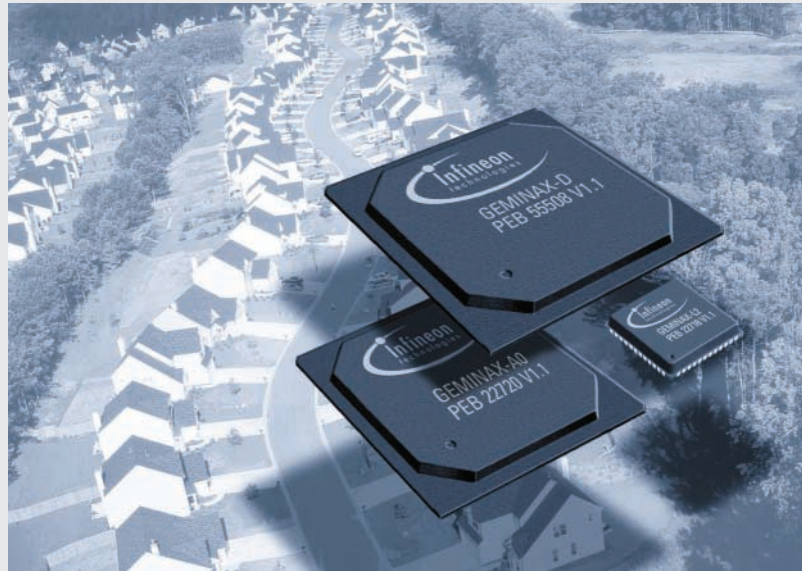


PEB 55508 (GEMINAX-D)  
PEB 22720 (GEMINAX-A0)  
PEB 22716 (GEMINAX-L2)

## GEMINAX ADSL Transceiver Chipset

The GEMINAX ADSL transceiver chipset supports ADSL data transmission according to ITU-T standards G.dmt and G.lite. With industries lowest board space requirements and a power consumption of less than 1 W/ch, the new GEMINAX ADSL transceiver chipset fulfills all requirements for highly integrated DSLAM applications.



# GEMINAX

### Applications

- ADSL DSLAM systems

### Features

- G.dmt/G.lite chipset for 8 channels
- Individual configuration of each channel for G.dmt or G.lite operation
- Compliant to ITU-T G.992.1 (G.dmt), G.992.2 (G.lite), and G.994.1 (G.hs)
- Compliant to ANSI T1.413 I2
- Compliant to ETSI ETR 328
- Performance measurements according to ITU-T G.996.1 (G.test)
- OAM functionality according to ITU-T G.997.1 (G.ploam)
- Max. 16 Mbit/s downstream and 2 Mbit/s upstream data rate
- S=1/2 supported
- Fully echo cancelled for overlapped spectrum operation

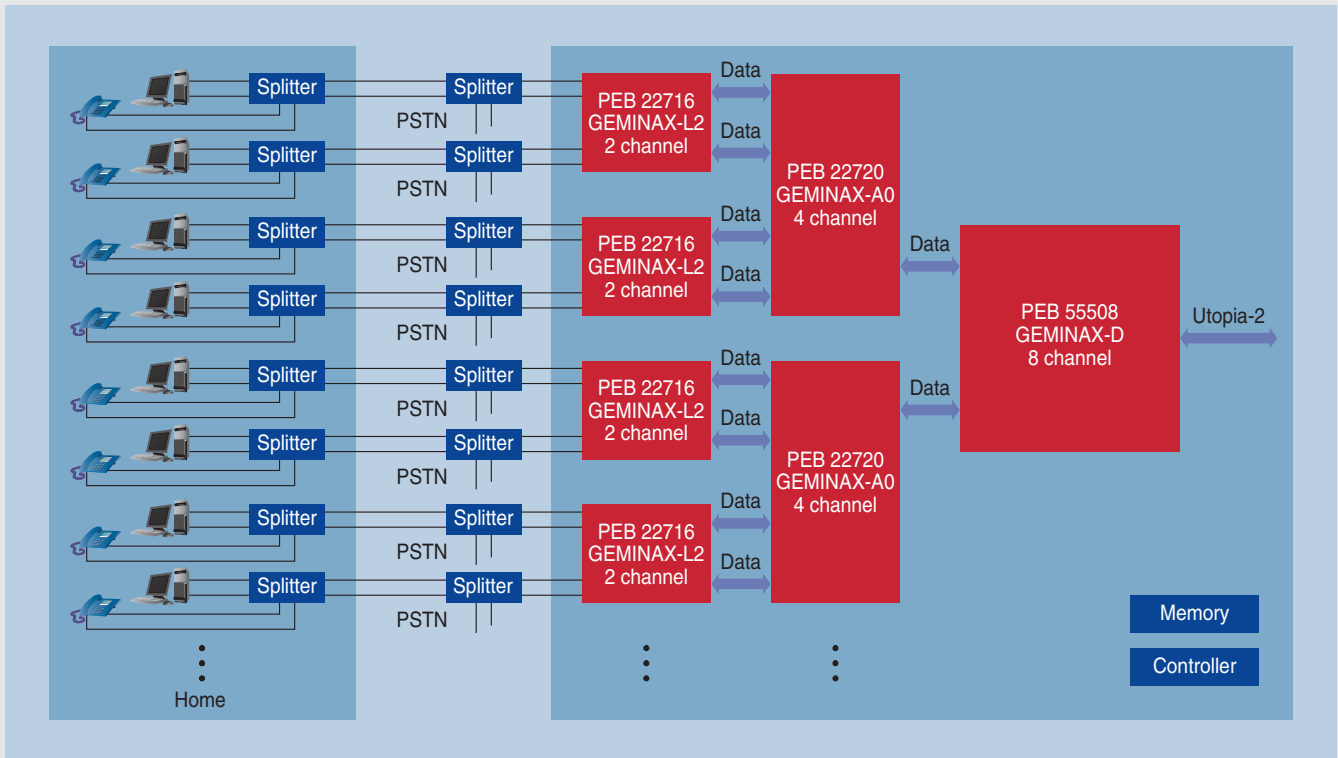
- Double upstream mode for Annex B via firmware upgrade
- Trellis coding and Viterbi decoding
- Bit swapping upstream/downstream
- Very low noise (S/N>80dB) in downstream and upstream direction
- ATM UTOPIA-2 interface (50 MHz, 16 bit/8 bit)
- On chip ATM-TC layer
- Pseudo STM mode via UTOPIA
- 8-bit parallel host interface
- All memory on-chip, no external memory required for GEMINAX-D
- Built in PLLs and clock generation
- Configurable digital and analog test loops
- Future proof due to software upgrade options
- Dr.DSL(TM) firmware running on GEMINAX-D for ADSL pre-qualification, bundle management and maintenance
- Single-ended testing supported by Dr.DSL(TM) software
- Simplified PCB layout with P-TQFP packages (< 1.1 inch<sup>2</sup> area per channel, including external parts, transformer and layout space),
- With P-LBGA packages < 0.9 inch<sup>2</sup> area per channel (including external parts, transformer and layout space)
- < 1 W power dissipation per channel (20 dBm line level)
- Power down mode on per channel and block basis
- Support of power down wake up by CPE activity
- -40°C to +85°C operating range

# G E M I N A X

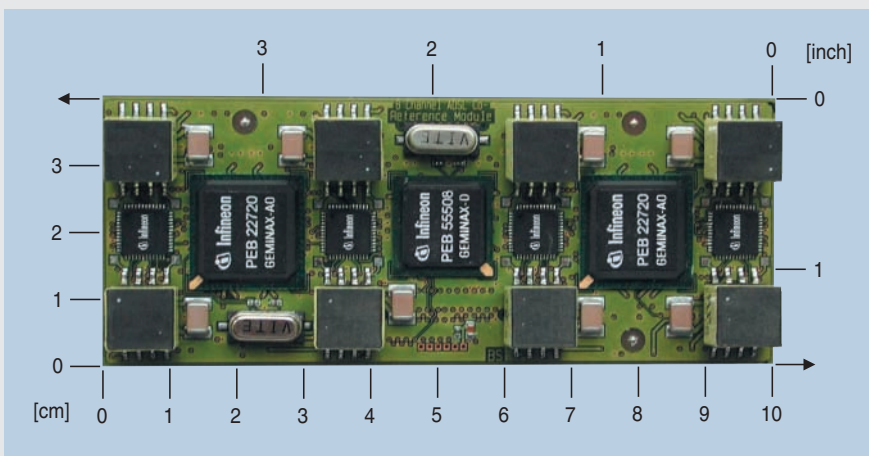
Global Enhanced Multiport  
Integrated ADSL Transceiver



## ADSL Transceiver Chipset Principle



## 8 Channel ADSL DSLAM Linecard with GEMINAX



### GEMINAX-D

ADSL Data DSP, 8 channels, P-TQFP-144 or P-LBGA-256 package

### GEMINAX-A0

Analog Front End for ADSL, 4 channels, P-TQFP-144 or P-LBGA-192 package

### GEMINAX-L2

ADSL Dual-Channel Linedriver, 2 channels, P-DSO-36 or P-VQFN-48 package

- Applications for high density DSLAM linecards; < 0.9 inch<sup>2</sup> per single channel required
- ADSL full-rate or lite operation selectable for each channel
- ADSL loop qualification by on-chip Dr.DSL (TM) firmware, no additional hardware required
- Lowest power dissipation & integrated power management capabilities

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