

The Register®

Biting the hand that feeds IT



DATA CENTRE SOFTWARE NETWORKS SECURITY INFRASTRUCTURE DEVOPS BUSINESS HARDWARE SCIENCE BOOTNOTES FORUMS

Data Centre ► [Data Networking](#)

More like this

[Fujitsu](#) [Wireless](#)

Japanese wireless boffins demo 56Gbps fibre replacement*

*If your fibre is 10 cm long

3 Feb 2016 at 05:02, [Richard Chirgwin](#)



Come close. No, closer. *Much* closer: Fujitsu and the Tokyo Institute of Technology have demonstrated millimetre-wave transmissions operating at an eye-watering 56Gbps, over a far-less-impressive 10cm.

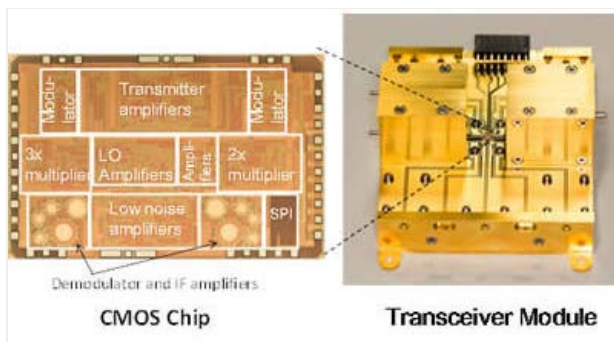
Probably more impressive is that they did it with a CMOS transceiver that puts the "broad" into broadband processing: the chip can process signals all the way from 72GHz to 100GHz.

The chip integrates modulator, demodulator, various amplifiers, and other transceiver functions. It takes two data inputs, and modulates them onto a 10GHz-width band for an aggregate 20GHz spectrum.

While the 10cm lab test won't get you very far, Fujitsu Laboratories [reckons](#) it'll have a commercial implementation of the technology by 2020, just in time to start connecting 5G base stations (if the standard arrives on time, if products arrive on time, and if carriers are building 5G networks by that time).

The wireless industry is keen on mm-wave technologies. The band runs from 30GHz to 300GHz in official spectrum planning, and even in the most usable sub-100GHz bands there's a lot less competition than at lower frequencies used (for example) in Wi-Fi and cellular networks.

Fujitsu and the Tokyo Institute of Technology presented their work at the IEEE's International Solid-State Circuits Conference in San Francisco.



On the left: the CMOS mm-wave processor; on the right, the waveguide
Image: Fujitsu

©

Sponsored: [Why every enterprise needs an Internet Performance Management \(IPM\) Strategy](#)

Tips and corrections

2 Comments

Most read



How one developer just broke Node, Babel and thousands of projects in 11 lines of JavaScript



Don't – *don't* – install iOS 9.3 on your iPad 2: Upgrade bricks slabs



Oh, sugar! Sysadmin accidentally deletes production database while fixing a fault



Dodgy software will bork America's F-35 fighters until at least 2019



This chap's maintained an Apple game for 32 years – from Mac to iOS

Spotlight

More from The Register