

SUDAC, User Equipment, Base Station and SUDAC System

Abstract

5 A SUDAC comprises a first wireless communication interface, a second wireless communication interface and a processor. The first wireless communication interface is configured for using ultra-high frequency in order to establish at least one backend communication link with a base station. The second wireless communication interface is configured for using extremely-high frequency in order to establish at least one frontend communication link with a user equipment. The processor is configured for at least partially forwarding a user information signal received via the frontend communication link as a communication signal to be transmitted via the backend communication link while frequency converting the extremely-high frequency to the ultra-high frequency or for forwarding at least partially the communication signal received via the backend communication link as the user information signal to be transmitted via the frontend communication link while frequency converting the ultra-high frequency to the extremely-high frequency. The processor is further configured for extracting control information from the user information signal and for controlling forward parameters of the first or the second wireless communication interface based on the control information. The forward parameters relate to at least one of a time, a frequency, a space or a code resource of the backend communication link or the frontend communication link. The processor is configured for frequency converting the user information signal received at extremely-high frequency to the communication signal at the ultra-high frequency and for frequency converting the communication signal at the extremely-high frequency to the communication signal at the ultra-high frequency or the SUDAC comprises an analog-to-digital converter configured for digitizing the user information signal received at extremely-high frequency and a digital-to-analog converter configured for analogizing a digitalized communication signal to obtain the communication signal at the ultra-high frequency, wherein the processor is configured for generating the digitalized communication signal based on the digitalized user information signal.

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Figure 1