



Data Sheet

4914 Antenna Coupler



Boosting wireless efficiency

One Antenna Coupler Fits All TETRA Terminals

Terminals for TETRA and other radio systems in the 400 MHz range usually do not have a standard antenna connector to link them with a test system. Without expensive and difficult to handle special adapters, it is almost impossible to test a hand-portable radio.

A solution for untrained personnel ...

Willtek's 4914 Antenna Coupler now enables users to reliably and safely test different hand-portable radios in few steps only. Handling has become so easy that the antenna coupler can even be used by untrained staff. The shuttle provided with the 4914 holds the radio terminal and allows for taking high precision measurements at sound repeat accuracy while the radio is positioned accurately.

... and for radio professionals

Engineers and technicians in service shops also appreciate testing different types of radio terminals with just one adapter. The coupling technology has been optimised for the vertical polarisation of TETRA antennas. In order to achieve a minimum coupling loss, the radio can be fixed on the shuttle in any of 25 different positions. The coupling loss is determined as a function of type of radio and antenna. The correction factor is stored in the settings of an instrument like the 2303 Stabilock® and automatically used when measurement results are established. In the specified frequency range, the flat frequency response of the antenna coupler helps to avoid deviations across different frequency bands.

For especially large and heavy radio terminals, Willtek offers a PDA shuttle. This option helps to lock even explosion-proof and large terminals in a safe and repeatable position over the coupling plate.

This way, technicians can ensure that each measurement is performed as quickly and precisely as the first one to guarantee optimum safety and reliability for users in the public safety and security services.

Shielding

The impact of operational networks on the radio equipment under test can be minimised, as must be interference of the networks by the test. The Willtek 4921 RF Shield helps solves both these issues: The shielding device was developed specifically for use with Willtek's couplers 4914 and 4916, and offers safe handling with a warranted shielding factor of 80 dB. This way, any impact even from nearby base stations can be ruled out.

Learning from cellular technology

With the 4914 Antenna Coupler, Willtek introduced a coupling technology in the 400 MHz range that has been tried and tested for long in mobile phone service. Service shops take advantage of Willtek's long lasting experience in checking mobile phones easily, quickly and safely with antenna couplers.

It goes without saying that the antenna coupler can also be used with mobile phone systems using the 400 MHz range, e.g. CDMA 450.

Highlights

- A radio frequency adapter for all TETRA radio terminals
- Easy handling
- Precise results with excellent RF match
- High repeatability using snap positions
- Low coupling loss with most radio terminals

Specifications

Frequency range	350 to 495 MHz
VSWR at RF connector	< 3.0
Typical coupling attenuation	
TETRA	10 dB
CDMA 450	20 dB
Coupling deviation	
to reference unit	< 0.7 dB
between two units	< 0.7 dB
Maximum level	
at radio terminal	+40 dBm
at QMA connector of the 4914	+33 dBm
RF connector	QMA
Weight	
coupler	ca. 700 g (1.5 lb)
shuttle	ca. 100 g (0.22 lb)
Dimensions	
coupler	175 x 255 x 50 mm
shuttle	218 x 125 x 33 mm

Ordering information

4914 Antenna Coupler	M 248 719
4914 Antenna Coupler Package (with cable for instrument with N-type jack)	M 248 699
4921 RF Shield & 4914 Package (with RF Shield and cable)	M 248 353
PDA Shuttle for 4914 and 4916	M 248 692





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4914/DS352/0308a/EN

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