

Introduction to Vitis 2022

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1 Introduction

$$s^2 = \sum_{i=0}^{n-1} x_i^2 = x_0^2 + x_1^2 + x_2^2 + \dots + x_{n-1}^2 \quad (1)$$

Equation 1 compute l^2 -norm of a vector $x = (x_0, x_1, \dots, x_{n-1})$.

However, due to bit-width limitation, and the size of vector x is undefined, it can be arbitrary long or short. We use must use **saturation arithmetic** to perform add or subtract.