## Arasan Chip Systems first to market with MIPI® D-PHY Rev 1.1 compliant PHY IP

Arasan's MIPI D-PHY 1.1 implementation, with full 1.5Gbps data rates on each lane, allows tablet designers to go to 2560×2048 resolution at 30 fps and 2048×1536 resolution at 60fps.

San Jose, California – March 8, 2012 - Arasan Chip Systems, Inc.("Arasan"), a leading provider of Total IP Solutions, announced today the availability of their upgraded MIPI D-PHY IP Core, the latest addition to its prominent PHY portfolio. On December 16, 2011 the MIPI Alliance® board approved version 1.1 of the D-PHY specification, which defines the physical layer support of up to 1.5Gbps per data lane. As part of Arasan's market leading practices, the company has already taped out a D-PHY 1.1 implementation in a 40nm process, with full support of 1.5 Gbps data rates on each of the four data lanes. This level of throughput allows, for example, tablet and panel designers to combine the D-PHY with Arasan's MIPI DSI cores to achieve QXGA resolutions at 60 frames/sec and QSXGA at 30 frames/sec.

Meeting D-PHY specifications at 40 nm and below often presents a challenge. At 40 nm, for example, the core supply voltage may be limited to 1.1 volts, which is the minimum allowed for the D-PHY to operation in Low Power (LP) mode. The nominal voltage required for the D-PHY to operate in LP mode is 1.2 volts, which may not be available. Arasan has responded to this challenge by providing designers three choices. One is to provide an extra power pin for a dedicated 1.2 volt supply to be provided from an external source on the PCB. The second is to allow the native 1.1 core voltage to drive the D-PHY in LP mode which, if ensured by the designer to be the minimum available at all times, will maintain a functional link. The final option is to use an Arasan supplied LDO that steps down a 1.8/2.5/3.3V external supply to the nominal 1.2V required by the specification. This alternative comes with a small area overhead.

"Arasan continues to lead with the broadest portfolio of MIPI digital and analog IPs", said Andrew Haines, Vice President of Marketing at Arasan. "Our MIPI D-PHY IP is the result of the close interaction between Arasan and MIPI Alliance® members to ensure rigorous compliance with the specification."

The Arasan D-PHY IP core is fully compliant to the D-PHY specification version 1.1. It supports the MIPI® Camera Serial Interface (CSI-2) and Display Serial Interface (DSI) protocols using the standard MIPI® PPI interface. It is a universal PHY that can be configured as a transmitter, receiver or transceiver with built-in test features. The D-PHY consists of an analog front end to generate and receive the electrical level signals, and a digital back end to control the I/O functions.

## Availability

Arasan's MIPI D-PHY IP Core is available immediately for licensing, including GDS-II for a variety of foundry processes, Verification IP, all physical integration support files, and documentation.

## About Arasan

Arasan Chip Systems is a leading provider of Total IP Solutions for mobile storage and connectivity applications. Arasan's high-quality, silicon-proven, Total IP Solutions include digital IP cores, analog PHY interfaces, verification IP, hardware verification kits, protocol analyzers, software stacks and drivers, and optional customization services for MIPI, USB, SD, SDIO, MMC/eMMC, CF, UFS, xD and many other popular standards. Arasan's Total IP products serve system architects and chip design teams in mobile, gaming and desktop computing systems that require silicon-proven, validated IP, delivered with the ability to integrate and verify both digital, analog and software components in the shortest possible time with the lowest risk.

Unlike many other IP providers, Arasan's Total IP Solution encompasses all aspects of IP development and integration, including analog and digital cores, hardware development kits, protocol analyzers, validation IP and software stacks and drivers and optional architecture consulting and customization services. Based in San Jose, CA, USA, Arasan Chip Systems has a 16 year track record of IP and IP standards development leadership.

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