

17 December 2008

By: Sorin Surdeanu, Mobile Editor

[NTT DoCoMo Introduces Low-Power LSI with 100MB/s for Downlinks](#)



NTT DoCoMo
uncovers its super 3G
network chip
NTT DoCoMo

MIMO signal detection included

According to [NTT](#), the LSI (large scale integration) chip is said to have been developed for the new LTE mobile system called super 3G, and it comes with the lowest power consumption and highest decoding for downlink transmissions ever.

Such an event development may not have come as a surprise to those working in the field, should we consider the fact that, last year, DoCoMo came up with a frequency division multiplexing signal LSI chip called OFDM that could detect MIMO signals at a speed of [200MB/s](#) and did not consume more than 0.1W of energy.

[MIMO](#), the technology that increases data-transmission speeds by using a series of antennas, has also been the focus point in the development of this new chip, which for now is still in the trial period. The main characteristic of this chip is the fact that it works by decomposing the OFDM signals and also detects even the weakest MIMO signals using the Maximum Likelihood Detection technology, thus ensuring great communication services even in the worst situations.

To get a more accurate idea of the actual capabilities of the chip, first you must understand that the [OFDM](#) is a technology that streamlines the frequency transmissions and allows your mobile to get a good, strong signal while in urban environments by deflecting the interferences. By using the OFDM technology and the MIMO one previously explained, the chip guarantees a much better and much more efficient signal to your mobile.

Furthermore, NTT created this [LSI chip](#) so that it would come upgraded to the new mobile system, super 3G, which has already been developed. In order to match the forthcoming mobile system requirements, the chip has been designed to support downlink transmission of up to 100 MB/s and, as a bonus, its power consumption has been minimized to 0.04W of energy. On top of this, the chip has been implemented with an error connection decoding technology, due to the optimization of the circuits and the elimination of the redundant ones.

This development enables the new mobile [super 3G](#) system to be much closer to reality, not to mention that, should we compare it to the LSI chips available now, this low power one can withstand up to 12 times faster data downloading.