

Wavetek 4100 Series

4100 Technical Data



Stage 1: PASS / FAIL test

Stage 2: Troubleshooting

Every member of the Wavetek 4100 family features two testing modes: AUTOTEST and FAULT FIND. AUTOTEST is for fast checking all the functions of a mobile phone. The result is a PASS or a FAIL. To use this mode simply connect the phone with the adapter cable or the Wavetek Universal Antenna Coupler, press the AUTOTEST key, choose the mobile phone type and the mobile phone will be automatically tested. This mode is really easy to use and brings a result in less than a minute. If a PASS or a FAIL is not enough information, the measurement values can be displayed together with the test limits. For instance rms phase deviation too high: measured 9.7°, limits 0.0° to 6.0°. A print-out records the mobile performance.

If a defect is found while testing with AUTOTEST, you can proceed to the troubleshooting capability using the FAULT FIND mode. In this mode a technician can simulate conditions which are found in a network (for instance Mobile Station Call, Base Station Call, Hand-over). In the FAULT FIND mode all measurement values are permanently displayed on the screen.

Up to 500 results can be stored in the Wavetek 4100 or uploaded to a host PC for trend analysis, warranty claims or record statistics.

- **For GSM 900, 1800, 1900 networks**
- **Model 4107 also has dual-band capability**
- **Key GSM measurements:**
 - RX Level*
 - RX Qual*
 - MS Power*
 - BER / FER*
 - MS Sensitivity*
 - Phase Error*
 - Frequency Error*
 - Burst Shape*
 - Burst Length*
- **Compact design and high accuracy**
makes the Wavetek 4100 a powerful mobile measurement unit.
- **Easy to use with intuitive operation:**
To test a mobile using the AUTOTEST mode the user is guided interactively.
- **Free software updates:**
Software updates are available in the internet (www.wvgsolutions.com) or at the mailbox (+49/89/99641-219).
- **Comprehensive data management:**
Results can be printed, stored and downloaded to a PC.

Specifications

Basic RF data:

Input/output impedance:	50 Ω
VSWR:	< 1.3
RF input/output:	TNC-type, female
Internal reference frequency:	13 MHz
Aging:	10 ⁻⁶ year

RF Generator:

Frequency range

GSM 900, E-GSM
935 to 960 MHz (Channel 1 to 124)
925 to 935 MHz (Channel 0, 975 to 1023)

GSM 1800
1805 to 1880 MHz (Channel 512 to 885)*

GSM 1900
1930 to 1990 MHz (Channel 512 to 810)**

Reference frequency accuracy

< 10⁻⁶

Output level accuracy

< 1.5 dB for levels -110 dBm to -45 dBm

Output level range

GSM 900 -45 dBm to -110 dBm
GSM 1800/1900 -50 dBm to -110 dBm

Resolution

0.1 dB

RF Analyzer:

Frequency range

GSM 900, E-GSM
890 MHz to 915 MHz (Channel 1 to 124)
880 MHz to 890 MHz (Channel 0, 975 to 1023)

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 range:

±5 kHz off carrier

Measurement accuracy:

GSM 900 < 25 Hz
GSM 1800/1900 < 50 Hz

Power level

Measurement range:

Burst mode -10 dBm to +45 dBm
CW mode -10 dBm to +39 dBm

Measurement accuracy:

< 1.5 dB

Power/time template

Dynamic range: > 40 dB

Phase error

Measurement range: 1.5° to 20° rms

Measurement accuracy:

GSM 900 < 1.5° rms
GSM 1800/1900 < 2.5° rms

General Data:

Serial interface: D-SUB 25, female (high density)***
4800, 9600, 19200, 38400 Baud

Printer interface: D-SUB 25, female (high density)****

Voltage range: 100 to 250 VAC

Voltage frequency: 50 to 60 Hz

Power consumption: 15 Watts

Storage temperature: -30 °C to +50 °C

Operating temperature: +15 °C to +35 °C

Size: 250 x 110 x 95 mm

Weight: 1.5 kg

Ordering Details:

Standard delivery

Wavetek 4100 Operating Manual 290 012
Test SIM 860 187
Plug-in adapter (full size) 860 175
Power supply 860 090
RF connecting cable 860 409

Ordering information

Wavetek 4105 (1900 MHz) 101 205
Wavetek 4107 (900, 1800, 1900 MHz & Dual-Band) . . 101 207

* GSM 1800 usable every even channel

** GSM 1900 usable every odd channel

*** (requires cable 384 875 or 384 877)

**** (requires cable 384 876 or 384 877)

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