Amphenol® RF

WIRELESS INFRASTUCTURE

SOLUTIONS GUIDE

High Performance Solutions For A Wireless World

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ABOUT AMPHENOL RF

Amphenol RF is the largest manufacturer of radio frequency connectors, coaxial adapters and RF cable assemblies in the world. With a global team of experienced engineers, Amphenol RF is able to offer the broadest portfolio of standard RF products on the market today. Our engineering capabilities extend to custom product development to meet the challenges of design-specific constraints.

Amphenol RF has a global footprint of operations in North America, Europe and Asia.

WIRELESS INFRASTRUCTURE AND 5G OVERVIEW

Wireless infrastructure is the hardware backbone of mobile and fixed wireless networks. 5G, the next generation of mobile network standards, promises high data rates to enable low-latency applications including safe autonomous driving and 4K video streaming to smartphones.

Amphenol RF is prepared for 5G, with innovative new RF product lines as well as industry standard products. Connectors, adapters and cable assemblies from Amphenol RF include high density, low cost, and robust products to enable the wireless infrastructure evolution.

LOW PIM SOLUTIONS

PIM, or Passive Intermodulation, refers to interfering signals that diminish the performance of wireless networks. Amphenol RF offers low PIM products including HD-EFI, N-Type, PSMP, SMP, SMPM, 2.2/5, 4.3/10, and 7/16 connector series, as well as cable assemblies and adapters.

APPLICATION MATRIX

	BASE STATION ANTENNAS	MIMO ANTENNAS	SMALL CELLS	DISTRIBUTED ANTENNA SYSTEMS	WIRELESS BACKHAUL	FIXED WIRELESS BROADBAND	MOBILE DEVICES	MASSIVE IOT	CRITICAL COMMUNICATIONS	WIRELESS MODULES	MAX FREQUENCY	IMPEDANCE	COUPLING
AFI	●	●	●	●	●	●					6 GHz	50 & 75 Ohm	Snap-On
AFI-Dart											18 GHz	50 & 75 Ohm	Snap-On
AMC						●	●	●	●	●	6 GHz	50 Ohm	Snap-On
AMMC						●	●	●	●	●	6 GHz	50 Ohm	Snap-On
BNC								●	●		11 GHz	50 & 75 Ohm	Bayonet
FAKRA								●	●		4 GHz	50 Ohm	Snap-On
HD-BNC											6 GHz	50 & 75 Ohm	Bayonet
HD-EFI*	●	●	●	●	●	●					6 GHz	50 Ohm	Push-Pull
MCX						●	●	●	●	●	6 GHz	50 & 75 Ohm	Snap-On
Mini-SMB											2 GHz	75 Ohm	Snap-On
Mini-UHF											2.5 GHz	50 Ohm	Threaded
MMCX						●	●	●	●	●	6 GHz	50 Ohm	Snap-On
N Type*	●	●	●	●	●	●		●	●		18 GHz	50 Ohm	Threaded
Nex 10*	●	●	●	●	●	●					20 GHz	50 Ohm	Threaded, Push-Pull
PSMP*	●	●	●	●	●	●					10 GHz	50 Ohm	Snap-On
QMA	●	●	●	●	●	●					18 GHz	50 Ohm	Push-Pull
QN											11 GHz	50 Ohm	Push-Pull
RF Micro-switches											6 GHz	50 Ohm	Snap-On
SMA	●	●	●	●	●	●	●	●	●	●	26.5 GHz	50 Ohm	Threaded
SMB								●			4 GHz	50 & 75 Ohm	Snap-On
SMC											10 GHz	50 Ohm	Threaded
SMP*	●	●	●	●	●	●					40 GHz	50 Ohm	Snap-On
SMPM*	●	●	●	●	●	●					65 GHz	50 Ohm	Snap-On
SMZ											4 GHz	75 Ohm	Snap-On
TNC								●	●		11 GHz	50 & 75 Ohm	Threaded
TRIAX											50 GHz	75 Ohm	Threaded, Bayonet
TWINAX											0.5 GHz	78 & 95 Ohm	Threaded, Bayonet
UHF											300 MHz	50 Ohm	Threaded
1.0/2.3	●	●	●	●	●	●					10 GHz	50 & 75 Ohm	Push-Pull
2.2/5*	●	●	●	●	●	●					20 GHz	50 Ohm	Threaded,- Push-Pull
4.3/10*	●	●	●	●	●	●					10 GHz	50 Ohm	Threaded,- Push-Pull
7/16*	●	●	●	●	●	●					7 GHz	50 Ohm	Threaded
Cable Assemblies*	●	●	●	●	●	●	●	●	●	●	VARIES BY SERIES INTERFACE		
Adapters*	●	●	●	●	●	●	●	●	●	●			

*Low PIM Products Available

APPLICATIONS OVERVIEW

BASE STATION ANTENNAS

Macro base stations have evolved to be more efficient with Massive MIMO antennas. Many antenna elements and other components in a compact housing, coupled with technologies like beamforming, vastly improve coverage and capacity per antenna.

MIMO ANTENNAS

MIMO or "Multiple-Input Multiple-Output" refers to antenna technology that expands radio capacity by sending and receiving multiple data signals simultaneously over the same channel.

SMALL CELLS

Small cells are short-range radio nodes that supplement macro base stations and create local wireless networks. Dense installations of small cells will be elemental to 5G, providing significantly increased network capacity and support of high data rates.

WIRELESS BACKHAUL

Backhaul units connect local or "edge" networks to a core network. Wireless units are instrumental in servicing low-coverage areas where fiber optic cabling is prohibitive. Backhaul can also help handle rising mobile data rates.

DISTRIBUTED ANTENNA SYSTEMS

Distributed Antenna Systems (DAS) are networks of antenna nodes that increase wireless coverage in areas of high user volumes or low line-of-sight to infrastructure. Stadiums and underground transportation are common DAS applications.

FIXED WIRELESS BROADBAND

Access points mounted outside of buildings and residences enable wireless Internet access for end users. These units connect to wireless infrastructure, eliminating hard wired access to Internet services at consumer premises.

MOBILE DEVICES

End users gain access to mobile networks and the Internet through wireless devices. User mobile devices include smartphones, tablets, laptops, and hotspots. 5G technology will expand mobile applications to 4K video streaming, virtual reality, and more.

MASSIVE IOT

IoT or the "Internet of Things" refers to the connection of objects to the Internet. 5G will enable IoT at massive scales, driving data transfer and analytics in applications from smart cities to industrial automation.

CRITICAL COMMUNICATIONS

Mission-critical communication requires high bandwidth, low latency data transfer. Historically, only wired protocols have achieved these features. 5G technology is predicted to enable wireless critical communications for industrial automation and more.

WIRELESS MODULES

Embedded wireless modules enable devices to send and receive data. Modules house components in a standard package, making it easier for manufacturers to integrate wireless connectivity into devices from smart appliances to industrial controls.