Winning
Through
Creativity
Overview

Core team started Semiconductor work in 1990. Our experience was acquired at Bell Labs, Texas Instruments, ADI, IBM, AMD and Intel – 8 PhDs.

Successful FPGA and ASIC designs verified in systems.

Submitted 20 contributions to the WiMAX 802.16m standards committee.

Published numerous papers including 10 papers on WiMAX and preparing to file two patents and several others in development.

Specialize in IP cores for digital media solutions, and wireless digital communications physical layer design.

Offer high performance, power efficient application specific instruction set processor (ASIP) cores.

Efficient highly performing algorithms carefully designed to yield ultra low power, highly configurable designs.

Expertise

- Digital IC design (VHDL, Verilog).
- System level modeling and simulations.
- Application specific instruction set processor (ASIP) cores.
- ARM programming.
- PCB design.
- Digital design verification and timing closure.
- Synthesis to FPGA or ASIC.
- Implementation on programmable DSP.
- Testing and qualification.

Design Services

Communications transceiver blocks

- Error Correction
  LDPC, BCH, Turbo Decoder, Reed Solomon, Viterbi

- Modulation / Demodulation
  FFI / IFFT, OFDM Channel Estimator

- Others: Available upon request

Typical Customer Engagements:

- From specification to silicon.
- Focus on wireless applications.
- Work with partners to provide full solution.
- Support and training at your site.

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Project Types

**Design Services**

- Fixed-price and T&M
- Development process either customer’s or Wasiela Semiconductors’s
- Example: LTE UE fully digital implementation.

**IP**

- Custom Developed by Wasiela Semiconductors
- Portfolio available on website
- Full Systems e.g.: DVB-C/T2 full digital implementation
- Sub Systems e.g.: FFT, Channel Estimation Engine & Turbo Decoder.

**Intellectual Property**

- DVB-C/T2: Complete FPGA prototype.
- Bluetooth: Complete PHY digital design.
- WiMAX: Active participation in the IEEE 802.16 standards meetings ADSL2, VDSL subsystems.
- Base-band building blocks such as IFFT/FFT, Sampler, OFDM receiver, Turbo and LDPC decoders, channel estimator and many others.

**IP: DVB-C**

- Synthesis ready RTL
- FPGA proven
- Competitive performance

**Team Evolution**

- Core team started semiconductor work 1990.
- Access to a pool of experienced consultants and industry veterans on a need basis.
- 8 PhDs.
- 3 Masters.
- 160 man years of experience.
- Current headcount: 40.

**Activities focused on Broadband Physical Layer implementations**

**Recent Projects**

<table>
<thead>
<tr>
<th>Project</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>System/Architecture Design</td>
<td>WiLAN 802.11a and 802.11b</td>
</tr>
<tr>
<td>Architecture System Modeling (MATLAB)</td>
<td>WiMAX 802.16</td>
</tr>
<tr>
<td>Architecture System Modeling</td>
<td>WPAN 802.15.3</td>
</tr>
<tr>
<td>Full Chip PHY Design</td>
<td>Bluetooth</td>
</tr>
</tbody>
</table>

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