



**Agilent W-CDMA
Solutions from
Agilent Technologies**



Agilent Technologies

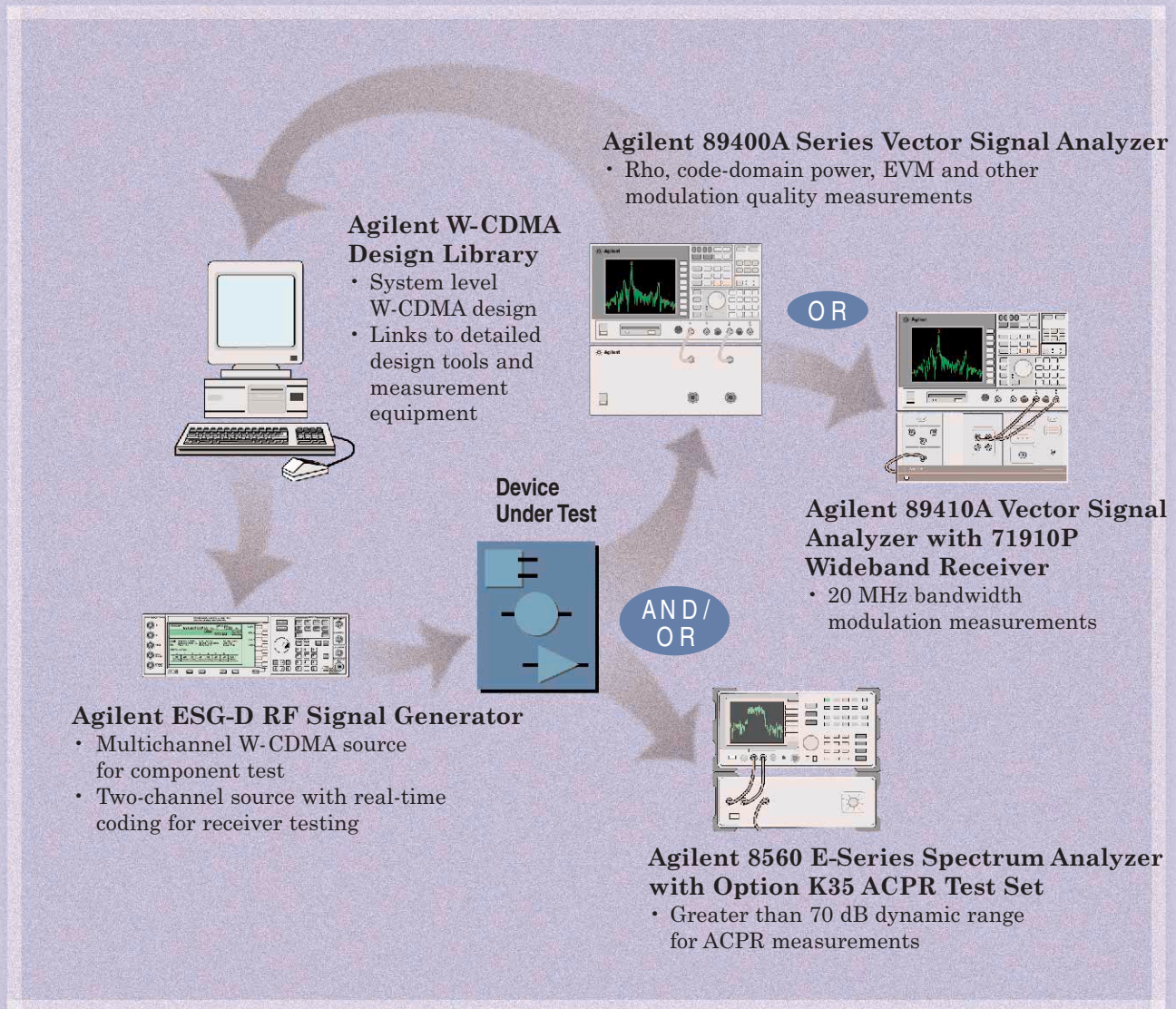
Innovating the HP Way

3G is coming...

Inspired by the wireless industry's phenomenal growth, third-generation (3G) systems for global communications are now being developed. These new systems will offer increased voice capacity and multimedia services comparable to today's wireline systems—with the freedom of wireless. Agilent Technologies is committed to providing the design tools, test equipment and consulting services necessary for 3G product development, manufacturing, system deployment and operation.

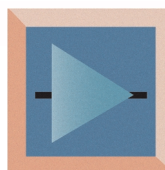
Wideband CDMA is a leading technology being proposed for the 3G air interface. This brochure outlines Agilent's comprehensive and connected solutions for the development phase of the experimental W-CDMA system being tested in Japan. As the standards evolve, Agilent will be there every step of the way, offering design and test measurement solutions for the latest in 3G technology.

Agilent W-CDMA Solutions Overview



Agilent Consulting and Solution Services

- Complete W-CDMA solutions designed and integrated to your specifications



Agilent Components

- Building blocks for W-CDMA systems

Design

System and Circuit Design

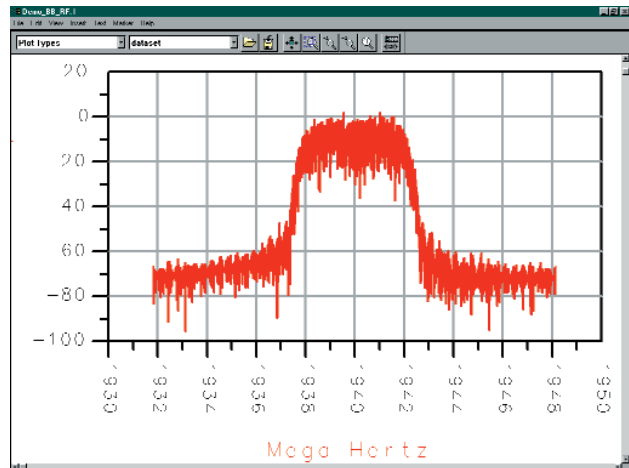
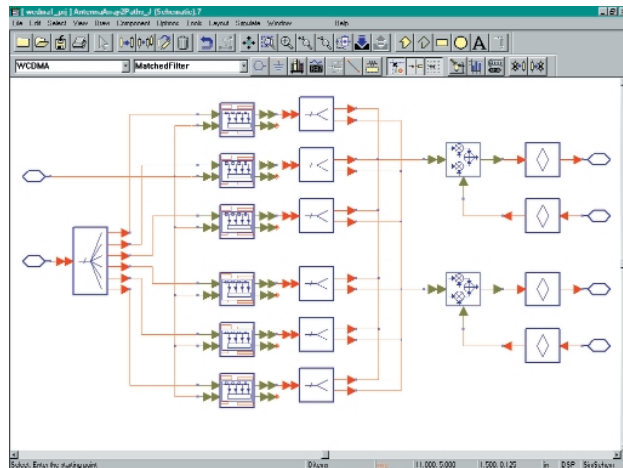
W-CDMA Design Library

The Agilent W-CDMA Design Library lets you and your engineering team start developing W-CDMA communications products today. With this library you can develop and refine designs at the system level where design choices have the greatest impact. Once your system is partitioned into analog, DSP, and high-frequency RF, the Agilent Advanced Design System helps you move quickly to implementation. Modules such as the DSP Designer, RFIC Designer and Communications Systems Designer include the technologies for smoothly implementing digital, analog and RF circuit designs. Links to test instrumentation and circuit simulators are also included in the library to help refine your designs as you replace behavioral models with actual circuit designs or measured data.

The W-CDMA Design Library will:

- Jump start your W-CDMA design activities
- Optimize your designs before prototyping
- Increase your chances of first-time hardware success

For more information, request literature number 5967-5624E.



Component Test

In and Out-of-Channel Analysis

ESG-D RF Signal Generator

The versatile digital signal generation capabilities of the Agilent ESG-D series RF signal generators now supply you with W-CDMA capabilities. Verify that your components meet emerging W-CDMA specifications under variable conditions using a multichannel signal with realistic characteristics. Option H97 provides a signal with proper long and short code spreading and timeslot multiplexing. Data is QPSK modulated at a 4.096 MHz chip rate with a 0.22 alpha filter. You can quickly set up tests with pre-defined channel configurations, including 1 to 127 traffic channels (DTCH) at various symbol rates. This flexibility allows you to select signals that can test your components over a range of conditions as if they were in a real-world environment. With option H99, adjacent channel power (ACP) will be better than -63 dBc for one DTCH. This meets the stringent needs of emerging W-CDMA systems. The DSP based implementation of this solution will allow it to adapt as commercial standards are developed.

For more information, request literature numbers 5966-3696E and 5966-3656E.

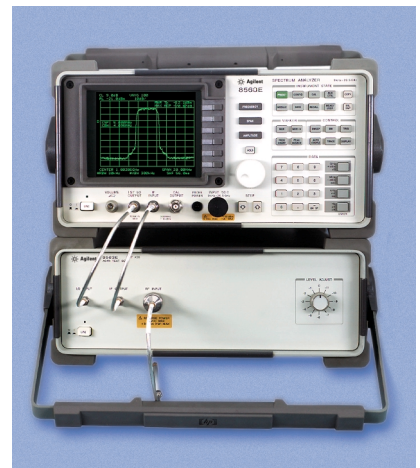


Adjacent Channel Power Ratio

8560 E-Series Spectrum Analyzer with Option K35 ACPR Test Set

The Agilent 8560 E-series spectrum analyzer with option K35 ACPR test set helps you meet the demanding adjacent channel power ratio (ACPR) requirements of emerging W-CDMA systems. This solution offers greater than 70 dB dynamic range from 1.2 GHz to 3 GHz. Use the 8560 E-series spectrum analyzer to make spurious and other out-of-channel measurements.

For more information, request literature number 5966-2913E.



Transmitter Test

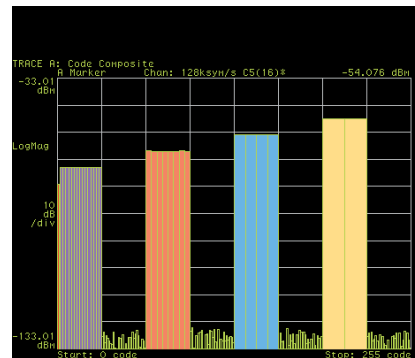
Modulation Quality

89400 Series Vector Signal Analyzer

Rho and code-domain power (CDP) measurements for the forward link are available using the Agilent W-CDMA code domain power measurement system. In the beta version of this system, signal information from the 89400 series vector signal analyzer is transferred to a PC, where software performs W-CDMA CDP measurements. Code-domain power can be determined for each of the 16 timeslots in a frame, and a composite view simultaneously displays all symbol rates and codes. Once standards are agreed upon, Agilent will make the CDP measurement available within the 89400 series vector signal analyzer.

Additionally, the 89400 series vector signal analyzer provides unmatched flexibility and performance in signal analysis at baseband, IF, and RF. Error vector magnitude (EVM) measurements give you real-time, quantitative analysis of modulation to reveal signal degradation caused by individual system components. Use the eye, vector, and constellation data formats for more intuitive analysis of your W-CDMA signals. Marker statistic functions can help you determine the peak-to-average ratio of transmitted signals.

For more information, request literature numbers 5967-6271E and 5965-8554E.



20 MHz Bandwidth Modulation Analysis

89410A Vector Signal Analyzer with 71910P Wideband Receiver

The combination of the vector signal analyzer and wideband receiver allows you to make detailed modulation quality measurements, including rho and code-domain power, with a 20 MHz information bandwidth. This provides you a migration path as development efforts transition from 5 MHz bandwidth systems to 10 MHz and 20 MHz systems.

For more information, request literature numbers 5966-3698E and 5964-3586E.



Receiver Test

Sensitivity

ESG-D Series Signal Generator

For testing your mobile receivers, use the W-CDMA real-time baseband generator in the Agilent ESG-D series RF signal generators. Option H98 provides real-time data on two coded channels (Perch and DTCH), for your sensitivity testing needs. With an intuitive user interface for selecting symbol rate, long code, and short code, you can quickly set up meaningful tests. Typically better than 63 dBc ACPR performance with less than 1.25% EVM helps ensure that your signals meet performance requirements for W-CDMA. To meet your testing needs amid evolving standards, a flexible architecture allows the channel coding structure to change as commercial standards are developed.

For more information, request literature numbers 5967-6270E and 5966-3696E.



Consulting

W-CDMA Consulting Services

Agilent Technologies Solution Services teams can provide you with customer education, consulting services, and productivity assistance, as well as complete W-CDMA integrated solutions, designed and integrated to your specifications. Our technical experts worldwide are trained in the latest test needs for wireless design, manufacturing, and service. Already, Agilent engineers support virtually all major international standards for wireless communications and are providing integrated solutions to W-CDMA customers. As the need for third-generation measurement solutions grows, the need for application services and integrated solutions will also grow. Our expert consultants can provide services specifically targeted to the unique needs of W-CDMA equipment manufacturers and solution providers.



Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

"Our Promise" means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

"Your Advantage" means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and on-site education and training, as well as design, system integration, project management, and other professional services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

Get assistance with all your test and measurement needs at:

www.agilent.com/find/assist

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