### Advanced Information

#### General Description

The PEB 24911 Quad ISDN 2B1Q Echocanceller Digital Front End (Quad IEC DFE-Q) is the digital part of an optimized ISDN 2B1Q U-interface line card chip set. It features 4 independent digital signal processors providing, in conjunction with the PEB 24902 ISDN Quad Analog Front End, full duplex data transmission at the U(reference point according to ANSI T1.601, ETSI ETR80, CCITT G.961 and CNET ST/LAA/ELR/DNP/822 standards. The PEB 24911/PEB 24902 chip set is based on the PEB 2091 IEC-Q V4.4 single chip ISDN U-transceiver. The IEC-Q V4.4 is approved by Bellcore. The PEB 24911 comes in a P-MQFP-64 package.

#### Features

- Full duplex transmission and reception at the U-reference point compliant to:
  - ANSI T1.601-1992,
  - CNET ST/LAA/ELR/DNP/822,
  - ETSI ETR 080 1993.
- Recommendation CCITT, G.961
- 144-kbit/s user bit rate over a two-wire subscriber loop
- 2B1Q-block code (2 binary, 1 quaternary)
- 80-kHz symbol rate
- Activation and deactivation procedure
- Meets transmission requirements for loop #1 through loop #15 of ANSI’s 15 telephone plant test loops
- Meets transmission requirements for loop #1 through #6 of CNET’s 6 telephone plant test loops
- Built-in wake-up unit for activation from power-down state
- Adaptive echo-cancellation
- Adaptive equalization
- Automatic polarity adaption
- Clock recovery (frame and bit synchronization) in all applications
- Automatic gain control
- Low power consumption
- Extended temperature range – 40 °C to 85 °C available (PEF 24911)
- U-interface propagation delay measurement with better than ± 300-ns resolution
- LT-PBX mode allowing D-channel arbitration and synchronization of DECT-base stations
- IOM-2 system interface
- 4 relay driver pins per port addressable by Monitor command
- 2 status pins per port reporting to the Monitor channel
- Activation procedure with the 15 s limit disabled to cope with regenerators
- JTAG-boundary scan path

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<tr>
<th>Type</th>
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<tbody>
<tr>
<td>PEB 24911</td>
<td>P-MQFP-64-1 (SMD)</td>
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### Diagram

8 Channel LT Application

![Diagram of the PEB 24911 and PEB 24902 chips](image-url)