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(54) FINITE IMPULSE RESPONSE FILTER

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(57)ABSTRACT

A system, a non-transitory computer readable media and a method for FIR filtering. The method may include obtaining a set of input samples; and concurrently applying a FIR filtering process on the set of input samples to provide a set of FIR filtered output samples. The latter may include calculating intermediate results that represent a first number of coefficient-input sample products, while calculating only some of the first number of coefficient-input sample products, wherein the calculating of the intermediate results is executed by using less than a first number of multipliers.

Prforming, by first multipliers, an element-wise multiplication of input samples of a first subset of the set by a first subset of coefficients to provide first intermediate results that belong to the preliminary results 142

Calculating second preliminary results that are a second number of sums of certain coefficient-input sample products, wherein the second preliminary results are calculated without calculating each one of the certain coefficient-input sample products 144 Performing by first adders an element-wise addition of pairs of input samples of the set to provide input samples sums 146 Obtaining coefficient sums 148 Performing, by second multiplies, an element-wise multiplication of the input samples sums by coefficients sums to provide second preliminary results that belong to the preliminary results 150 Extracting, by using second units that may include adders and/or subtractors, the second

intermediate results, 152