In-Stat

In-Depth Analysis

Wireless HD Video Technology: WHDI and WirelessHD Establish Market, While WiGig Establishes Specification

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Executive Summary

Slow progress best describes the fate of wireless HD chip vendors in 2010. It's very early for all these technologies, which include wireless home digital interface (WHDI), WirelessHD, and wireless gigabit alliance (WiGig), and chip vendors are working on creating and updating specs, as well as working with customers and potential customers to gain design wins.

HIGHLIGHTS

- WHDI and WirelessHD device shipments will both grow at XX annual percentage rates through 2014.
- WHDI and WirelessHD chip ASPs will both fall over XX% annually through 2014.
- WiGig-enabled devices will hit the market, in small volumes, in late 2011.
- Competitive technologies include: Wi-Fi, WiDi, and TransferJet.

WHDI and WirelessHD share many similarities. Both are start-up fabless chip vendors targeting the consumer electronics (CE) market with proprietary HD-capable wireless chips. As of now, both are sole-source providers of their respective chip technologies, and are working to build standards organizations to entice CE vendors and PC OEMs to use their technology.

However, their technologies are quite different. WHDI, offered by AMIMON, is very similar to Wi-Fi, as it uses 5GHz spectrum, and employs orthogonal frequency division multiplexing (OFDM) and multiple input multiple output (MIMO) antenna technology. Over the past year, the WHDI, LLC trade group has announced their 1.0 spec, as well as releasing details about their 2.0 spec, due in 2011. They also announced that WHDI will be offered as an option across a range of LG plasma, LCD, and LED HDTVs due to ship in 2010, its most significant design win to date.

WirelessHD, offered by SiBeam, is the pioneering 60GHz technology. SiBeam has developed a viable technology very quickly, an impressive feat considering the lack of commercial wireless technology in that frequency. Like AMIMON, SiBeam is targeting HDTVs first, followed by other CE boxes. The company announced a design win with Vizio, in early 2010, to incorporate WirelessHD into three of its HDTV sets.

WiGig is another 60GHz technology, which was introduced in May 2009. This makes it the laggard in the wireless HD video technology market. However, it has taken a much broader-based approach. Rather than coming to market with a proprietary chip technology, it assembled a number of large, diverse technology companies, all devoted to developing a 60GHz technology for use across the PC, CE, and mobile segments. Charter WiGig Alliance members include: Broadcom, Dell, Intel, LG Electronics, Microsoft, NEC, Nokia, NXP, Panasonic, and Samsung. WiGig is targeting several product segments, but is concentrating on the PC cluster more than its competitors. In May 2010, the WiGig and Wi-Fi Alliances announced that WiGig's 60GHz standard would form the basis of a future Wi-Fi standard, which substantially bolstered WiGig's credibility. In the meantime, WiGig members finalized their 1.0 specification in December 2009, and chips should be available by late 2011, with WiGig products following shortly thereafter.

The forecast for product shipments with various wireless HD video technologies can be seen in Figure 1. For the most part, the market for these other technologies will be slow to develop. WHDI and WirelessHD are relatively new, expensive, power-hungry technologies that are being promoted by start-ups, which is not generally a recipe for quick market success. We expect them to be adopted slowly over the length of the forecast. And while WiGig has a wider participation base, chips are not expected to come to market for about XX months.

Overall, the performance of current wireless HD video technologies pales in comparison to the best wired solution: an HDMI cable. HDMI cable transmits 1080p video and audio with 100% reliability, and does so cheaply. None of the competing wireless HD technologies can currently match it. However, these technologies do offer significant convenience advantages and allow flexibility in setting up PC and CE devices within the home, and convenience in connecting devices to one another. However, mass adoption of any of these technologies will not happen until cost and power issues are significantly diminished.

Figure 1. Wireless HD Video Product Shipments by Technology Type Forecast 2008–2014 (Units in Thousands)

XX

Report Summary

Wireless high-definition (HD) video technologies represent the next frontier in consumer electronic (CE) connectivity—replacing the nest of wires in the living room with high-bandwidth wireless technologies capable of transmitting HD video streams. The primary candidate technologies include: wireless home digital interface (WHDI), WirelessHD, and Wireless Gigabit (WiGig).

WHDI and WirelessHD are new, uncompressed HD video transmission technologies, each of which is primarily promoted by start-up chip companies. Although each has significant potential, both face significant market obstacles. WiGig has broad-based industry participation, but silicon is still a long way from the market.

This report tracks the annual penetration through 2014 of all three technologies into 14 different applications within the following product segments: CE, PCs, mobile phones, and industrial/medical applications. It also includes history and analysis of the three technologies and competing technologies, and annual chip average selling price forecasts of each of the three technologies.

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Methodology

This report covers applications for several types of semiconductor technologies in the wireless HD segment, including WHDI, WirelessHD, and WiGig. It covers these technologies in several product segments, including consumer electronics, PCs, communications, and industrial/medical applications. The information contained in this report comes from both primary and secondary sources and includes the following:

- Telephone, email, and in-person interviews with wireless HD chip suppliers, and device vendors throughout the first half of 2010.
- Background research about all relevant wireless technologies, including magazines, journals, trade show attendance, trade publications, and Web searches throughout the first half of 2010.
- Analysis of previous In-Stat reports, and consultation with other In-Stat analysts, throughout the first half of 2010.

All forecasts represent worldwide figures. All product forecasts in this report represent the shipment of commercial products with wireless HD video technologies, not product sell-through or chip shipments.

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