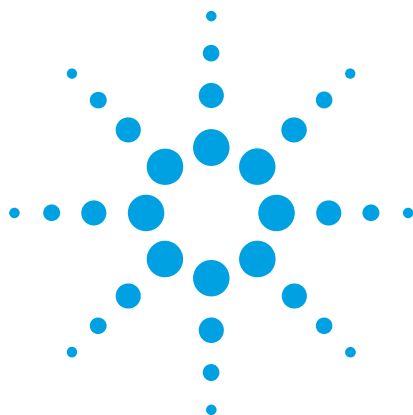


# Agilent Multi-Carrier Power Amplifier Test System

## GS-9200



**Agilent's most essential solution for production testing of Power Amplifiers, RF transistors, gain modules.**



### **A Fully Integrated Solution**

The Agilent GS-9200 provides a fully automated, turn-key solution for testing MCPAs (Multi-Carrier Power Amplifiers) and/or power amplifier components, RF power transistors, and gain modules.

- Increase product yields while reducing cost of test, thereby increasing profitability
- Increase production with high-system up time, ensured by Agilent's world-wide, locally delivered support

### **Standard Test Platform**

Have confidence that you are eliminating bad devices prior to packaging by fully testing your devices prior to the production process. Agilent's reputation as the leader in measurement science differentiates our capabilities from other power amplifier test solutions.

The GS-9200 is a standard test platform with automatic MCPA measurements for both the R&D and manufacturing environments.

### **Test System Features & Benefits**

Agilent's GS-9200 is a flexible platform designed to help you quickly respond to ever-changing manufacturing needs, such as the need to add emerging radio formats.

Agilent's test system performs MCPA functional measurements in multiple radio formats including W-CDMA, cdma2000, cdmaOne, and GSM. It has software aids to improve tuning throughput as well. In addition, there are optional complex stimulus-response measurements that support testing of digital predistortion MCPAs.

The high-level system components include leading industry measurement hardware and system software which has such capabilities as self test, full

RF path characterization with automatic measurement correction, and measurement software with full MCPA test for all cellular protocols - which removes the need to program individual instruments, test executive and test plan templates.

### **Tailored to your specific needs**

Applications vary, so the Agilent GS-9200 was designed to meet specific testing needs by offering flexible, tailored solutions for software, data acquisition, external switching, DUT power, coms, facility interface, power supplies and space for additional instruments or customer-specific hardware.

You can rely on the GS-9200 - it keeps on testing your MCPA products, RF power transistors, and gain modules to meet critical delivery schedules. Get your production up and running quickly with the GS-9200; it can make you successful in today's market.



**Agilent Technologies**

# Typical Characteristics

## GS-9200 Typical Performance Characteristics

- 85 dB dynamic range for complex signals such as four W-CDMA carriers with 64 channels each
- High-power network and spectrum analysis up to +25 dBm input and +50.8 dBm output
- 800-2,200 MHz frequency range covering most wireless bands
- Harmonics and spurious measurements up to 13 GHz
- High-power S parameter measurements
- Low residual EVM performance of 1.3% at 800 MHz and 1.8% at 2,200 MHz

## GS-9200 Measurement Confidence

### Network Measurements

S <sub>11</sub> parameter measurement confidence	+/-0.004 typical <sup>1</sup> for 1.02 VSWR (-40 dB return loss)
S <sub>21</sub> parameter measurement confidence	+/-0.1 dB +/- 1 <sup>o</sup> typical for 50 dB range
S <sub>22</sub> parameter measurement confidence	CW signal-source for DUT input, and DUT full-power output +/-0.004 typical <sup>1</sup> for 1.02 VSWR (-40 dB return loss)
DUT delay measurement confidence	Input to output +/-0.1 ns typical for the 1 ns to 1 ums range
Additional Option	up to +40 dBm input power to DUT (with booster amp)

### Spectrum Measurements

ACLR (or ACPR) measurement confidence <sup>2</sup>	+/-1 dB typical for single carrier, one active W-CDMA channel, and up to -60 dBc range  +/- 1 dB typical for four carriers, each with one active W-CDMA channel, and ACLR up to -55 dBc range
SEM measurement confidence	+/-1 dB typical for W-CDMA and cdma2000 and BTS P <sub>out</sub> <+50.8 dBm (120 Wrms)
EVM measurement confidence	+/-0.3% typical for W-CDMA in the 1-10% range

### Power Measurements

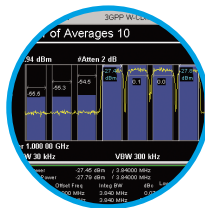
Power measurement confidence <sup>3</sup>	For -50 to +20 dBm range
P <sub>ave</sub>	+/-0.2 dB typical
Modulated power gain	+/-0.5 dB typical
PAE <sup>4</sup>	+/-3% typical

1 VSWR measurement accuracy improves with larger VSWR values.

2 Assumptions are that the DUT takes an input of -20 to -10 dBm and produces 43-50 dBm output power, and the DUT delay-response variation is within 0.5 n sec for a 30 MHz span. Measurement range can be increased over the -60 or -55 dBc values, resulting in degraded measurements uncertainty.

3 Assumption is that the DUT has better than 20 dB return loss at input and output ports.

4 If a measured PAE is 10%, then the uncertainty is 10 +/-0.3%.



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