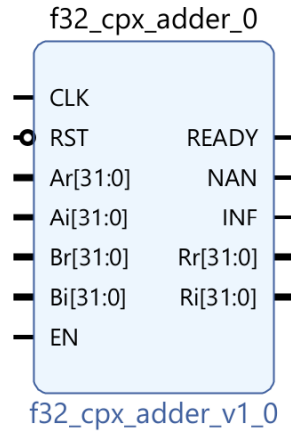


IEEE754 single precision floating point (f32) support Complex Adder



This IP computes addition of two complex inputs ($Ar \pm Ai$) and ($Br \pm Bi$) (in [IEEE754 single precision floating point format](#)). The result is also in the same format:

$$(Rr \pm Ri) = (Ar \pm Ai) \pm (Br \pm Bi)$$

Depending on the input value(s), the result can be NaN or Infinite. This case is shown by NAN and INF outputs.

All Input/Output descriptions can be found in the following table.

| Pin name | Description | Direction | Property |
|----------|---|-----------|---|
| CLK | CLK input | IN | 1bit |
| RST | Reset input | IN | 1bit, active High |
| EN | Enable | IN | 1bit, active High |
| Ar | Real part of Addition operand-1 | IN | 32bit, IEEE754 single precision floating point format |
| Ai | Imaginary part of Addition operand-1 | IN | 32bit, IEEE754 single precision floating point format |
| Br | Real part of Addition operand-2 | IN | 32bit, IEEE754 single precision floating point format |
| Bi | Imaginary part of Addition operand-2 | IN | 32bit, IEEE754 single precision floating point format |
| Rr | Real part of Addition Result | OUT | 32bit, IEEE754 single precision floating point format |
| Ri | Imaginary part of Addition Result | OUT | 32bit, IEEE754 single precision floating point format |
| NAN | Result is not valid: NaN (Not a Number) | OUT | 1bit, active High |
| INF | Result is not valid: +/- Infinite | OUT | 1bit, active High |