Automatic Test Equipment For DBF

PRODUCT DESCRIPTION

The Automatic Test Equipment (ATE) developed for Digital Beam Former (DBF) is capable of simulating a complete real-time external environment for DBF. The Digital Beam Former is an indigenisation project where CoreEL has pioneered the beam forming in the digital domain using FPGAs. It was delivered as a turnkey solution.

The ATE emulates peripherals of DBF system, behaves as receivers which provide data to DBF system for beam computation; and as signal processor which receives the computed beam from DBF. The ATE is architected to emulate multiple receivers. The current ATE is implemented across multiple cards and FPGAs, and can be easily scaled to emulate 1 to 60 receiver groups or more.

KEY FEATURES

- FPGA based modular and generic ATE
- Possible to test DBF completely in absence of other subsystems
- Real-time testing
  - Simulation of runtime scenarios; diagnose performance
  - Testing against a comprehensive verification plan
- ATE is also capable of testing other subsystems in DBF

SPECIFICATIONS

FPGAs / Processor

- Number of FPGAs in ATE : 15 (Xilinx Virtex-5 FX100T, Xilinx Spartan-3 AN400)

Interfaces

- Total number of optical links : 87
- Optical link speed : 3.125 Gbps

Software / IP

- DBF management console - simplified GUI based testing environment
- Linux operating system
- XILKERNEL on embedded processor

Additional Information

- Data path frequency : 180 MHz
MECHANICAL

- Custom built forced air cooled chassis
- The 24 AGR DBF ATE weighs 80 kg with racks and assemblies
- The 51 AGR DBF ATE weighs 150 kg with racks and assemblies

POWER CONSUMPTION

- 24 AGR DBF ATE consumes < 250W
- 51 AGR DBF ATE consumes < 380W
- Input voltage is 220V AC

ENVIRONMENTAL

- The DBF ATE is designed for lab conditions

PART NUMBER(S)

The following variants of this product are available:

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<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>CT1010</td>
<td>24 AGR DBF ATE, Ability to test the 24 AGR DBF</td>
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<tr>
<td>CT1011</td>
<td>51 AGR DBF ATE, Ability to test the 51 AGR DBF</td>
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