



60-GHz-WPAN: Beyond Gigabit Wireless Systems

The Wireless Personal Area Network (WPAN) is the short distance pendant of the popular wireless local area network (WLAN). WPAN targets wireless communication within a distance of 30ft or inside a room. The probably best known WPAN is Bluetooth[®], which is a standard equipment of up-to-date mobile devices as notebooks or cellular phones. This low-cost and energy-saving system comes along with the drawback of a low maximum data rate.

A broadband communication system at 60GHz provides the capability to realize thousand fold higher data rates. Thus, uncompressed video streams can be transmitted wireless from notebook to the video projector, and a wired connection between (HD-) TV, DVD-player and hi-fi system can be omitted. Standardization activities of the IEEE are not completed so far. Data rates up to 3 Gb/s are expected to be possible.

The 60-GHz-WPAN-Project targets the design of analog RF building blocks and a receive chain in a 65 nm digital CMOS technology. Recent results were published on the renowned conferences ISSCC in San Francisco as well as RFIC in Atlanta and a patent in cooperation with Infineon Technologies and Qimonda is pending.