

3D Mixed-Signal Circuit Test Bed

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- Project Goal: to verify digital noise isolation provided by 3D ICs
- Method: Use of separate tiers, Faraday cages
- Test structures on 3D IC
 - ◆ With & without Faraday cage
 - ◆ Inductors (single-ended, differential)
 - ◆ Circuit blocks: (LNA, VCO)
- Observations from measurements
 - ◆ Q factor increases with frequency
 - ◆ Faraday cage provides increased isolation
 - ◆ Q factors of single-ended and differential inductors with Faraday cages is lower than Qs without Faraday cages & more dependent on inductance values

