



**Method for creating a representation of a calculation
result linearly dependent upon a square of a value**

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Abstract

In the transition into the logarithmic range, not the entire bit width of the result linearly dependent upon the square of the value must be considered. Rather, it is possible to scale the result of a value with x bits such that a representation with less than x bits of the result is sufficient to obtain the logarithmic representation based thereon. The effect of the scaling factor on the resulting logarithmic representation may be compensated for by adding or subtracting a correction value obtained by the logarithm function applied to the scaling factor to or from the scaled logarithmic representation without any loss of dynamics. This way, a method and an apparatus for creating a representation of a result linearly dependent upon a square of a value are provided so that the calculation is simple and/or possible with little hardware expenditure.

