



Data Sheet

4200 *Mobile Service Tester Series*



Boosting wireless efficiency

What's the fastest way to get a comprehensive picture?

The Willtek 4200S Series Mobile Service Tester is the ideal solution for mid-level service activities, for example, performing board swaps, module exchanges and subsequent RF alignment. It provides fast and accurate RF measurements and offers a full range of features, including voice, data and the SMS functions of dual-band and triple-band mobile handsets.

The Mobile Service Testers 4201S and 4202S are designed to meet the requirements of service centres and manufacturers who want to perform scientific post-fault analysis and diagnoses.

The 4200 Series also offers high level and measurement accuracy, along with one of the highest sensitivity levels in its class, and a large dynamic range for I/Q alignment allowing optimal tuning of phones.

The Willtek 4200S Series is designed for the test and alignment of mobile phones in service centres and for final testing by manufacturers:

For the test of AM Suppression, an AM Signal Generator Option is available.

The Result Upload Option allows test results to be transferred to virtually any location in the corporate network with a push of a button.

Built-in AUTOTESTs allow the execution of automatic test routines and give the user a pass/fail verdict at the end of the AUTOTEST to make testing simpler and easier.

The Manual or Fault Find mode distinguishes two different operating modes. The Synchronous mode allows standard signalling, that is the location update, call set-up procedures, in order to get a phone onto a traffic channel and perform RF testing.

The Asynchronous mode is dedicated to the Service mode, where phones are controlled by a manufacturer's service software. This mode is used to align mobile phones.

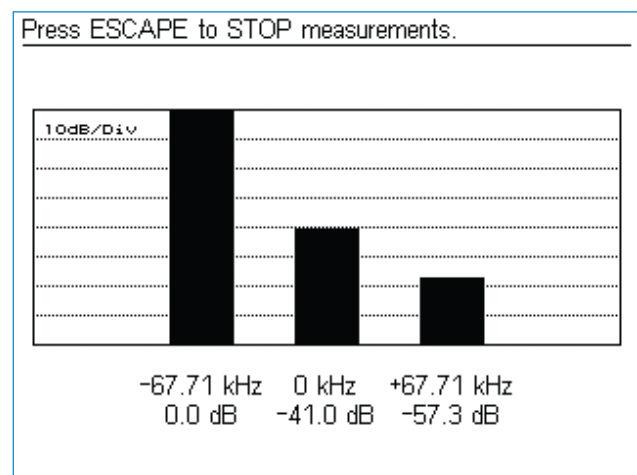
To take testing even further, the 4202S offers testing of short message service.

The Data mode is intended to test data modems that do not support standard traffic channels but only data channels for RF testing.



Highlights

- Triple-band testing/GSM 850 (optional)
- High sensitivity in service (async) mode: -40 dBm
- Large dynamic range for I/Q alignment: > 60 dB
- Specific manufacturer options for dedicated tests, for example AM Signal Generator or AM Suppression measurement
- Easy-to-use interface in English, German, French, Italian, Portuguese and Chinese
- Provides software updates on the Internet



The large dynamic range of 60 dB for I/Q alignment allow for optimal tuning of phones. The bar graphs are clearly visible and the numbers provide accurate results

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 ranges	GSM 900, E-GSM, GSM-R (channels 1 – 124; 0, 975 – 1023; 955 – 974) GSM 1800 (channels 512 – 885) GSM 1900 (channels 512 – 810) GSM 850 (optional) (channels 128 – 251)
Reference frequency accuracy (without external reference oscillator)	< 10 ⁻⁶
Output level accuracy For levels –110 to +38 dBm	< 0.9 dB
Operating temperature range	+20°C to +30°C
Output level range GSM 850/900 GSM 1800/1900	–38 to –117 dBm –44 to –117 dBm
Resolution	0.1 dB

SMS	
Time stamp	
Message class	0
Number	08999641420
SC number	491710760322
Message type	0
Validity-Period	24 hours
SMS Test: The quick brown fox jumps over the lazy dog.	
SMS-MO	STORE
CONFIG	RECALL
SMS-MT	

The SMS test capabilities of the 4200S offer analysis of the most crucial parameters used for SMS, such as Service Centre Number, Validity Period and Message Class. This allows a service technician to pinpoint possible problems in the transfer of short messages.

RF analyzer

Frequency ranges	GSM 900, E-GSM, GSM-R (channels 1 – 124; 0, 975 – 1023; 955 – 974) GSM 1800 (channels 512 – 885) GSM 1900 (channels 512 – 810) GSM 850 (optional) (channels 128 – 251)
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Frequency error measurement

Measurement range	±10 kHz off carrier
Usable range	±45 kHz
Measurement accuracy GSM 850/900 GSM 1800/1900	< 15 Hz < 25 Hz

Power level measurement

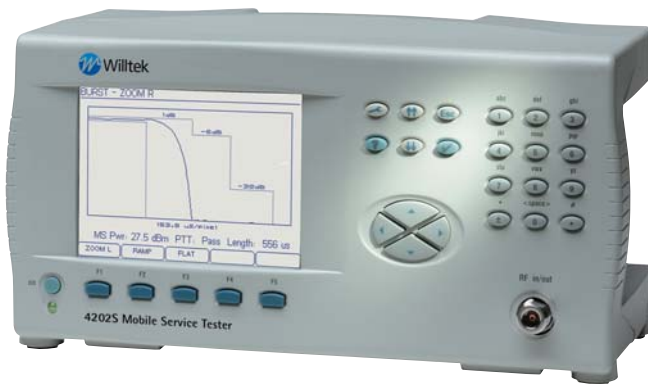
Measurement range Burst mode CW mode Async burst mode	–20 to +39 dBm –20 to +33 dBm –40 to +39 dBm
Measurement accuracy	< 0.9 dB
Dynamic range Power/time template I/Q alignment mask	> 40 dB > 60 dB

Phase error measurement

Measurement range	1.5° to 20° rms
Measurement accuracy GSM 850/900 GSM 1800/1900	< 0.8° rms < 1.4° rms
Timing advance accuracy	¼ bit

General data

Serial interface	D-Sub 9, female 4800, 9600, 19,200, 38,400 Bd
Printer interface	D-Sub 25, female
Mains voltage range (AC)	100 to 250 V
Mains voltage frequency	50 to 60 Hz
Power consumption	17 W
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



Standard delivery

4200 Series Mobile Service Tester
 Manual pack 4200
 Test SIM
 Power cable
 Centronics cable
 RS-232 cable

Ordering details

General options

Willtek 4201S Mobile Service Tester	M 101 301
Willtek 4202S Mobile Service Tester	M 101 302
Upgrade 4201S to 4202S	M 248 500
4201S AM Signal Generator package (incl. option)	M 101 351
4202S AM Signal Generator package (incl. option)	M 101 352
4271 AM Signal Generator Option	M 248 507
4271 AM Signal Generator upgrade	M 248 506
4260 GSM 850 Option	M 248 418
4280 GSM 850 Upgrade Kit	M 248 404
4272 Result Upload Option	M 897 136
4273 Detuning Option	M 248 505
4274 DC Option	M 204 094
4275 Remote Power Option	M 248 748
4281 External Battery Kit	M 205 014
1500 Battery Charger	M 204 097
Battery module 7.2 Ah	M 205 012

4202S Options

4261 GPRS Go/NoGo Option	M 897 185
4262 GPRS Measurement Option	M 897 186

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