DDR4_2 SODIMM
- Intel H310
- CPU Fan
- Front Panel
- DIO
- LVDS
- SATA 3.0
- SATA Power
- DC-in
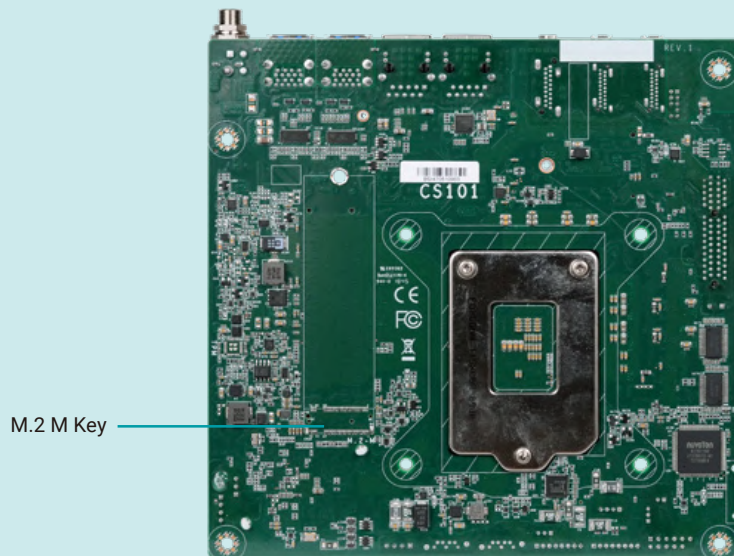- LAN 2
- LAN 1
- USB 3.1 Gen 1
- DP++
- DP++
- HDMI

this customer initially preferred the existing and on-the-market consumer-grade Mini-ITX motherboards. However, system integrators abandoned this direction for the following reasons:

● It is difficult for general consumer motherboards to achieve the product life and durability required in this case. Furthermore, if frequent damage occurs within the product deployment period, which reduces the production quality, the textile industry will face expensive claims and a damaged reputation.

● This online fabric inspection system is designed to upgrade existing production machines. Since the frequency of equipment replacement in the textile industry is not high, there will be subsequent demand for new projects, and it is difficult to predict the total market. However, stock preparation also bears heavy financial pressure, so the risk of being out of stock should be avoided. Instead, the necessary quantity should be purchased once there is a need.

Therefore, the customer chose DFI's CS101-H310 as the computing brain of their online fabric inspection system because they trust the quality of DFI's

DFI Application Story
Trustworthy Product Quality and Rapid Derivative Product Services
Helped Advance Textile Industry Quality Control

3

Bottom View

M.2 M Key

industrial computer. When the operating temperature of CS100-H310 is as high as 60 degrees, the mean time between failures (MTBF) is still more than 220,000 hours, which is almost equivalent to 26 years. At 25 degrees, it can be as long as 68 years, far better than any consumer product on the market, and able to fully meet customer requirements for product stability.

However, due to the far more rigid materials and testing of industrial computers, the unit price of products is generally higher. Therefore, to meet this case's price requirements, DFI quickly developed a project-derived model (DEV) of the current standard model (STD) according to the specifications required by the customer and removed all unnecessary materials to avoid unnecessary costs within the limited timeframe of the sample delivery.

The fabric inspection system that uses DFI's CS101-H310 has an elegant and slim design that

attracts people's attention and is easy to install on existing weaving machines. It is positioned immediately behind the reed of each device, and the operator can respond quickly to alarms and stop signals and correct problems immediately and prevent quality issues from continuing, thus minimizing material waste.

In addition, this customer has also developed an automated data analysis management system, providing an overview map of all fabric inspection systems in the factory, collecting data, and analyzing them, which helps optimize the production process. This system can also transfer the fabric inspection data to the existed ERP system to realize the actual data flow and production automation.

There are no perfect people and things in the world, and defects cannot be avoided entirely, so accurate positioning of defects is crucial. From weaving to the end of the production process, automated inspection

DFI Application Story
Trustworthy Product Quality and Rapid Derivative Product Services
Helped Advance Textile Industry Quality Control

4

solutions enable manufacturers to make correct quality decisions and ensure profits.

This online fabric inspection system is already making a significant impact on the business success of customer. When the project is faced with a lack of ready-made solutions (Turnkey), but the original commissioned design (ODM) also has difficulty meeting the cost and schedule, the existing standard product (STD) that is closest to the demand can be quickly customized into a derivative (DEV) is the best means to achieve customer expectations. Based on rich product customization experience and mission-critical customer service, DFI is enough to be the best partner for this system integration project.

Please click or scan the QR code to see our website if you would like us to contact you.

DFI Application Story
Trustworthy Product Quality and Rapid Derivative Product Services
Helped Advance Textile Industry Quality Control

5

DFI

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including factory automation, medical, gaming, transportation, smart energy, defense, and intelligent retail.

Website: www.dfi.com

eStore: estore.dfi.com

For more information, please contact your DFI regional sales representative or send us an email: inquiry@dfi.com