



# *The Next Generation Wireless Digital Interface for Consumer Electronics*

WirelessHD, LLC

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# Consumers Want Wireless Entertainment!

Fewer wires means thinner TVs on the wall

Flexible placement of home theatre components

Universal control of all wireless home theatre components

Superior, lossless image quality delivered wirelessly

# Requirements for Wireless Connectivity in the HDTV Household

- Streaming lossless, uncompressed HD video with audio and data
- Highly reliable viewing experience
- Low cost products available to consumers
- Low power solutions for portable devices



*\* 2005-2006 Industry poll of 50 CE and PC/IT companies and content providers*

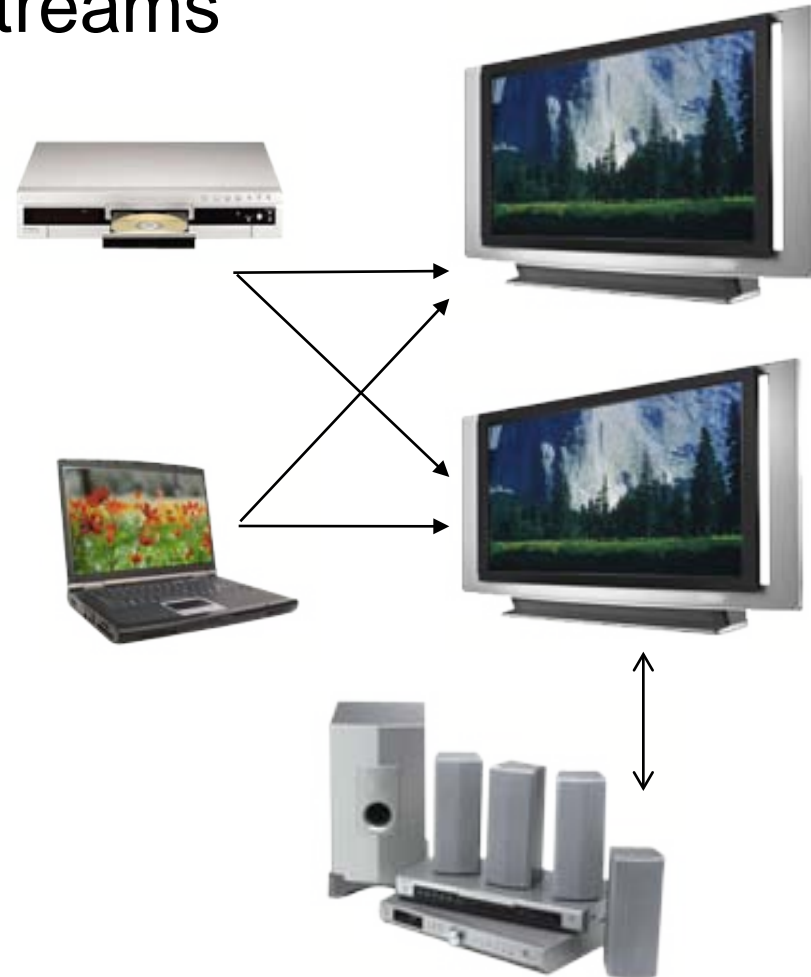
# The WirelessHD Advantage

- 60Ghz millimeter wave technology with beam-steering
- Massive bandwidth of up to 28 Gbps to wirelessly stream uncompressed video and audio
- Eliminates need to re-encode content for transmission from source to display
  - Eliminates encoder cost
  - Avoids encoding generated latency
  - Preserves and delivers best possible image and audio quality
- Support for both DTCP and HDCP2.0 content protection systems



# Robust and Flexible Audio/Video Streams

- Video
  - Up to 4K resolution / 120 Hz refresh, 3D ready,  $10^{-9}$  pixel error rate
  - Supports all EIA-861 video formats
  - Multiple video streams for picture-in-picture (PIP) and single source to multiple displays
- Audio
  - 2 channels of 192 KHz 2 channel LPCM
  - 5.1 channels of 24-bit 96 KHz multi-channel LPCM audio
  - 13.1 channels of 24-bit 192 KHz compressed Dolby TrueHD or DTS-HD audio
- Low latency mode with direct communication links of < 1ms and max 15ms latency (5ms typical) between multi-channel links
- Control and monitoring of multiple sources and displays or speakers
- Multiple color management & gamma control profiles linked to individual source/display pairs



# Multimedia Streaming Capability

- Portable device support for low power operation, including both A/V streaming and multi-gigabit data for file transfers
- Support for Digital Still Camera (DSC), Digital Video Camera (DVC), and Digital Video Recorder (DVR)
- Multi-way, copy-managed communication in both compressed (MPEG2, MPEG4, H.264, et. al.) & uncompressed (EIA-861) formats
- Multi-device video recording and editing control capability



# Wireless Technologies Comparison

	WirelessHD	WHDI	Wi-Fi
Industry Standard	V1.1 (Jan 2010)	1.0 (Dec 2009)	802.11n (Sep 2009)
Data rate	10 - 28 Gbps	400 – 800 Mbps	250 Mbps
Image Quality	Full 1080p up to 4K, 120Hz, 3D	Full 1080p/60 Requires dropping bits	Requires compression
Low cost architecture	No encode or decode	4-5 RF required	Requires encode / decode
Low Latency	< 1ms	<1ms	>15ms
Power Consumption	<4W	5W	<2W
Interference Free	Yes	No	No
HDMI v1.4 Compatibility*	Yes	No	No

\* HDMI v1.4 support includes Audio Return Channel, 3D video, 4K resolution, bi-directional data

# WirelessHD Consortium Momentum

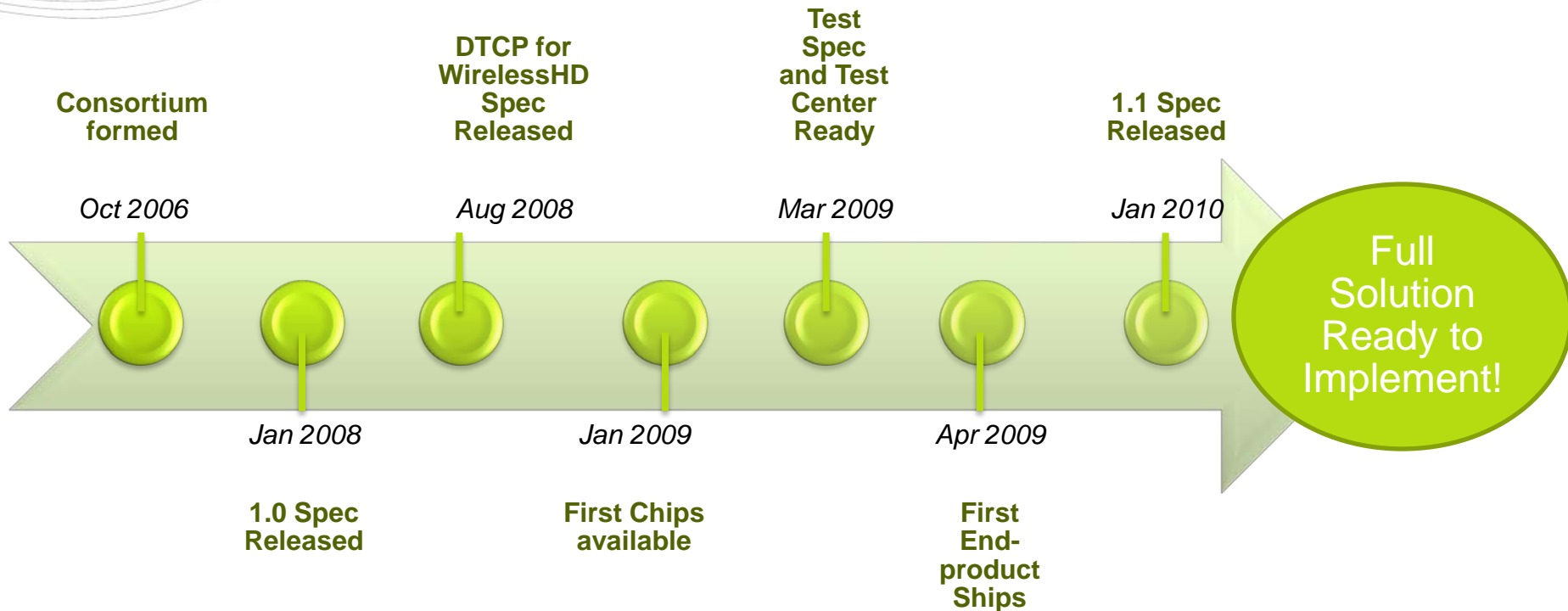
CE and PC Manufacturers, Semiconductor, Modules/Adapters, and Test EQ



AIM DENKI



# Rapid Technology Development and Ready to Implement



*WirelessHD leads in technology and application advancements and is the only wireless video solution based on an existing IEEE standard*

# Join WirelessHD Today!

- Access to ...
  - WiHD 1.1 specification
  - Compliance Test Specification
  - Access to Compliance Testing Services
  - WiHD logo for compliant products
- To Join ...
  - Visit [www.wirelesshd.org](http://www.wirelesshd.org) or contact [info@wirelesshd.org](mailto:info@wirelesshd.org) to request the WirelessHD Adopter Agreement via email
  - Return the signed Adopter Agreement and pay the US\$5k annual fee
  - The WirelessHD 1.0 specification will be emailed to you

# Thank You

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