

Agilent N9310A – An Effective, Professional Field Installation and Maintenance Tool

N9310A Application Note

Minimize Your Operating Cost

In the field installation and maintenance market, the advantage goes to the equipment with a basic test suite at the lowest price. The Agilent N9310A provides such a solution for regular base-station, RX-level calibrator.

Built to Perform

General purpose base-station RX-level calibration does not require an elaborate and extensive suite of tests. All that's needed from a signal generator are stable and accurate CW signals. The N9310A is the perfect solution, providing, at a competitive price, the essential tests:

- Frequency: 9 kHz ~ 3 GHz
- Stability: $< \pm 1$ ppm / year aging rate
- Amplitude: -127 dBm ~ +13 dBm,
- Accuracy: $< \pm 1$ dB
- Switching speed: < 10 ms

Easy to Use

- 6.5" high-resolution color LCD provides easy-to read display
- Easily-understood hard and soft keys for essential functions make measurements easy and fast
- Multi-language user interface for worldwide usability
- Customizable frequency step and editable list sweep function improves efficiency

Additional Features:

- Programmable
- SCPI compatible
- USB connectivity for remote control
- Compact and lightweight

RX Level Calibration Example

1. Connect the calibration system as shown in Figure 1.
2. Run calibration software, toggling base station to RX level calibration status. See Figure 2.
3. Configure the N9310A and output the first signal to the first calibration channel.

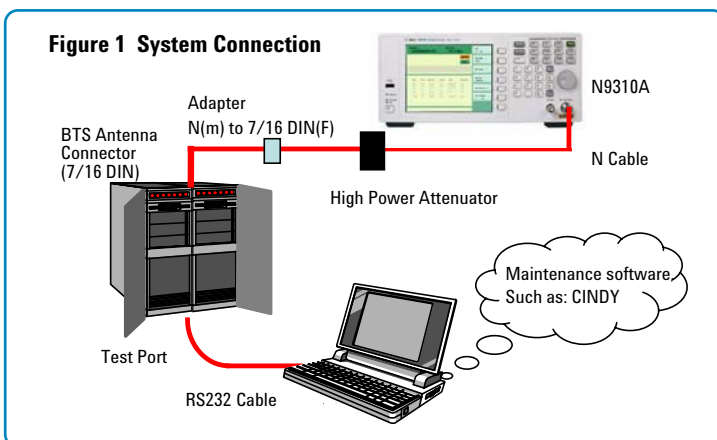


Figure 1 System Connection

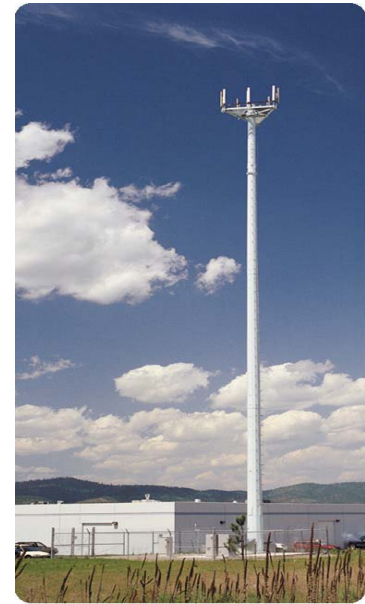


Figure 2 Base Station RX Level Calibration Software

Channel	Fz (MHz)	Antenna 1	Antenna 2	Antenna 3
14	910.400	B1		
12	912.400	B3		
20	914.400	B0		
28	916.400	B5		
36	917.200	C3		
44	918.800	C0		
52	920.400	C9		
60	922.000	D3		
68	923.600	D7		
76	925.200	DA		
84	926.800	E0		
92	928.400			
100	910.000	E6		
A-1				
A-2				
A-3				
B-1				
B-2				
B-3				

4. To calibrate the second channel, set frequency increment to 1.6 MHz. Rotate the knob to output the second CW signal, offset 1.6 MHz from the first one. Keep rotating the knob to outputs CW signals with a 1.6 MHz offset.
5. Save the calibrated data and exit RX-level calibration mode.

Recommended Equipment

- N9310A 9 kHz~3 GHz RF Signal Generator
- Option N9310A-1HB Handle and Bumper
- Option N9310A-1TC Hard Transit Case
- Attenuator 50 W/30 dB

Tip: Please consider the RF cable loss and the effect of the attenuator when using the N9310A.



Reference

Base station RX level calibration requirements (based on Motorola's Mcell and Horizon series base station)

- Frequency

Frequency	Point
881.001 MHz ~ 914.601 MHz	22
880.8052 MHz ~ 914.4052 MHz	22
1710.8052 MHz ~ 1784.4052 MHz	47
1711.001 MHz ~ 1784.401 MHz	47

- CW level: -65.2 dBm

For more information, please visit www.agilent.com/find/n9310a



Agilent Email Updates

www.agilent.com/find/emailupdates
Get the latest information on the products and applications you select.



Agilent Direct

www.agilent.com/find/agilentdirect
Quickly choose and use your test equipment solutions with confidence.

www.agilent.com

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

www.agilent.com/find/contactus

Americas

Canada	(877) 894-4414
Latin America	305 269 7500
United States	(800) 829-4444

Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	81 426 56 7832
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

Europe

Austria	0820 87 44 11
Belgium	32 (0) 2 404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700
Germany	01805 24 6333* *0.14€/minute
Ireland	1890 924 204
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland (French)	41 (21) 8113811(Opt 2)
Switzerland (German)	0800 80 53 53 (Opt 1)
United Kingdom	44 (0) 118 9276201

Other European Countries:

www.agilent.com/find/contactus

Revised: May 7, 2007

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2007
Printed in USA, September 29, 2007
5989-7248EN



Agilent Technologies