

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8922S

The Keysight Technologies (Agilent HP) 8922S is a stand-alone GSM mobile station test set designed for incoming inspection and mobile repair. Featuring a built-in GSM base station emulator and extensive signalling capabilities, it enables comprehensive mobile device testing without auxiliary hardware. Its band coverage can be extended to DCS1800 and PCS1900 when paired with the Agilent 83220A/E frequency extension.

SPECIFICATIONS

General

Interfaces	GPIB
Display	CRT

Physical

Power Supply	100 to 240 VAC, 48 to 440 Hz, 500 VA max
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	426 mm × 177 mm × 574 mm mm
Weight	31 kg kg

RF Signal Generator

RF Generator Frequency Range	10 MHz to 1 GHz
RF Generator Frequency Resolution	1 Hz
RF Generator Output Level Range	-14 to -127 dBm
RF Generator Output Level Resolution	0.1 dB

RF Analyzer

RF Analyzer Frequency Range	10 MHz to 1 GHz
RF Analyzer Frequency Resolution	1 Hz
RF Analyzer Hop Mode Resolution	100 kHz
CW RF Frequency Measurement Range	10 MHz to 1 GHz
CW RF Frequency Measurement Level Range	-6 to +41 dBm
CW RF Power Measurement Range	10 MHz to 1 GHz
CW RF Power Measurement Level Range	-5 to +41 dBm

Protocol & Call Processing

Base Station Emulation	GSM Base Station Emulator
Bit/Frame Error Rate Measurements	Class Ia, Ib, and Class II bits in raw and residual form
MS Power Output Level Control	0 to 15 with RF analyzer auto adjust
Broadcast Channel Capability	BCCH + CCCH or BCCH + CCCH + SDCCH/4
Control Channels	BCCH + CCCH, BCCH + CCCH + SDCCH/4, SDCCH/8 (nonhopped), SACCH/FACCH
Call Control Capabilities	BS originated call (FS/EFS), MS originated call (FS/EFS), MS camp-on, BS call disconnect, MS call disconnect
Traffic Channels	TCH (FS/EFS)-HSCSD
Timing Modes	Auto, manual, uplink-downlink and offset measurement
RF Hopping Capabilities	Two independent, user-definable MA tables with offsets
Speech Encoding/Decoding	Full rate speech
Speech Echo Mode	User selectable delay 0 to 5 seconds
Measurement Coordination	Flexible control of burst type, ARFCN and timeslot
SACCH Measurement Results	RXLEV, RXQUAL and timing advance
GSM Phase Compatibility	GSM Phase II compatible (including fast burst BER and Enhanced Full-rate Speech)
High Speed Data Support	High Speed Circuit Switched Data (HSCSD)

Audio & Baseband Generator/Analyzer

Audio Source Frequency Range	DC to 25 kHz
Audio Analyzer Frequency Measurement Range	20 Hz to 400 kHz
Oscilloscope Frequency Range (-3 dB)	2 Hz to 50 kHz

Features & Functionality

Easy To Use Architecture	One-button call set-up from power on
Dual-Band Assignment Capability	E-GSM and Dual-band assignment capability (requires external Agilent 83220A/E for DCS1800/PCS1900)
RF Attenuator Technology	Electronic attenuators for increased reliability
Integrated Instruments Toolkit	Includes audio analyzer
Automation Software Support	Agilent 83212D software provides full automatic testing

Options

High-Stability Timebase Option	Available
Transit Protection Option	Provides front panel cover and extended rear feet
Test SIM Card Option	Available
Micro Test SIM Card Option	Available
Mobile Station Test Software Option	Available
Rack Mount Flange Kit Option	Available

Reference Oscillator

Standard Reference Oscillator Frequency	10 MHz
Standard Reference Oscillator Aging Rate	< 2 ppm/year
Standard Reference Oscillator Temperature Stability	< 1 ppm (0 °C to +55 °C)

Audio Generator

Audio Generator Output Level Range	0.1 mV to 4 Vrms
Audio Generator Distortion	< 0.12% (at 1 kHz, 1 Vrms)

Audio Analyzer

Audio Distortion Measurement Frequency	1 kHz
Audio Distortion Measurement Input Level Range	100 mVrms to 30 Vrms
Audio Distortion Measurement Range	0.1% to 100%
Audio SINAD Measurement Frequency	1 kHz
Audio SINAD Measurement Range	0 to 46 dB
Audio Voltmeter Frequency Range	20 Hz to 100 kHz
DC Voltmeter Measurement Range	±42 V

RF Generator

RF Generator SSB Phase Noise	<-114 dBc/Hz (at 20 kHz offset, 900 MHz)
GMSK Modulation Filter	BT = 0.3
Pulse Modulation On/Off Ratio	> 80 dB
Pulse Modulation Rise/Fall Time	< 1.5 µs

Transmitter Measurements

Transmitter Burst Power Measurement Accuracy	±0.6 dB
Transmitter Burst Power Measurement Range	-15 dBm to +43 dBm
Phase Error RMS Measurement Accuracy	< 1.5° RMS
Phase Error Peak Measurement Accuracy	< 4.0° peak
Frequency Error Measurement Accuracy	±(15 Hz + timebase error)

Inputs & Outputs

RF IN/OUT Port SWR	< 1.25:1
--------------------	----------

TECHNOLOGY

GSM

APPLICATIONS

GSM Mobile Station Testing & Repair

