


will'tek

Manufacturing Testing mobile phones intelligently...

 SAAB



NIHUK



6800

Production Test System

Production of mobile phones has increased the pressures for businesses to achieve better margins and faster introduction of new features and models. New multifunction terminals have high integration factors and are attractive to users who require small size and high performance.

...accurately, fast and with statistically based testing

The effect of these drivers on factory test systems is to increase the demands of flexibility, reduce the cycle time and move to test intelligently.

Development of test systems can be expensive and solutions need to cope with both low and high end test requirements at different parts of the production line. And maintenance of test systems can be costly providing flexibility for future needs and changes.

Many tests can be done on a statistical basis, performed on samples and reinstated if a factor in the production build changes.

And meeting all these requirements demands a combination of accuracy, speed and intelligent test programming. Willtek and its partner Saab have come up with the solution: the 4400 Series and TS600T software forming the Willtek 6800 Production Test System. With our technical support, customised test systems can be integrated with your factory methods providing savings in all departments.



Intelligent testing made easy

The new Willtek 6800 Production Test System provides the ideal test solution for GSM/CDMA production at the calibration stage, functional stage, repair station and for sample quality testing, using consistent methods and programming by thus, saving development time and expense.

Accuracy of measurements using the Willtek 4400 is vital to ensuring key specification points are effectively covered. For example saving battery life in transmitter power levels, or meeting coverage performance with correct sensitivity at low signal bit error rates.

Speed of test is the major driver to reducing cycle time. The Willtek 4400 Series, with its parallel testing capability, optimises measurements and increases throughput at each stage.

Using the same test systems across the factory floor provides consistency of results and reduces production effort devoted to resolving specification inconsistencies.

The same test methods can be used during the product life cycle and during development, thus reducing time to market and increasing confidence of phone performance when production is running.

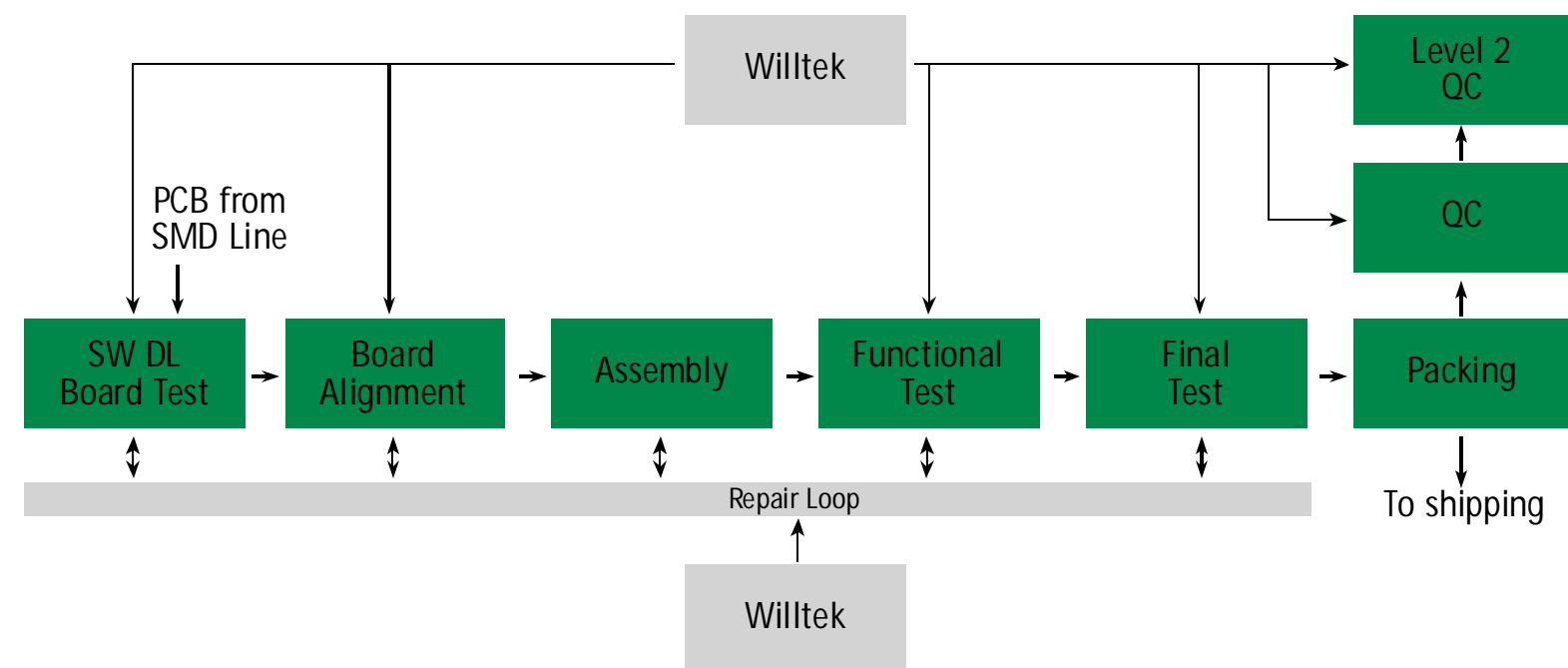
The Willtek 6800 Production Test System flexibility also allows new tests to be incorporated as phone models and features change, and lowers support costs.

Intelligent testing made easy

Comprehensive manufacturing test systems

Production test systems are optimised to ensure fast cycle time and provide flexibility in preparation for new phone designs and features. Most mobile phone production lines consist of a series of stations, each adding functionality and testing the subassembly or finished product in stages ... as the unit gains in value.

Providing commonality of test across all these stages is important to reduce effort from the test department. Consistent results are obtained across all the lines and at all stages, including rework stations and Quality testing.



Flexibility to meet your need

Willtek and Saab Test Systems provide all the capability required for these test stations, from software download, through calibration and basic test stations, to full functional test and supporting repair and QA testing.

Using a core of test software from Saab Test System, with accurate and fast measurements from the Willtek 4400 Series, the Willtek 6800 Production Test System meets modern manufacturing needs cost-effectively with all the support and system integration help you require.

High accuracy allows tight production limits

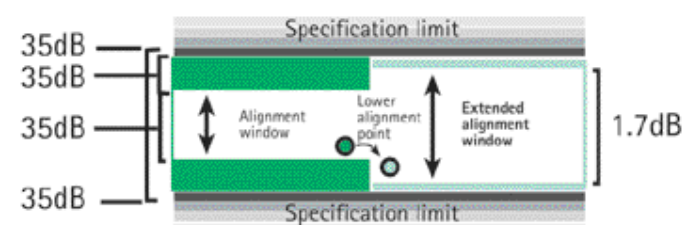
Measurement accuracy is vital for ensuring cost-effective production.

If the test system tolerance limits are too wide, minimum achieved specifications need to be tighter in vital areas. These include power levels to ensure the mobile meets the specifications without having excessive battery drain and reducing talk time.

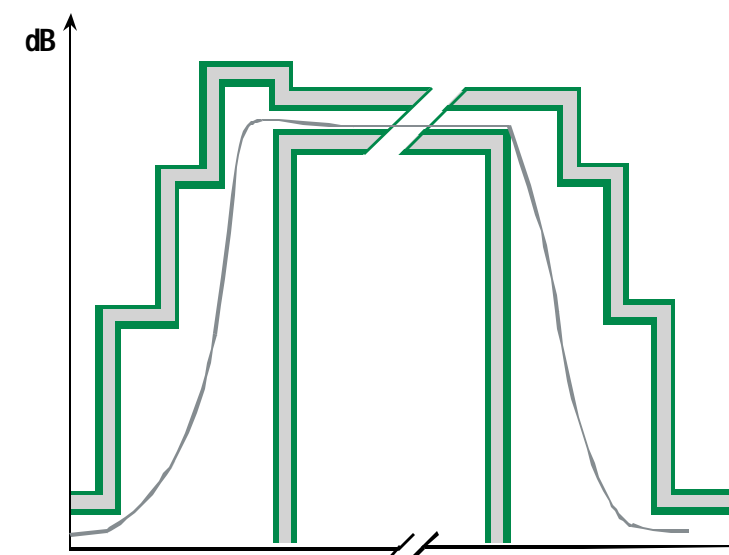
Also at low signal levels with poor accuracy on sensitivity measurements, the mobile needs to perform better to achieve the required Bit Error Rate performance.

The Willtek 4400 Series provides the power accuracy needed by providing excellent VSWR at the RF input, reducing mismatch errors, plus superb accuracy of signal generator levels.

On the receiver side, outstanding level accuracy and RMS phase error performance mean the mobile phone signals are accurately measured during alignment. Accuracy is valid for the complete solutions.



Accurate measurements play a demanding role in mobile phone testing.

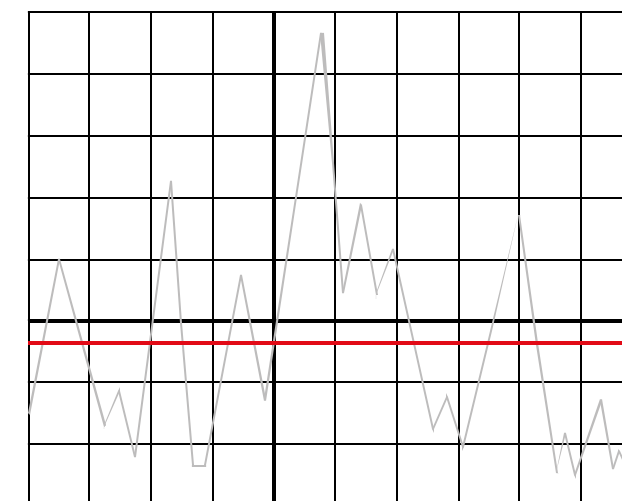


Performance you can depend on

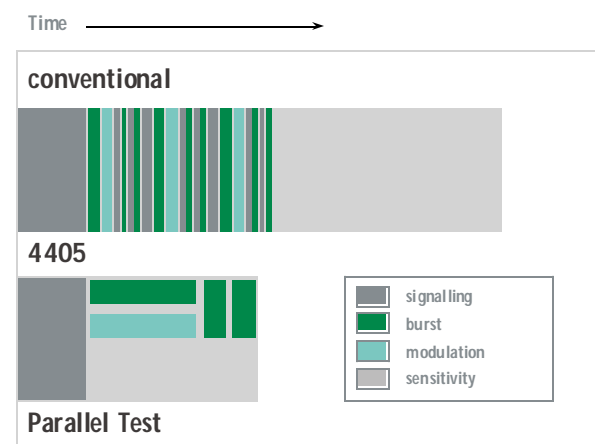
Key specification points where the Willtek 4400 Series also excels are in spectrum analyzer performance during switching and checks on the modulated signal profile.

Setting up the I/Q modulator requires flexible marker manipulation and accurate delta measurements, all provided on the Willtek 4400 Series.

Engineered for Measurement Speed



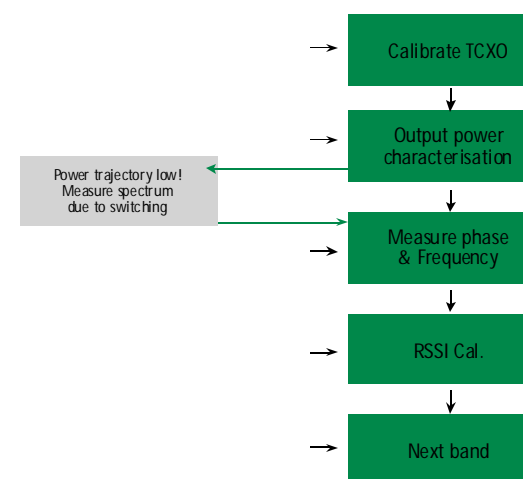
Using Sampling test procedures in the factory, so that parameters are checked only when they are likely to vary with a significant change in the process ... such as a new reel of key components or shift change.



Speed of tests is the major driver to reducing cycle time. In designing the 4400, Willtek has included many innovations to make faster measurements in the hardware and in the way the firmware configures the equipment. Combined with TS600T measurement methods, this creates a powerful combination for saving costs in production. Our innovations add intelligence and increase throughput at each stage.

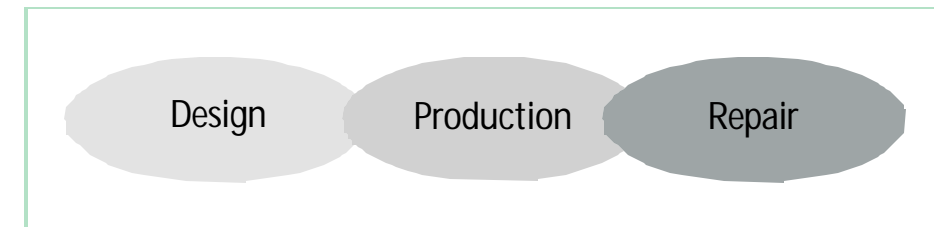
Parallel testing of receiver and transmitter functionality to reduce test time spent during signalling and waiting for BER measurements to settle.

Innovative testing: the hallmark of Willtek



Event-driven testing can be a powerful way to only test if a parameter is identified as likely to be out of tolerance from the normal test run. In our example, if the power trajectory is low on a particular phone, the test system then checks the spectrum due to switching performance against specifications; otherwise this test is omitted.

6800 Test system platform provides lifecycle flexibility



Using the same test concepts provides consistency of results and reduces production effort devoted to resolving specification inconsistencies.

The same test methods can be used during the development product life cycle, reducing time to market and increasing confidence of phone performance when production is running.

The Saab TS600T platform flexibility also provides high levels of reusability for new tests to be incorporated as phone models and features change. It also lowers support costs for factory-based field repair depots.

At the design stage, tests can be developed for the 6800 and for different aspects of the phone performance. In full production, functional tests and applications can be checked. The TS600T also supports boundary scan tests for diagnostic tests or ISP (in System Programming)/flash loading.

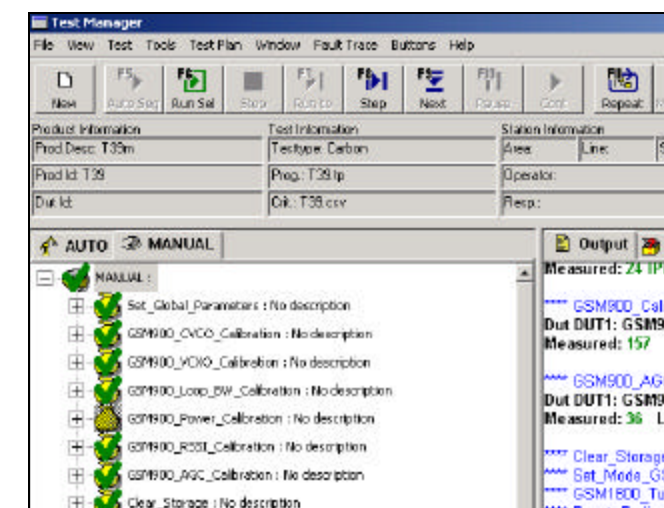
The system is fully customisable for integration with automatic handlers and support is provided for bar code entry systems.

The TS600T is an efficient, well-structured test tool for test solutions.

Fast test execution and cost-effective program development.

Easy to integrate into various process environments. The flexibility makes it possible to use the same testing tool throughout the whole product life cycle, thus maximising reuse of test modules and minimising costs and time to market.

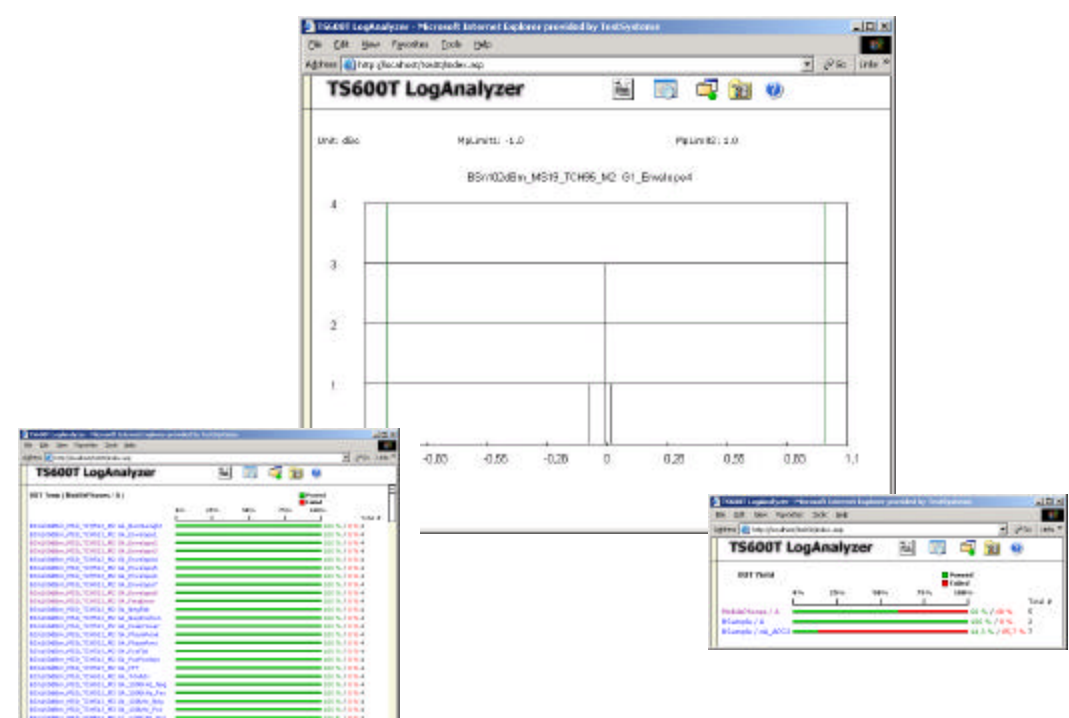
Standard Based Test Development Environment



Production Quality Analysis Tool

The comprehensive system provides all the facilities required for building modern run time environments. The Test Manager sequences the tests with features such as single test or break-on-failure loops, automatic data logging and report generation. Performance can also be checked with the curve fitting as well as normal numerical loop verification.

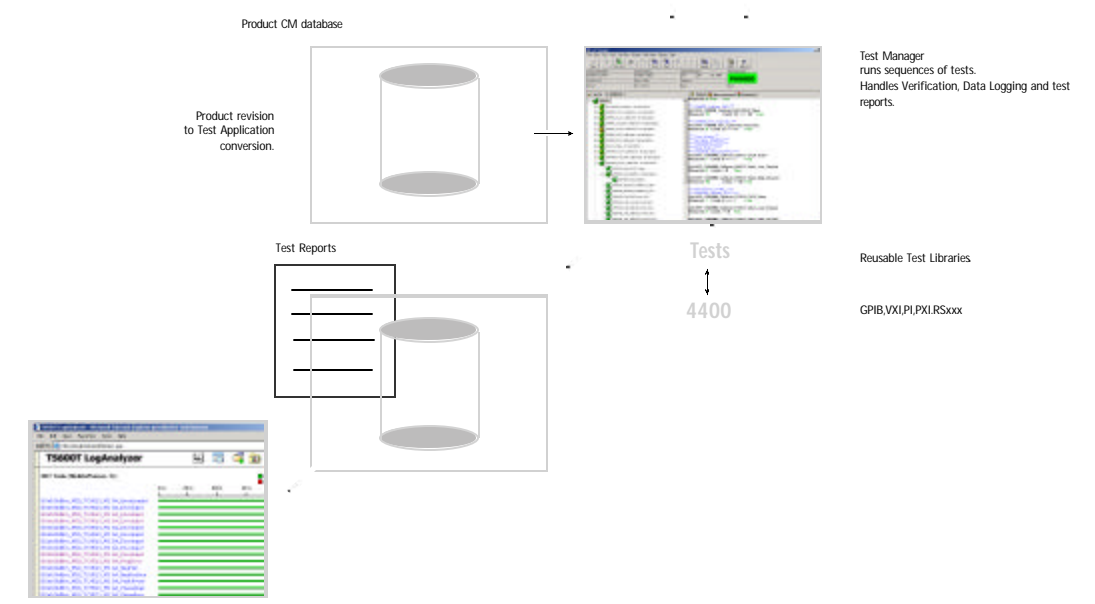
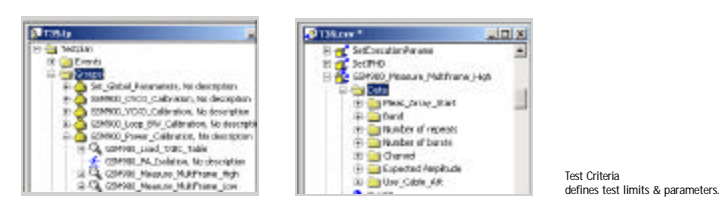
Statistical tests can be used to really speed production, by checking results against the test results database and using the skip decision engine to decide to jump to the next test.



Fast, Sophisticated and Easy to Configure

Intelligent testing from Willtek

With the Log Analyser Option you can easily follow test yield and measurements variations statistics for all test stations. The Web-based interface is very user-friendly.



Test results are automatically stored in the test record database, individual records can be customised and printed or send to external databases. Statistical reports can be generated from this database and used to refine tests.

The 6800 Production Test System is the ideal combination for phone production. Speed, accuracy and flexibility meet the needs for modern test systems, with low cost of ownership.

Full integration into factory handling and data systems combined with ability to customise test systems based on standard approach, speed the time to market for new phones and new features.

The accuracy and flexibility makes the 4400 ideal for measurements during the engineering phases of product development, and this in turn encourages early test system development with TS600T.

Our regional support team will be glad to assist you in selecting and configuring a system that best suits your application and also integrates the system into your production line. Willtek and Saab offer you a complete portfolio of services and solutions for your production test requirements of mobile phones. We understand your requirements to reduce test times and costs while providing comprehensive testing tools.

From the standard low-cost system to the turnkey solution

Global Services and Support

Willtek is built on a combined, century-long tradition of quality and innovation in the communications test and management industry. Now, the excellence that companies expect from Willtek's products forms the cornerstone of an integrated suite of services provided by experienced consultants with over 40 years of network and testing experience and solutions developed to drive customers' business performance to new levels. Comprehensive solutions include complete product support, service deployment, training, process improvement, program management and custom software applications.

Willtek consults closely with companies to define their exact service needs and leverage an unmatched depth of knowledge and experience in communications, products, systems and processes to provide solutions that solve unique business challenges. From basic instrument support for field technicians, to complex program management and consulting for company-wide initiatives, Willtek's service professionals are committed to exceeding customer expectations.

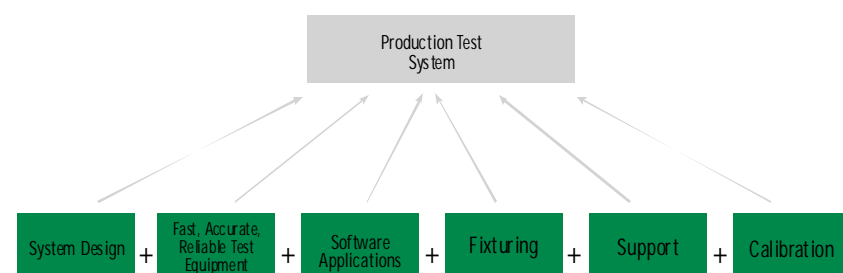
Saab Test Systems developed from the expertise of Saab Group and its long-term commitment to excellence in test systems is renowned. With a quality throughout attitude and open standards approach, their systems meet stringent criteria for performance and support.

System Design, Software Applications & Fixtures

Willtek and Saab can provide test programs development, customised applications and work with other partners to supply test fixtures.

We provide you with stand-alone instruments up to turnkey solutions including fixtures-rack mounted system or even a subset of it.

Willtek offers optimised and customised solutions, which cover the entire spectrum from adjustment, functional, Q&A testing up to final testing.



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