RF / Wireless Test Services

Testing packaged Radio Frequency components, ICs and modules requires a different skill set than testing standard mixed signal devices. It also requires different methodologies and test platforms, and the skills to put them all together. Amkor is committed to being the preeminent provider of contract semiconductor RF testing by delivering the most cost-effective and optimum test solutions. Amkor's ultimate goal is to get involved with their customers in the early stages of the design and test development process.

Amkor strives to offer lower cost solutions and the RF test expertise needed to identify possible problems before they materialize. Additionally, by utilizing Amkor's proprietary focused RF platform and software, Amkor is able to offer the lowest cost of test for RFIC when compared to other ATE RF platforms. Amkor also offers test solutions on third party RF testers such as the Credence ASL-3000 RF for more versatile RF tests.

Amkor's RF tester has achieved sub-second test times for devices such as PAs, LNAs, saw and ceramic filters, RF switches, and down converters. Examples of tests performed on those devices are:

- Power output
- Return loss
- Gain
- Current
- Continuity
- Noise figure
- Harmonics
- Modulation index
- Third order Intercept
- Support for high speed serial programming

Customers who have their own in-house RF test expertise can utilize their own test solution. Alternatively, Amkor can analyze the customer's current test platforms and outline a competitively priced outsource solution. This would include software and platform conversion and socket or DUT-board possibilities. Finally, Amkor can provide a total turnkey RF test solution for telecom start-ups and other fabless companies new to the RF arena.

Amkor RF Test Solution Benefits:

- Cost of test competitive with in-house
- Increased standardization
- Increased yield
- Faster test development
- Better ATE utilization
- Lower test overhead
- Lower capitalization cost
- Qualification and characterization services
- Complete test integration engineering
- Extensive RF test production experience
- Strong test equipment roadmap
- Broad geographical footprint with proximity to foundries, assembly and end customers

RF Services:

- Test and correlation development
  - Equipment selection and custom configuration
  - Test software development, evaluation and qualification
- Socket characterization
- Strategies for RF SiP module test
- Wafer probe services including WLCSP, bump and RF Can be leveraged for Known Good Die (KGD) for modules
- Product evaluation
  - Initial product characterization
  - Reference samples correlation
  - Product performance monitoring
- Reliability and manufacturability
  - Data collection and yield analysis
  - Production support, including failure analysis and line-rejects verification
- DUT board development
  - Layout
  - Simulation
  - Tuning
  - Correlation

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