

Wavetek 4200S Series

4200S Series Technical Data



The new Wavetek 4200S Series is especially designed for the requirements of GSM service and repair sites as it is very accurate, easy to handle and affordable. The Wavetek 4200S Series provides very precise and fast measurements for all GSM bands (GSM 900/1800/1900, including E-GSM and GSM-R). The latest dual-band mobiles can also be tested, which means that add-on boxes, extra options and additional costs can be avoided.

Software updates, which are available free of charge on the Internet, can be downloaded easily via the RS-232-C interface. The Wavetek 4200S Series stores up to 100 individual mobile settings which can be assigned to 20 different test procedures. Up to 500 complete measurement data sets are automatically stored, even after powering off the system. The data can then be downloaded to a PC.

Ease of operation provides fast results for the service engineer, which saves valuable time.

The Wavetek 4200S Series can be remote controlled via the RS-232-C interface. Using the SCPI instruction set or the LabWindows™ driver allows individual test procedures and central data management with enhanced logistics and statistic analysis.

In addition to the already complete testing capabilities of the 4201S, the 4202S adds Data and SMS testing. The 4203S also adds timing advance measurements, a channel frequency de-tuning generator, and allows a larger frequency deviation of the mobile from the center channel.

- **For GSM 900/1800/1900 & dual-band, incl. E-GSM, GSM-R**
- **Measurements:**
 - RX level / RX qual*
 - MS power / sensitivity*
 - BER / FER*
 - Phase (RMS + peak)*
 - Frequency error*
 - Burst shape / length*
 - Mobile frequency deviation ±100 kHz off carrier ***
 - I / Q modulation*
 - Timing advance ***
- **Signaling:**
 - Location update*
 - MS Call / MS Clear*
 - MS Auto Clear*
 - BS Call / BS Clear*
 - Channel Handover*
 - Band Handover (Dual-band)*
 - Broadcast Message*
 - SMS – Point to Point **
 - Data 9.6/14.4 **
 - Asynchronous mode*
- **Additional Features:**
 - Advanced Min/Max Table*
 - Smart Scroll*
 - Result Screen*
 - Auto OXCO detection*
 - Network parameters*
 - Channel frequency de-tuning generator (25 ppm) ***
 - Fault-Find limits*
 - BS PA MFRMS*

* Feature of 4202S
*, ** Feature of 4203S

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Specifications

Basic RF data:

Input/output impedance:	50 Ω
VSWR:	< 1.3
RF input/output:	N-type, female
Internal reference frequency:	13 MHz
Aging:	10 ⁻⁶ year
External ref. input:	BNC-type, female 5/10/13 MHz

RF Generator:

Frequency range

GSM 900, E-GSM, GSM-R
935 to 960 MHz (Channel 1 to 124)
925 to 935 MHz (Channel 0, 975 to 1023)
921 to 925 MHz (Channel 955 to 974)
GSM 1800
1805 to 1880 MHz (Channel 512 to 885)
GSM 1900
1930 to 1990 MHz (Channel 512 to 810)

Reference frequency accuracy

(without external reference oscillator)
< 10⁻⁶

Output level accuracy

< 1 dB for levels -110 dBm to -38 dBm
Operating temperature range +20 °C to +30 °C

Output level range

GSM 900	-38 dBm to -117 dBm
GSM 1800/1900	-44 dBm to -117 dBm

Resolution

0.1 dB

RF Analyzer:

Frequency range

GSM 900, E-GSM, GSM-R
890 MHz to 915 MHz (Channel 1 to 124)
880 MHz to 890 MHz (Channel 0, 975 to 1023)
876 MHz to 880 MHz (Channel 955 to 974)
GSM 1800
1710 MHz to 1785 MHz (Channel 512 to 885)
GSM 1900
1850 MHz to 1910 MHz (Channel 512 to 810)

Frequency error measurement

Measurement range:	± 5 kHz off carrier
Measurement accuracy:	
GSM 900	< 15 Hz
GSM 1800/1900	< 25 Hz

Power level measurement

Measurement range:	
Burst mode	-10 dBm to +39 dBm
CW mode	-10 dBm to +33 dBm
Measurement accuracy:	< 0.9 dB

Power/time template

Dynamic range:	> 40 dB
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Phase error measurement

Measurement range:	1.5° to 20° rms
Measurement accuracy:	
GSM 900	< 0.8° rms
GSM 1800/1900	< 1.4° rms

General Data:

Serial interface:	D-SUB 15, female 4800, 9600, 19200, 38400 Baud
Printer interface:	D-SUB 25, female
Mains voltage range:	100 to 250 VAC
Mains voltage freq.:	50 to 60 Hz
Power consumption:	17 Watts
Storage temperature:	-30 °C to +50 °C
Operating temperature:	+15 °C to +35 °C
Size:	310 x 170 x 165 mm
Weight:	2.4 kg

Ordering Information:

Standard delivery

Wavetek 4200 Operating Manual	290 013
Test SIM	860 187
Plug-in adapter (full size)	860 175
RF connecting cable	860 407
Power cable	860 603
Centronics cable	860 378
RS-232-C cable	860 379

Ordering information

Wavetek 4201S	101 301
Wavetek 4202S	101 302
Wavetek 4203S	101 303
Upgrade 4201S to 4202S	248 500
Upgrade 4202S to 4203S	248 501
Upgrade 4201S to 4203S	248 502

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