



DFI

GHF51 Realizes Long-Term Durability and Seamless Highway Vehicle Surveillance

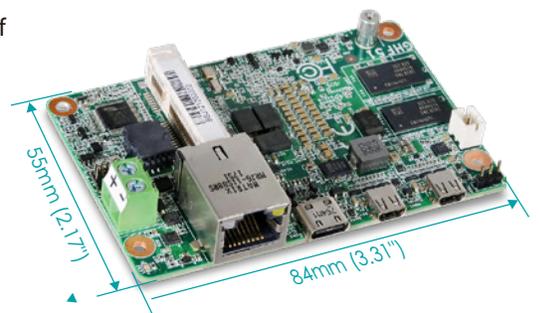
For traffic safety, tens of thousands of vehicles of various types that drive on highways every day are the critical targets for government traffic supervision units. The image recording system that monitors and records the cars throughout the day must have all-weather durability and stable data processing efficiency to perform seamless vehicle safety surveillance. DFI's GHF51 is the world's first mini-industrial motherboard equipped with high-performance AMD Ryzen™ R1000 processors. Although it is small in size, it has the unprecedented processing power and high durability that consumer-grade products cannot match—taking tens of thousands of photos of vehicles and making the most direct contribution to highway safety.

Region: **Turkey**

Industry: **Traffic Management**

Application: **Highway vehicle surveillance system**

Solution: **GHF51-EN-82R16 (customized 128GB eMMC)**



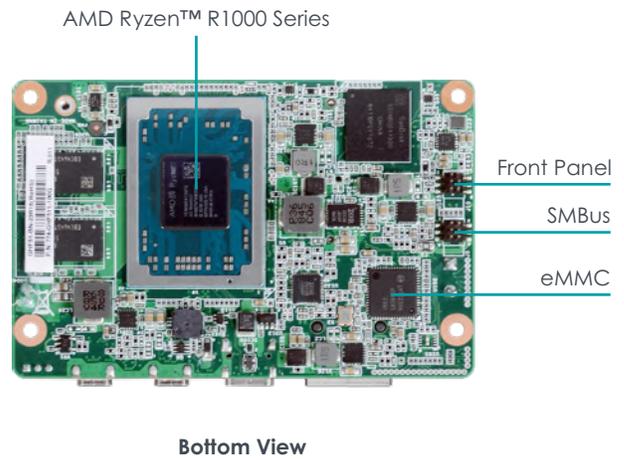
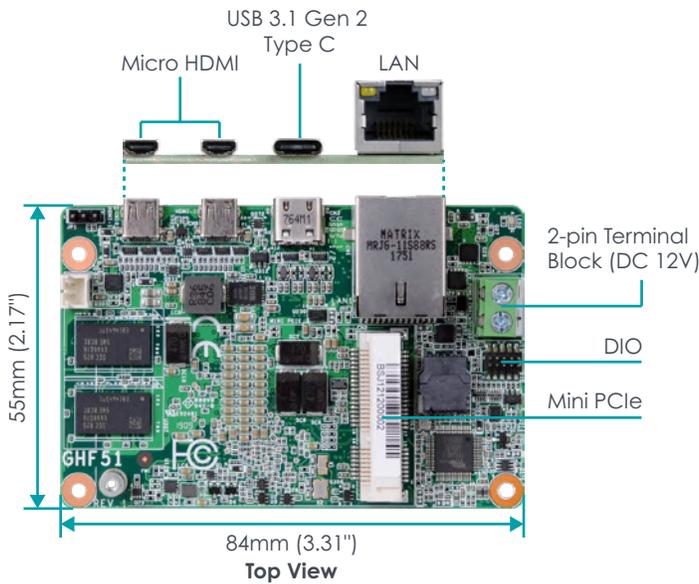
With the development of high-performance and low-power x86 processors, compact personal computers have evolved from NUC to Stick PC. There is no shortage of applications to introduce into the field of industrial control, such as an indispensable vehicle surveillance system for highways. However, such products are subjected to cost competition in the consumer market, and the product durability is far below the standard of all-weather operations. Suppose the product line's supply period is unsustainable. In that case, customers will also face the risk of being out of stock, being forced to evaluate new products, and increasing maintenance complexity afterward.

Turkey's highway supervisory unit chose DFI's GHF51 motherboard as the heart of the vehicle

surveillance system because GHF51 is an industrial-grade product that meets the strict requirements of maintaining regular operation in a long-time outdoor environment with the frequent wind, rain, or high sun. In line with AMD's embedded product line schedule, GHF51 enjoys a ten-year supply period to the first quarter of 2030, simplifying subsequent deployment and maintenance.

Also, having an excellent high performance is the main reason for the selection of GHF51. On average, each camera system must take 10,000 to 20,000 photos of various types of vehicles per day (the capacity of a single image is between 200kB to 300kB) and perform preliminary identification. It must also ensure that the recording of vehicles' tracks are seamless, even though the peak period of congestion or the off-peak hours.

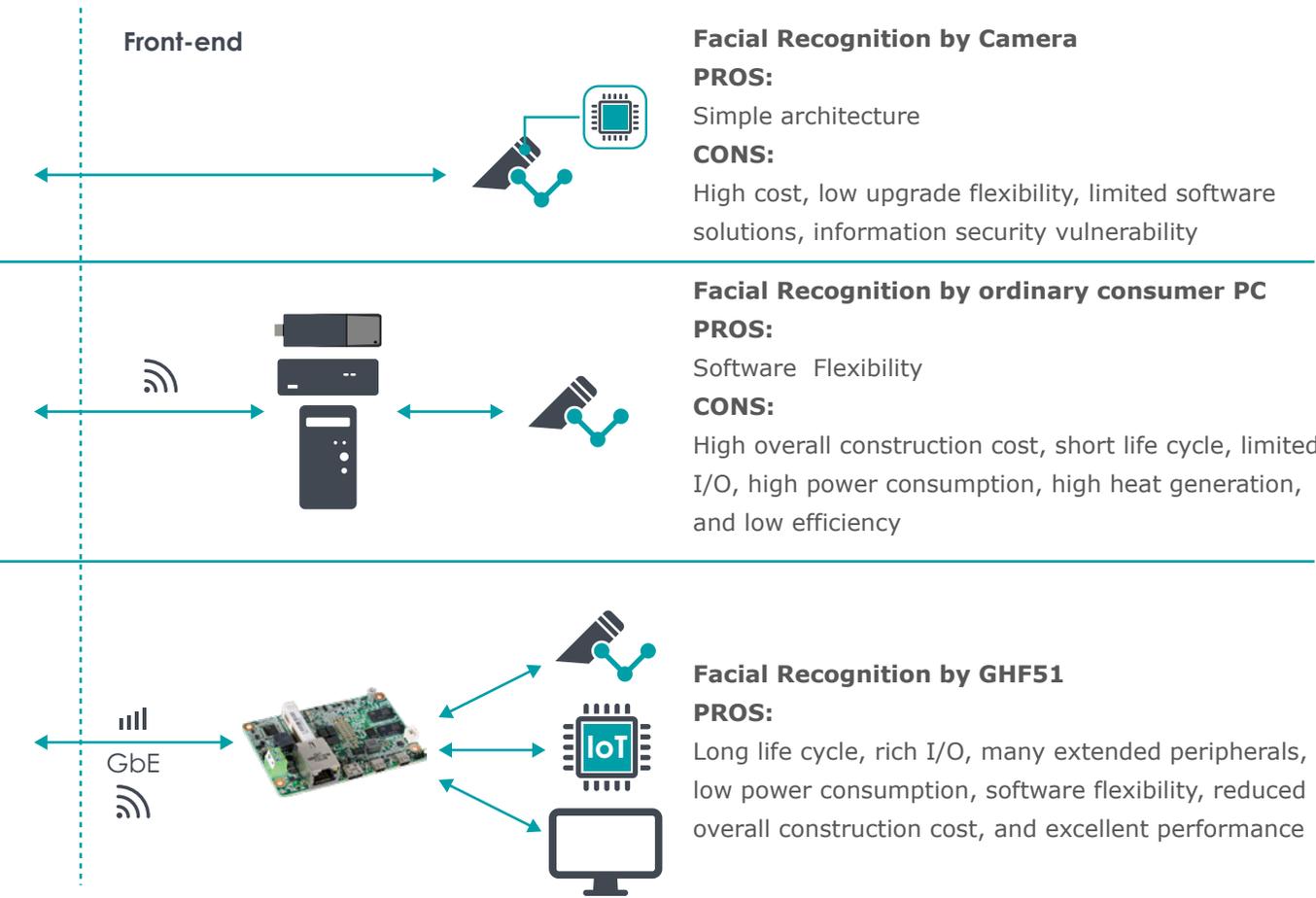
I/O interface of DFI GHF51



After the camera system takes the vehicle photos, they are written into the eMMC of GHF51 in real-time and then gradually transferred to the FTP server to clear the limited capacity space of the eMMC. Because the eMMC that installs the operating system and applications must have enough space to store all the photos taken temporarily, DFI has customized this project and replaced it with a 128GB eMMC, which doubles its capacity as the standard product, along with more durable specifications, to ensure reliability.

DFI is also unambiguous in its business and technical support. In addition to quick product sample delivery, allowing customers to evaluate it as soon as possible, DFI also dispatches experienced technical experts to provide detailed consultation. This highway vehicle surveillance is not the first application of GHF51. In other face recognition projects, from product applicability to business support, GHF51 also shows irreplaceable value. The significantly simplified system architecture is the killer application of GHF51.

GHF51 can bring facial recognition solutions with more flexibility and lower cost.





DFI's GHF51 is the world's first mini industrial motherboard powered by high-performance AMD Ryzen™ R1000 Processors, holding an unprecedented processing throughput despite its mini size. It ascends from the industrial Pi and defines a new level of balance between performance and cost-effectiveness. Its flexible expandability brings versatility that is perfect for industrial application development, edge computing, AI vision, and more. Focusing on industrial solutions, DFI, following AMD's long-lifecycle support roadmap for CPU, provides product availability for up to 10 years. This support promises system upgrades in the long term without concern for compatibility.

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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.

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