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Willtek 8382 Griffin Up-Converter



Measures radio systems in the 300 to 500 MHz band including TETRA, analog rail systems and CDMA 450 networks

Enables verification and tuning of RF propagation/coverage Models with accuracy 1dB

Measures up to ten downlink channels at 100km/h without jeopardising the "Lee Compliance" criteria for RF Propagation tests

Replicates actual receiver performance on the network

Works in conjunction with PC-hosted Willtek Hindsite™ software

8300 Griffin Fast Measurement Receiver now covers new frequency range

Willtek's 8283 Up-Converter extends the capabilities of the 8300 Griffin Fast Measurement Receiver Series to allow measurements on new radio systems in the 300 to 500 MHz range including TETRA and CDMA 450.

The receiver is able to quickly and accurately perform a wide range of measurement functions in the RF channel, helping operators to maximise their infrastructure capabilities.

The 8283 Griffin Up-Converter working in conjunction with the Griffin Receiver Series, enables pretesting of the infrastructure and alignment of the RF models prior to live traffic being carried, helping to resolve problems such as poor coverage and types of interference.

300 to 500 MHz band capability

The new 8283 Griffin Up-Converter meets the needs of new UHF radio systems being installed in the 300 to 500 MHz bands including public safety TETRA systems, Rail signalling and communications such as analog rail networks, plus CDMA 450 systems in Europe.

Due to the fact that the Up-Converter is an extension, the original 800 to 1000 MHz range is still present and can be used for e.g. GSM-R by reconnecting the antenna.

Speed of measurements

The speed of measurements of the Willtek 8300 Griffin series is well established. The unique technology allows up to ten down-link channels to be measured at speeds up to 100km/h without jeopardising the "Lee Compliance" criteria for RF propagation validity. This greatly increases drive time productivity with 1000 channels scanned per second.

Accurate verification

The wide dynamic range of the new 8382 Griffin Up-Converter means tests can be performed close to Base stations as well at maximum range. The receiver mimics network devices to represent actual receiver performance on the system.

The 1dB accuracy enables verification and tuning of RF propagation/coverage models. Models allow better prediction of system performance for receivers including hand-portables.

Convenient measurements

Lightweight, portable and robust go-anywhere construction of the Griffin and its battery power supply mean easy operation in drive-by as well as in-house pedestrian coverage measurements.

Powerful Mapping software

Works in conjunction with Willtek 8010 Hindsite™ RF propagation software. The new 2.0 version supports more features for pedestrian coverage. By overlaying maps with RF measurements better system planning and more efficient base station system deployments can be made.

Specifications

Basic data

Input frequency range	300 to 500 MHz
Output frequency range	800 to 1000 MHz
Noise figure	< 6 dB; typ. 4.5 dB
Overall gain	1 to 4 dB; typ. 2.5 dB
Gain variation	
over freq. at 25°C	< 1 dB; typ. 0.8 dB
over freq. (0 to 40°C)	< 2 dB; typ. 1 dB
over level range < -30 dBm	< 0.2 dB
Nominal input impedance	50 Ω
Nominal output impedance	50 Ω
RFin/RFout VSWR	< 2:1
RFin/RFout return loss	> 10 dB; typ. 15 dB
Image rejection	> 60 dB
Spurious response rejection	> 40 dB, typ. 50 dB
Phase noise at 200 kHz offset	< -100 dBc/Hz
LO level at RF input	< -80 dBm
Blocking level	> 80 dB
Maximum RF input level	
of linear range (1 dB comp.)	-15 dBm, typ. -10 dBm
safe (no damage)	+10 dBm
Internal LO reference input	10 MHz

General data

Supply voltage	5.5 V to 9.0 V
Supply current	< 300 mA; typ. 180 mA
Operating temperature range	0 to 50°C
Dimensions	
Up-Converter only	235 x 170 x 35 mm
with Griffin Receiver	235 x 170 x 126 mm

Ordering information

8382 Griffin Up-Converter (300 to 500 MHz)	M 248 648
8301 Griffin Fast Measurement Receiver (800 to 1000 MHz)	M 100 501

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