

ABSTRACT

IMPLEMENTATION OF COMPLEX SAMPLING AND TIME DELAYS CALCULATION

A method and system for performing complex sampling of signals by using two or more sampling channels and for calculating time delays between these channels. According to certain embodiments of the presently disclosed subject matter, the system and method are operable to enable a complex sampling of a signal in a frequency- domain by means of a predefined-order sampling, including utilizing a sampling channel for converting an analog signal $CX(t)$ to a corresponding substantially non-delayed digital signal (105); and transforming (210 ') the digital signal to a plurality of corresponding frequency- domain substantially non- delayed discrete components; providing one or more additional sampling channels (2051 ') enabling to perform a predefined-order sampling, the predefined-order depending on a number of the one or more additional sampling channels, each additional sampling channel (2051 ') in multiplied with phase and gain coefficients (250) and combining the multiplied frequency- domain delayed discrete components with the corresponding frequency- domain substantially non -delayed discrete components, giving rise to an output frequency- domain complex signal ($Y8k$).

FIG. 2