

Synopsys and DSP Group

DesignWare Verification IP with the VMM Methodology Shortens Testbench Development Time



“Using the VMM for SystemVerilog saved us months on development time. Having DesignWare Verification IP, which supported this methodology, was also critical for this project.”

- Dany Brown, Verification Team Leader, DSP Group

Business

DSP Group Inc. is a fabless semiconductor company that develops and sells a wide portfolio of system-on-chip solutions for portable multimedia, short-range communication and VoIP applications in the consumer electronics and telecommunication markets.

DSP Group Challenges

- Reduce time-to-market
- Maximize engineering resources

Solution

- DesignWare® Verification IP for AMBA™
- Synopsys Verification Methodology (VMM) for SystemVerilog

Benefits

- VMM provided a better understanding of how to build a complete verification environment, thus saving months of time
- VMM enabled faster debug time
- Acquiring proven verification IP improved productivity

Overview

DSP Group is a world leader in the short-range wireless communication market, enabling home networking convergence for voice, video and data. By combining its in-house technologies of Digital Signal Processors (DSPs), portfolio of wireless communication protocols, including DECT, Bluetooth and WiFi, most advanced Radio Frequency CMOS and SiGe, as well as VoIP IC's, DSP Group is a world leader and a one-stop-shop for a wide range of applications.

These applications include, but are not limited to: ISM band digital 900MHz, 2.4GHz, 5.8GHz, European (1.9GHz) telephony, Bluetooth systems for voice, data and video communication and are deployed in residential, SOHO, SME, enterprise and automotive applications. DSP Group IC's provide solutions for MP3 players, VoIP Phones, Gateways, and Integrated Access Devices (IAD's) and are widely used in Digital Voice Recorders (DVR's).

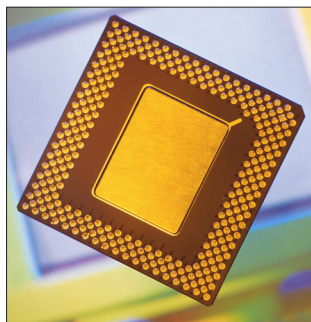
“The DesignWare Verification IP is of very high quality and we can rely on it with our eyes closed... Whenever we have a new project that requires verification IP, we always turn to Synopsys first.”

- Dany Brown, Verification Team Leader, DSP Group

Leading IP Features

DSP Group chose the VMM Methodology to develop a verification environment that could easily be reused across multiple AMBA-based projects. When DSP Group was looking for verification IP to help further shorten their development time, they did not want just any IP – they wanted verification IP that would be able to support the VMM for SystemVerilog. Synopsys was able to provide them with a proven solution to help meet their needs.

Using the VMM for SystemVerilog provided DSP Group with a defined structure and blueprint for building a robust verification environment. The VMM is the industry-leading methodology for SystemVerilog and has become the de facto standard for verifying complex electronic chips. Utilizing Verification IP that supported SystemVerilog enabled DSP Group to uncover random, corner case bugs very quickly and helped save months on testbench development time.



“The combination of DesignWare Verification IP with VMM enabled us to identify corner case bugs at a much faster rate and helped us reduce our project start-up time.”

- Dany Brown, Verification Team Leader, DSP Group

High Quality and Excellent Support

DSP Group has been working with Synopsys DesignWare IP for over two years and did not have any reason to go elsewhere. The Verification IP for AMBA was of high quality and provided thorough verification of the protocol as well as the overall system design. The support for VMM was instrumental in helping to achieve coverage goals.

Since many of the DSP Group's projects depended on the AMBA bus interface, having a reliable verification environment was extremely important. The DesignWare Verification IP has been proven by thousands of users in over 600 customer sites.

When asked if DSP Group would be using DesignWare Verification IP in the future, Dany responded, “Yes, of course, whenever we have a new project that requires verification IP, we always turn to Synopsys first.”

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