



Agilent GS-8210 Wireless Handset Test System

Datasheet



Test Software Benefits:

- Easy to set up
- Simple, fast and automated in-store testing of mobile phones
- Ability to generate test reports in html, PDF (acrobat distiller needed) and CSV format

RF Shielded Test Chamber Overview

Agilent also offers RF shield box with good RF isolation for wireless handset testing. The RF shield box offers the environment to simulate call operation over the air, ensures reliable test results and avoid conflicts with real networks.

Features and Benefits

- **Quad-band test capability**
- **SMS test capability**
- **Six traffic-channel test in automatic mode**
- **Multi-format test capability for GSM/GPRS/EDGE and W-CDMA**
- **Future upgradable format: CDMA2000, 1xEV-DO, HSDPA and TD-SCDMA**

Test System Overview

Agilent GS-8210 Wireless Handset Test System is a cost efficient functional test system designed for cellular phone repair testing. The system comprises a GSM/GPRS/EDGE and W-CDMA mobile station tester, test software and RF shield box with build-in antenna coupler.

Test Software Overview

GS-8210 test software provides simple and yet complete parametrics test for engineering and production usages. User has the flexibility to configure the test software through user-friendly graphical interface.



Ordering Information

GS-8210 Model Number – N9360A

Options

Option 034* – Communication test set to support GSM/GPRS/EDGE/W-CDMA

Option W34 – Test software to support GSM/GPRS/EDGE/W-CDMA

Option S01 – RF shielded test chamber with 2 x N-type connector

Option S02 – RF shielded test chamber with 2 x N-type & USB connector

Option S03 – RF shielded test chamber with 2 x N-type & D-SUB 25 connector

Option S04 – RF shielded test chamber with 2 x N-type, USB & D-SUB 25 connector

Option C01** – RF cable option (1 meter)

Option C02 – GPIB cable option (1 meter)

Option C03 – USB/GPIB interface to control GPIB instruments over USB

Option C04 – RS232 serial cable

Option C05 – LAN crossover cable

Option A01 – Additional test SIM option

Option A02 – Additional antenna coupler option

*Include 1x Test SIM & 1x Antenna Coupler

** Recommended pick with RF Shielded Test Chamber

Technical Specification

Frequency Bands for GSM/GPRS/EDGE

Band	Frequency (MHz)	
	Up Link	Down Link
GSM850	824 ~ 849	869 ~ 894
GSM900	876 ~ 915	921 ~ 960
DCS1800	1710 ~ 1785	1805 ~ 1880
PCS1900	1850 ~ 1910	1930 ~ 1990

Frequency Bands for W-CDMA

Band	Frequency (MHz)	
	Up Link	Down Link
Band I	1920 ~ 1980	2110 ~ 2170
Band II	1850 ~ 1910	1930 ~ 1990
Band III	1710 ~ 1785	1805 ~ 1880
Band IV	1710 ~ 1770	2110 ~ 2170
Band V	824 ~ 849	869 ~ 894
Band VI	830 ~ 840	875 ~ 885

N9360A-034 for GSM/GPRS/EDGE

Peak TX Power Measurement

Item	Specification	Unit
Range	-20 to +39	dBm
Resolution	0.1	dB
Accuracy	$\leq \pm 1.0$ (25 \pm 5 deg C) Typical = ± 0.5 $\leq \pm 1.5$ (0 to 50 deg C)	dB

Power Ramp

Item	Specification	Unit
Range	-20 to +39	dBm
Resolution	0.1	dB
Accuracy	$\leq \pm 1.0$ (25 \pm 5 deg C) $\leq \pm 1.5$ (0 to 50 deg C)	dB
Range for display		
Vertical	80	dB
Horizontal	Zoom off	-9.25 to +156.25
	Zoom on	-8.00 to +2.00
		+145.00 to +155.00

Frequency Error Measurement

Item	Specification	Unit
Range	0 to ± 60	kHz
Resolution	1	Hz
Accuracy	$\leq \pm (10 + \text{Reference signal})$	Hz
Input level	-5 to +39	dBm

Phase Error Measurement

Item	Specification	Unit
Range	-20 to +20	deg
Resolution	0.1	deg
Accuracy	GSM850, GSM900: $\leq \pm 1.0$ DCS1800, PCS1900: $\leq \pm 1.5$	deg RMS
	GSM850, GSM900: $\leq \pm 4.0$ DCS1800, PCS1900: $\leq \pm 6.0$	deg Peak
Input level	-5 to +39	dBm

Burst Timing

Item	Specification	Unit
Range	-9.9 to +9.9	Bits
Resolution	0.1	Bits
Input level	-5 to +39	dBm

BER, FER

Item	Specification	Unit
Range	BER (PN9 Fixed) 0.00 to 99.99 BER (PN9) 0.00 to 25.00 BER (PN15) 0.00 to 33.33 FER 0.00 to 99.99	%
Type	BER (Class Ib, Class II)	
Input level	-5 to +39	dBm

RX Quality

Item	Specification	Unit
Range	0 to 7	Range
Resolution	1	Resolution

RX Level

Item	Specification	Unit
Range	0 to 63	Range
Resolution	1	Resolution

Actual Timing Advance

Item	Specification	Unit
Range	0 to 63	Bits
Resolution	1	Bit

EVM Measurement (EDGE 8PSK)

Item	Specification	Unit
Range	0 to 10	%
Resolution	0.01	%
Residual EVM	≤ 3.8	%
Input level	-5 to +39	dBm

ORFS Measurement (EDGE 8PSK)

Item	Specification	Unit
Range	≤ -57 @400kHz	dB
Resolution	0.1	dB
Measurement points	Fc-400, fc+400	KHz
Input level	0 to +39	dBm

Spectrum Monitor

Item	Specification	Unit
Range	-11 to +39	dBm
Span	fc to fc+400 fc±100	kHz
RBW	10, 30	kHz
Range for display	Span [kHz] fc to fc+400 fc±100	Level 80 80
Accuracy	≤ ±2	dB
Resolution	0.1	dB
Noise level (Pin = +29 dBm)	≤ -35	dB

N360A-034 for W-CDMA

Modulated Power Measurement

Item	Specification	Unit	
Input range	-60 to +36	dBm	
Resolution	0.01	dB	
Resolution for display	Open Loop 0.1 Inner Loop 0.01 MAX TX Power 0.01 PRACH Power 0.1	dB	
Accuracy MAX TX Power	0 to +36 [dBm]	≤ ±0.7 (25 ± 5 deg C) Typical = ±0.4 ≤ ±1.0 (0 to 50 deg C)	dB
	-53 to -0.01 [dBm]	≤ ±1.0 (25 ± 5 deg C) Typical = ±0.5 ≤ ±1.5 (0 to 50 deg C)	
	-60 to -53.01 [dBm]	≤ ±1.5 (25 ± 5 deg C) Typical = ±0.8 ≤ ±2.0 (0 to 50 deg C)	
Inner Loop	-20 to +36 [dBm]	≤ 1 dB ctrl: ± 0.2 ≤ 10 dB ctrl: ± 0.5	

Frequency Error Measurement

Item	Specification	Unit
Range	0 to ±500	Hz
Resolution	0.1	Hz
Accuracy	≤ ± (10+Reference signal)	Hz
Input level	-20 to +36	dBm

EVM Measurement

Item	Specification	Unit
Range	0 to 20	%
Resolution	0.01	%
Residual EVM	≤ 3.8	%
Input Level	-20 to +36	dBm

ACLR Measurement

Item	Specification	Unit
Input level	-5 to +36	dBm
Range	0 to -40 (@5 MHz) 0 to -48 (@10 MHz)	dB
Resolution	0.01	dB

OBW Measurement

Item	Specification	Unit
Input level	-5 to +36	dBm
Accuracy	< ±100	kHz
Range	0.00 to 9.99	MHz
Resolution	0.01	MHz

Sensitivity/BER

Item	Specification	Unit
Input level	-20 to +36	dBm
Range	PN9: 0.00 to 25.00 PN15: 0.00 to 33.33	%

RF Signal Generator for GSM/GPRS/EDGE

Item	Specification	Unit
Frequency step (MODEM)	0.1 (Range: carrier ± 200 kHz)	kHz
Modulation	GMSK(B.T=0.3) 8 PSK OFF (CW)	
Output power accuracy	@-110.0 to -50.0 dBm $\leq \pm 1$ (25 ± 5 deg C) Typical = ± 0.5 $\leq \pm 1.5$ (0 to 50 deg C)	dB
	@-50.0 to -20.0 dBm $\leq \pm 1.5$ (25 ± 5 deg C) Typical = ± 0.7 $\leq \pm 2.0$ (0 to 50 deg C)	
Phase error (GMSK)	≤ 5 ≤ 15	deg. RMS deg. Peak
Modulation accuracy (8 PSK)	≤ 12.5	%RMS
Power level step	0.1	dB
Power level range		
Auto/Man	-110.0 to -50.0 [dBm] in 0.1 [dB] steps	
Tx analyzer	-110.0 to -50.0 [dBm] in 0.1 [dB] steps	
SG	-110.0 to -20.0 [dBm] in 0.1 [dB] steps	
Off	< -120.0	

RF Signal Generator for W-CDMA

Item	Specification	Unit
Modulation	W-CDMA: QPSK Off: CW	
Modulation accuracy	QPSK ≤ 12.5	%RMS
Output power Accuracy	@-115.0 to -50.0 dBm $\leq \pm 1$ (25 ± 5 deg C) $\leq \pm 1.5$ (0 to 50 deg C)	dB
	@-50.0 to -18.0 dBm $\leq \pm 1.5$ (25 ± 5 deg C) $\leq \pm 2.0$ (0 to 50 deg C)	
Frequency	Band I 2110 to 2170 Band II 1930 to 1990 (1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5) Band III 1805 to 1880 Band IV 2110 to 2170 Band V 869 to 894 (871.5, 872.5, 876.5, 877.5, 882.5, 887.5) Band VI 875 to 885 (877.5, 882.5)	MHz
Power level step	0.1	dB
Power level range	Mod -115.0 to -18.0 [dBm] in 0.1 [dB] steps CW -115.0 to -18.0 [dBm] in 0.1 [dB] steps Off ≤ -120.0	dBm

Physical Specification

RF Shield Box (N9360A-SOX)

Dimension	H-rear = 180mm; H-front = 100mm W = 300mm D = 350mm
Operation method	Manual open/close operation using a single locking at the front. Mounting screw on the base for nest/fixture mounting.
Rear panel	2 x N-type connector USB connector (Options) D-SUB 25 connector (Options)
Material	Body – steel with powder coating Lid & Rear panel – Al RF gasket for Lid & Rear panel
RF Shielding	60dB up to 2GHz
Build in Flat type	800 to 2000MHz
Antenna Coupler	Insertion loss: 10 to 18 dB VSWR: 1:1.7 or better
Accuracy	± (10Hz + Reference Accuracy)
Resolution	0.01 dB

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