



# Agilent N5531S Measuring Receiver System

Automation and System Integration Services Data

## Features and Benefits

- Automated testing of RF and Microwave Signal Generators
- Automated testing of RF and Microwave Attenuators
- Comprehensive set of tests
- Support for both manually controlled, GPIB and LAN test devices
- Flexible testing through use of text based Test Plans and Sequences
- Simple Parameter definition and management through spreadsheets
- Meets or exceeds the performance of the Agilent 8902A



**The Agilent N5531S comprises an Agilent PSA series Spectrum Analyser, an EPM series PowerMeter, N5532A sensor module and N5531A software.**

**The Agilent N5531S provides the easiest migration from 8902A to modern test equipment for attenuator calibration and signal generator performance testing.**

The RF Performance Test Suite has been designed as an extremely flexible solution for the automated testing of RF Signal Sources and Attenuators. The RF Performance Test Suite's PC based software applications make extensive use of the Agilent N5531S Measuring Receiver.



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Additional instrumentation allows fully automated testing and expands the capabilities of the N5531S. The use of the Agilent 3499A switch control unit adds the capability to automatically route modulation signals from the optional Agilent 33250A function generator to the modulation inputs of the signal generator being tested. Once connected, the complete testing of most devices is able to proceed without further operator intervention.

### **Signal Generator Tests**

The RF Performance Test Suite's Signal Generator testing application includes the following tests:

#### **Modulation:**

- AM Accuracy, AM Distortion
- AM Flatness, Residual AM
- FM Accuracy, FM Distortion
- FM Flatness, Residual FM
- ØM Accuracy, ØM Distortion
- ØM Flatness
- Incidental AM, Incidental FM
- Incidental ØM
- Wideband AM Accuracy
- Pulse Rise/Fall time (requires an Infiniium Oscilloscope)

#### **Spectrum:**

- Adjacent Channel Power
- Harmonics, Spurious
- Pulse On/Off Ratio
- Single Sideband Noise

#### **Power:**

- Maximum Output Power
- Output Level Flatness
- Tuned RF Level

#### **Direct Audio:**

- ModOsc Distortion
- ModOsc Level
- ModOsc Output Impedance

#### **Frequency:**

- Frequency Error
- DC FM Centre Frequency Error
- Modulation Source Frequency

#### **Attenuator Tests**

Available as an optional addition to the RF Performance Test Suite, the attenuator testing application provides support for both fixed and step attenuators. This application requires the addition of a signal generator from the Agilent ESG or PSG families.

Adding an Agilent 11713A attenuator driver to the system allows control of programmable attenuators.

The attenuator application includes the following tests:

- Insertion Loss, with support for manual and remotely switched devices.
- Attenuation with support for manual and remotely switched devices.
- Measurement of Return Loss is also possible through the addition of appropriate directional bridges.

### **Parameter Management**

A powerful set of tools simplifies the development and management of parameter files for the testing of new types of signal generator or attenuator. Test data points, specifications and the GPIB commands for a test device can be added and updated through the use of external spreadsheet files.

### **Customisation and Consulting Integration**

Agilent can integrate the N5531S into a rack, incorporating any of the optional instruments e.g. oscilloscope, switch controller. This includes the rack and all signal and control cables. This service is available on request.

### **Migration**

For customers who use the discontinued Agilent 8902A systems Agilent offers a parameter file conversion service. Agilent can assist with training for the customers' own personnel and can help convert old parameter files. A core set of spreadsheet based parameter files are provided with the new RF Performance Test Suite. Additional files can be generated on request.

### **Installation and Training**

Included in the services package is a day of on site installation and startup assistance. Additional days can be purchased if required.

### **Additional Capabilities**

Agilent can offer additional capabilities to the core test suite. For example, support for scalar network analysers would allow the user to perform fast return loss measurements on attenuators. TOI measurements on signal sources are another example of additional testing that could also be added.

### **Ordering Information**

#### **PS-X10-100**

Small System Integration

### **Sales, Service and Support**

For more information on the services offered in this datasheet please contact Agilent Technologies at the address below:

#### **Europe:**

Agilent Technologies  
710 Wharfedale Road,  
Winnersh Triangle,  
Wokingham, Berkshire,  
RG41 5TP United Kingdom  
Tel: + 44 (0)700 244 5368

**contactcenter\_uk@agilent.com**

#### **Ireland:**

Agilent Technologies  
Bracken Court  
Bracken Road  
Sandyford Business Park  
Dublin 18, Ireland  
Tel: +353 1 605 8320

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LXI is the LAN-based successor to GPIB, providing faster, more efficient connectivity. Agilent is a founding member of the LXI consortium.

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