

Sony demos 6.3Gb/s millimetre-wave radio tech

Tweet 11

Published on 24th February 2012 by Gareth Halfacree

News 12 Comments

Sony has announced that it has developed in partnership with the Tokyo Institute of Technology a design for a low-power wideband wireless communications system capable of transferring data at a whopping 6.3Gb/s.

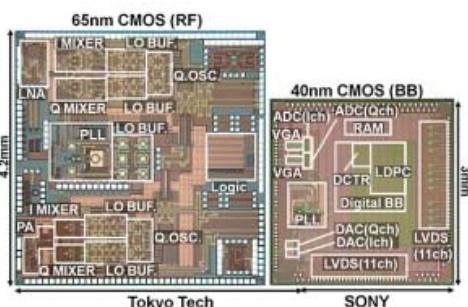
According to the company's presentation at the International Solid-State Circuits Conference in San Francisco this week, the design takes the form of a chip combining a baseband system with the required codec and a radiofrequency transceiver using four millimetre-wave channels.

Using Sony's low-density parity check (LDPC) error-correcting code, which the company claims is the most efficient in the world in terms of energy usage per bit, the combined design uses around 90mW when transmitting at 6.3Gb/s. It's this high efficiency, Sony claims, that makes the design uniquely suited for mobile gadgets that require high-speed short-range radio communications.

Based on the 60GHz spectrum band, the system won't be replacing Wi-Fi any time soon. It may, however, find a use in future Sony gadgets including laptops, tablets and smartphones as a handy way of shuffling large quantities of data around a home network to, for example, stream high-definition content to a compatible TV.

The impressive speeds achieved by the prototype are down to a team of researchers at Tokyo Tech led by Professor Akira Matsuzawa and Associate Professor Kenichi Okada. Designing the radiofrequency portion of the system the team were able to create a 60GHz direct-conversion transceiver capable of operating in 16 Quadrature Amplitude Modulation (16QAM) mode at every frequency defined in the 60GHz millimetre-wave communications standard. It's this amplitude modulation that allows the chip to squeeze so much data into such a small space, and combined with the low-power error correction developed by Sony makes the resultant chip a tempting proposition.

Thus far, Sony hasn't indicated when it plans to bring the technology to market. When it does, its first customers are likely to be military: a portion of the research and development was carried out as part of a project dubbed 'R&D for Expansion of Radio Wave Resources,' sponsored by the Japanese Ministry of Internal Affairs and Communications.



The chip, jointly developed by Tokyo Tech and Sony, boasts data transmission rates of up to 6.3Gb/s using 16QAM at 60GHz.

MORE ABOUT...

- 16qam ■ 60ghz ■ isscc ■ japan ■ Sony
- tokyo institute of techno ■ wi-fi
- wireless communications

RELATED ARTICLES

- Buffalo details 802.11ac 1.75Gb/s wireless router
- Study warns of UK Wi-Fi risk
- Intel confirms Infineon buy
- Wilocity, Atheros join forces
- AirStash turns SD cards wireless
- Sony TransferJet devices coming soon