

IEEE Journal on Selected Areas in Communications  
Call for Papers  
Realizing Gbps Wireless Personal Area Networks

There is increasing interest to push wireless data rates beyond a Giga-bit-per-second (Gbps) in order to more rapidly access data on personal devices, as well as potentially replace all the cables going into a device, including the video cable. One means of achieving this is through the use of wireless personal area networks (WPANs) which take advantage of short separation distances (typically less than 10 meters), wide bandwidths on the order of 100's of MHz to several GHz, and advanced signal process techniques including MIMO, advanced FEC, and high-speed modulation techniques. However, further research is needed for achieving Gbps rates in low-cost and low-power devices, ranging from low power RF and high-speed digital circuits to potentially new multi-hop and mesh network architectures. The goal of this special JSAC issue is to bring together the state-of-the-art, across multiple disciplines, for achieving Gbps WPAN capability. Topics of interest shall include, but not be limited to the following:

- Advances in wideband or very-wideband systems operating in the 5 GHz band, ultra-wideband (UWB) systems operating in the 3-10 GHz band, and new systems operating in the 60 GHz band achieving Gbps rates (examples include MIMO/SDMA/beamforming techniques, low-power modulation techniques, advanced FEC, low-cost and low-power implementations)
- Detailed analysis or simulations comparing single-carrier and OFDM for Gbps WPANs (in 5 GHz, UWB, or 60 GHz spectrum)
- Novel multi-hop, mesh, and/or cooperative network architectures capable of Gbps rates
- 60 GHz and Tera-Hz channel models
- Novel circuit and antenna designs for Gbps 60 GHz systems for small form factor devices
- Efficient MAC designs for Gbps WPANs supporting beamforming, SDMA, and high-quality video
- Scalable video encoding techniques for robust, low-latency, efficient, high-quality/'visually lossless', HD video transmission over Gbps links

Original, unpublished contributions and invited articles will be considered for the issue. The papers should be formatted according to IEEE-JSAC guidelines (<http://www.jsac.ucsd.edu/submit.html>). Authors should submit their complete manuscript via COCUS (<http://cocus.create-net.it/cocus/>) according to the following time-table:

|                              |                              |
|------------------------------|------------------------------|
| Manuscript Submission:       | 10/15/2008                   |
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