



DFI

DFI's Industrial-Grade System-On-Module Helps The Oil Industry To Build The Most Reliable Drilling Automation System

The essential tools for laborers in oil and gas drilling projects are not a toolbox full of wrenches and pipe benders, but laptops, computers, and a drilling automation system for "Transforming a Vision into Reality." DFI has made BT9A3-T20-E27 the reliable brain of the drilling automation system after long-term testing and validation with its trustworthy product quality and meticulous customer service.

Region: **Russia**

Industry: **Petroleum**

Application: **Drilling Automation System**

Solution: **BT9A3-T20-E27**





Oil and gas drilling is a great project that grabs resources from the Earth. Drilling success rate, operation efficiency, and cost control profoundly influence the success or failure of oil and gas exploration, production investment, and operating performance. For Russia, where oil and natural gas account for about 40% of the country's total income, it is even more crucial.

Drilling is a hazardous operation, which often suffers from the abnormal pressure of the formation, the blowout of oil and gas, and toxic gases. To detect hazards in advance and take appropriate steps, monitoring systems are often set up and, with the aid of instruments and equipment can feel the feedback from the ground and adjust the construction steps. The monitoring system includes the measurement of drilling parameters, such as weight, speed, torque, drilling rate, pressure, depth, brushing, extrusion, etc. Also, the mud circulation system monitors activities such as mud specific gravity, temperature, volume, pump stroke number, circulation time, rotation speed, spray speed, etc., as well as monitoring of oil and gas characteristics such as natural gas, crude oil, toxic gases, and trace elements.

Therefore, the drilling process must be shown on the vehicle-mounted display in real-time. The drilling operators and dispatchers must receive the current depth, planned depth, mast angle, drilling speed, and other important information. Drilling operators receive planning information directly from remote offices, reducing reliance on mine surveys and grid marking.

Due to the ever-changing and dangerous operating environment, the drilling automation system requires high reliability and stability, and there is almost no room for system failure. All critical components in the system need to have a long product validation period and a long supply period to ensure the safest oil and gas exploration operations. The severe vibration caused by the drilling process also tests the durability of the electronic system.


DFI has gone through more than a year of working with the mission of sample delivery and meticulous customer service so that system-on-module (SOM) BT9A3-T20-E27 adheres to PICMG COM Express Mini specification (R2.1 Type 10), which contains DDR3L ECC memory to improve reliability and can withstand the harsh operating environment of -40 to 85 degrees.

It has withstood the test of Russian customers and has become the reliable brain of the new generation of the drilling automation system; helping customers carry out more efficient and safer oil and gas drilling.

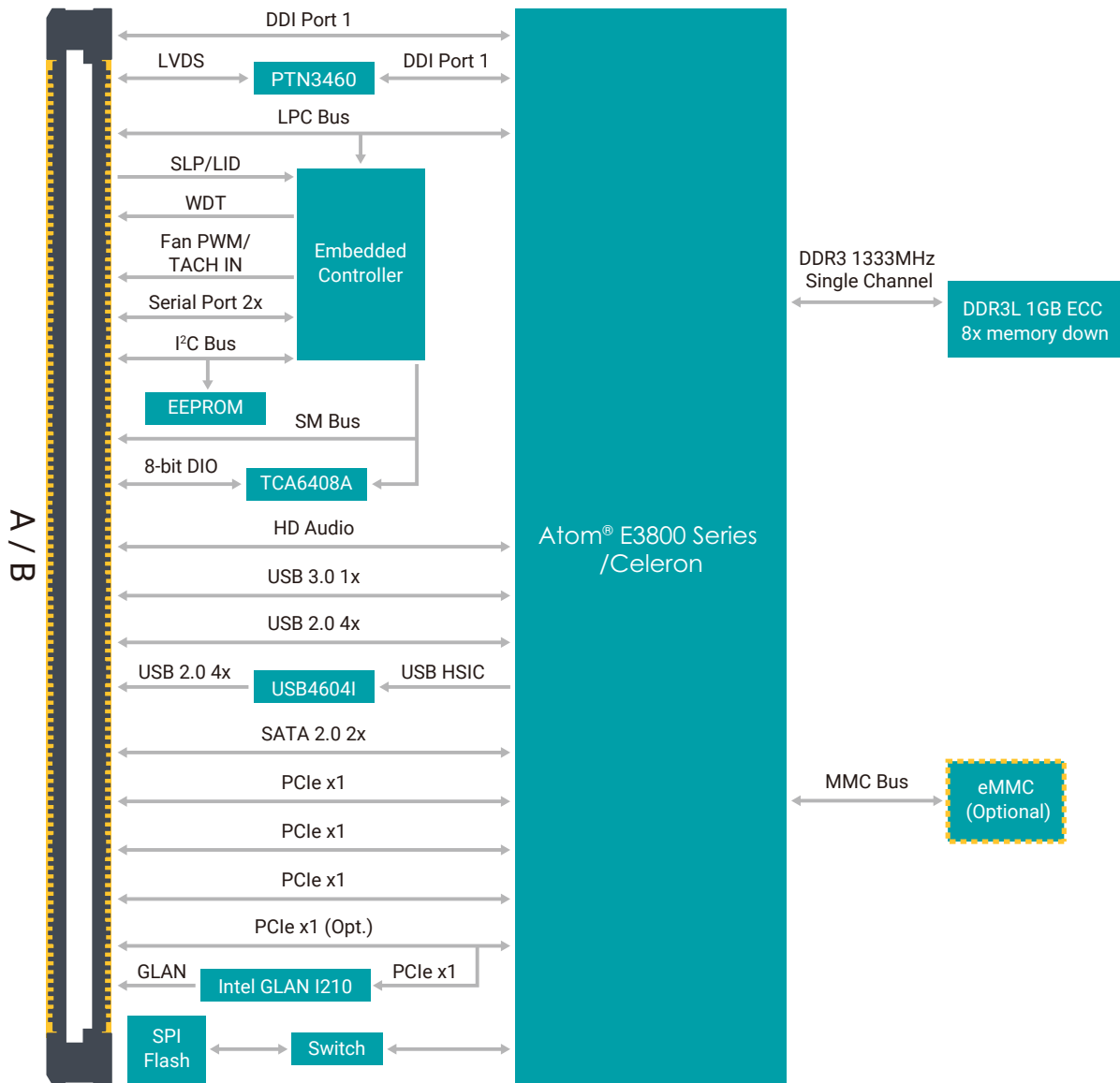
Drilling engineering is the practice of petroleum exploration, a science and an art that integrates various professional technologies. Only by insisting on using industrial computers that do not compromise quality can create the most reliable and efficient drilling automation system.

DFI, which has accumulated rich experience in industrial computers and customer application fields, is the most reliable partner for customers, like oil companies, who pursue extreme reliability.

Please click or scan the QR code to fill out an inquiry form if you would like us to contact you.



Appendix: BT9A3 Block Diagram



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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