|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Various Detected Faults in Analog Multiplier in the presence of faults with deviations (5% – 15%) & (20%-46%)** | | | | | | | |
| **Injected Faults** | **Polynomial Degree** | **=500, = 0.0138** | | **=1000, = 0.0137** | | **=2000, = 0.0137** | |
| **No. of Coefficients Out of Bound** | **Fault Detection Status** | **No. of Coefficients Out of Bound** | **Fault Detection Status** | **No. of Coefficients Out of Bound** | **Fault Detection Status** |
| R11 6% **↑** | 6th | 0 | **X** | 0 | **X** | 0 | **X** |
| R11 6% **↓** | 6th | 1 | **√** | 0 | **X** | 1 | **√** |
| R12 7% **↑** | 6th | 0 | **X** | 0 | **X** | 0 | **X** |
| R12 7% **↓** | 6th | 1 | **√** | 0 | **X** | 0 | **X** |
| R21 8% **↑** | 6th | 1 | **√** | 1 | **√** | 1 | **√** |
| R21 8% **↓** | 6th | 1 | **√** | 1 | **√** | 0 | **X** |
| R22 9% **↑** | 6th | 2 | **√** | 2 | **√** | 2 | **√** |
| R22 9% **↓** | 6th | 1 | **√** | 1 | **√** | 1 | **√** |
| R31 10% **↑** | 6th | 2 | **√** | 3 | **√** | 4 | **√** |
| R31 10% **↓** | 6th | 0 | **X** | 0 | **X** | 1 | **√** |
| R32 11% **↑** | 6th | 1 | **√** | 1 | **√** | 0 | **X** |
| R32 11% **↓** | 6th | 1 | **√** | 2 | **√** | 1 | **√** |
| R41 12% **↑** | 6th | 1 | **√** | 1 | **√** | 0 | **X** |
| R41 12% **↓** | 6th | 1 | **√** | 1 | **√** | 0 | **X** |
| R42 13% ↑ | 6th | 3 | **√** | 3 | **√** | 3 | **√** |
| R42 13% **↓** | 6th | 1 | **√** | 1 | **√** | 1 | **√** |
| R51 14% **↑** | 6th | 4 | **√** | 4 | **√** | 2 | **√** |
| R51 14% **↓** | 6th | 5 | **√** | 4 | **√** | 4 | **√** |
| R52 15% **↑** | 6th | 5 | **√** | 4 | **√** | 4 | **√** |
| R52 15% **↓** | 6th | 6 | **√** | 6 | **√** | 6 | **√** |
| R11 20% **↑** | 6th | 0 | **X** | 0 | **X** | 0 | **X** |
| R11 20% **↓** | 6th | 7 | **√** | 5 | **√** | 3 | **√** |
| R12 25% **↑** | 6th | 4 | **√** | 3 | **√** | 3 | **√** |
| R12 25% **↓** | 6th | 9 | **√** | 7 | **√** | 6 | **√** |
| R21 30% **↑** | 6th | 9 | **√** | 7 | **√** | 3 | **√** |
| R21 30% **↓** | 6th | 4 | **√** | 3 | **√** | 3 | **√** |
| R22 35% **↑** | 6th | 12 | **√** | 10 | **√** | 6 | **√** |
| R22 35% **↓** | 6th | 8 | **√** | 8 | **√** | 5 | **√** |
| R31 36% **↑** | 6th | 3 | **√** | 3 | **√** | 3 | **√** |
| R31 36% **↓** | 6th | 2 | **√** | 2 | **√** | 2 | **√** |
| R32 38% **↑** | 6th | 5 | **√** | 6 | **√** | 6 | **√** |
| R32 38% **↓** | 6th | 7 | **√** | 6 | **√** | 6 | **√** |
| R41 40% **↑** | 6th | 9 | **√** | 5 | **√** | 4 | **√** |
| R41 40% **↓** | 6th | 7 | **√** | 5 | **√** | 3 | **√** |
| R42 42% **↑** | 6th | 7 | **√** | 7 | **√** | 5 | **√** |
| R42 42% **↓** | 6th | 7 | **√** | 6 | **√** | 6 | **√** |
| R51 44% **↑** | 6th | 11 | **√** | 10 | **√** | 8 | **√** |
| R51 44% **↓** | 6th | 15 | **√** | 14 | **√** | 13 | **√** |
| R52 46% **↑** | 6th | 11 | **√** | 11 | **√** | 11 | **√** |
| R52  46% **↓** | 6th | 13 | **√** | 13 | **√** | 10 | **√** |