

wireless infrastructure

RF SOLUTIONS

1.0/2.3

QMA

SMA

Type N

Cable Assemblies

DIN 7/16

QDS

MCX

MMCX

APPLICATIONS

Base Stations

Amplifiers

Combiners

Filters

Radios

Antennas



Amphenol[®] RF

Global RF Solutions for the Wireless Infrastructure Market

Wireless Infrastructure

Every day millions of people rely on cell phones and other wireless devices for communication. In order to facilitate uninterrupted services, base stations play a key role. Base Stations are the link between wireless devices and the rest of the world. While many people would recognize the large cellular towers on the roadside as base stations, there are also smaller, lower power base stations for indoor wireless applications. Base stations transmit wireless signals to hand held devices using signal amplifiers, and also receive transmissions back from those same devices through sensitive receivers. Base stations serve several crucial functions to ensure successful communication and are critical in ensuring the uninterrupted flow of data to and from a wireless device.

First it must transmit the appropriate information to the appropriate device, which can often be miles away. Secondly it must clearly receive the small signals generated by the wireless device, which often means attenuating and then filtering the signal from ambient noise. Thirdly, depending on the nature of the wireless network, the base station must relay transmissions towards their final destination.

To accomplish this, base stations make use of a complicated series of narrow pass band filters, power amplifiers, low noise amplifiers, splitters, combiners and signal attenuators. The largest base stations use a complicated array of these components to provide the uninterrupted, high quality service their customers require.

Technologies Supported:

CDMA	Code Division Multiple Access is a digital cellular technology that uses spread-spectrum techniques. CDMA does not assign a specific frequency to each user. Instead, every channel uses the full available spectrum. Individual conversations are encoded with a pseudo-random digital sequence.
TDMA	Time Division Multiple Access is a technology for delivering digital wireless service using time-division multiplexing (TDM). TDMA works by dividing a radio frequency into time slots and then allocating slots to multiple calls. In this way, a single frequency can support multiple, simultaneous data channels.
GSM	Global System for Mobile Communications is one of the leading digital cellular systems. GSM uses narrowband TDMA, which allows eight simultaneous calls on the same radio frequency.
GPRS/Edge	General Packet Radio Service is a standard for wireless communications which runs at speeds up to 115 kilobits per second, compared with current GSM (Global System for Mobile Communications) systems' 9.6 kilobits.
WCDMA	Wideband CDMA is a high-speed 3G mobile wireless technology with the capacity to offer higher data speeds than CDMA. WCDMA can reach speeds of up to 2 Mbps for voice, video, data and image transmission. WCDMA was adopted as a standard by the ITU under the name "IMT-2000 direct spread."
CDMA2000	Another name for 1xRTT. Short for single carrier (1x) radio transmission technology, a 3G wireless technology based on the CDMA platform. 1xRTT has the capability of providing ISDN-like speeds of up to 144 Kbps.