

## **Speed-Independent Fused Multiply-Add Unit of Gigaflops Rating: Implementation Variants**

### Abstract

This report contains the results of development of two variants of Speed-Independent Fused Multiply-Add (SIFMA) conforming to IEEE 754 Standard. SIFMA performs either one double precision operation, or two simultaneous single precision operations with three operands. SIFMA was designed under industrial CMOS 65-nm technology. It operates with synchronous and asynchronous environments and provides performance up to 1 Gigaflops at 1.0 volt of supply voltage and 25 Celsius degrees. At this, power efficiency does not exceed 970 mJ/GHz.