

**A Transceiver, a SUDAC, a Method for Signal Processing in a Transceiver, and
Methods for Signal Processing in a SUDAC**

Abstract

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A transceiver of a user equipment comprises a receiving stage, a frontend channel estimator, a frontend channel equalizer, a backend channel estimator, and a backend channel equalizer. The receiving stage is configured to receive an inbound signal from a SUDAC, which enables a relay communication comprising a frontend communication using extremely-high frequencies and a backend communication using ultra-high frequencies. The inbound signal comprises a data portion, a backend control portion and a frontend control portion, the frontend control portion comprising a frontend evaluation signal and a configuration signal. The frontend channel estimator is configured to perform a channel estimation based on the frontend evaluation signal wherein the frontend channel equalizer is configured to equalize distortions, caused by using the extremely-high frequencies, based on the channel estimation of the frontend channel estimator. The backend channel estimator is configured to perform a channel estimation based on the backend control portion wherein the backend channel equalizer is configured to equalize distortions, caused by using the ultra-high frequencies, based on the channel estimation of the backend channel estimator.

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Fig. 3

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