**cOSMo Lite** is a socket C-OFDM modem for embedded applications. It features exceptional reliability in problematic environments and very quick synchronisation.

**cOSMo Lite** enables data rates of up to 1000 kbps across simple twisted-pair, co-ax and power cables that may be several miles long. No matter whether in a Point-to-Point (PtP) or Point-to-Multipoint (PtM) topology, the modem particularly qualifies for use in existing infrastructure.

**cOSMo Lite** is based on a proprietary modem technology designed to transparently link any local data source, e.g. a UART, an SPI- or any other type of interface to a remote device.

**cOSMo Lite** is a universal modem for data transmission near the theoretical limit over channels exposed to linear distortions, impulse noise, sudden phase and amplitude shifts, frequency offsets and line drop-outs.

For analog signals a single-channel 24-bit audio codec is available. Sampling rates of up to 96kHz are possible for highest audio quality.

The patented technology behind **cOSMo Lite** is available as a licensable code or hardware for use in home automation, infrastructure, power line, telecom, imaging, speech and security applications.

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**Features and Technical Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Type:</td>
<td>Socket Modem</td>
</tr>
<tr>
<td>Technology:</td>
<td>DSP (SHARC) Signal Processing</td>
</tr>
<tr>
<td>Suitable Cable:</td>
<td>Coax, Twisted Pair or other 2-Wire Cabling</td>
</tr>
<tr>
<td>Transmission Method:</td>
<td>Symmetrical or Asymmetrical, Full Duplex or Half Duplex</td>
</tr>
<tr>
<td>Duplexing Schemes:</td>
<td>Frequency Division Duplex (FDD) or Time Division Duplex (TDD)</td>
</tr>
<tr>
<td>Topologies:</td>
<td>PIP or multi-drop PtMP (multiple endpoints)</td>
</tr>
<tr>
<td>Channel bandwidth:</td>
<td>6.25kHz to 80kHz, software selectable</td>
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<tr>
<td>Center Frequency:</td>
<td>adjustable</td>
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<tr>
<td>Channel Efficiency:</td>
<td>up to 10.7bits/sec/Hz</td>
</tr>
</tbody>
</table>

**Highlights:**
- Adaptive bandwidth, data rate and waveform
- Rapid Synchronization (1 sec typical)
- Optimized for Noise and Interference of corrupted Lines
- Adaptive detection and suppression of interference and distortions
- Adaptive optimal shortening of channel impulse response
- Multistage channel estimation and adaptive Maximum Likelihood Decoding
- Multiple subcarriers, QAM from 4 to 16384
- 4-dimensional Trellis Coded Modulation with Trellis shaping
- Optional Reed-Solomon FEC with redundancy
- Fully customizable for higher bandwidths, as required by the application

**Interfaces:**
- 2-wire analog (line interface), I²C, SPI x2, UART, Audio Codec (single channel), 13 programmable I/O

**Channel Monitoring:**
- Signal Level, Distortion, BLER, SNR

**Mechanical:**
- Multiple PIN DIP / SMT module with 2.54mm pitch
- Approx. 64mm x 26mm x 5mm (excluding pins)

**Ambient Temperature:**
- -20°C to +50°C

**Power Supply:**
- 5VDC, 500mA

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Specification subject to change without prior notification