



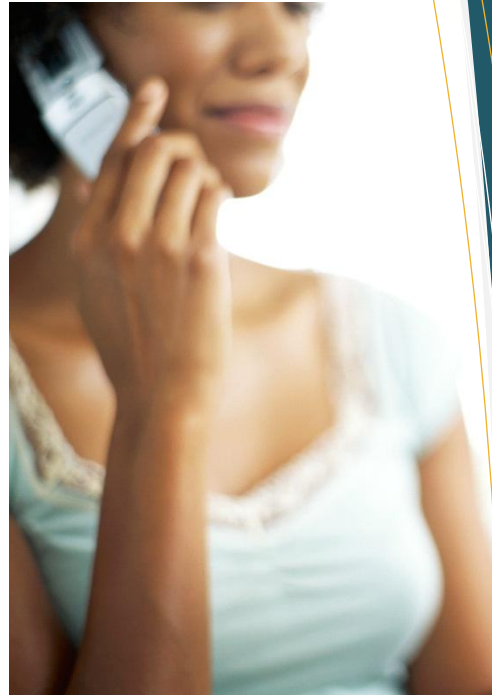
Air-Synergy

4G Pico Base Station with Integrated Wireless Backhaul



**The world's most
compact and versatile
4G Pico Base Station**

Wireless Broadband Operators are currently experiencing an unprecedented growth in data traffic, which today's networks are struggling to satisfy. As part of a heterogeneous network, Pico Base Stations address this problem by being located closer to the end user, providing much higher aggregate data rates. The issue with today's Pico Base Stations has been the difficulty in connecting them with the rest of the network.

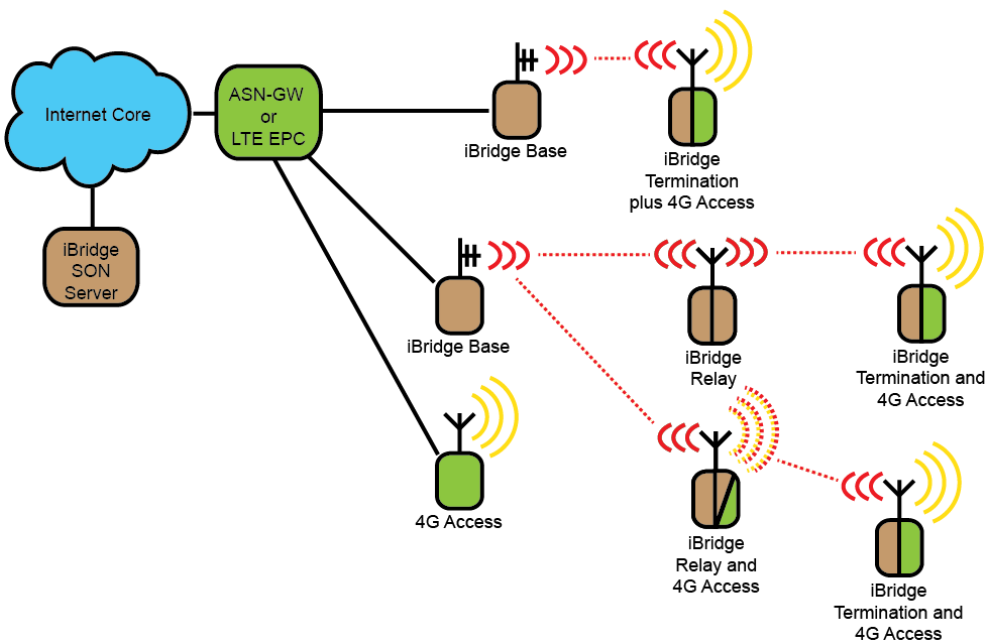


Air-Synergy solves this problem by combining a 4G Pico Base Station with an integrated, high capacity, self-connecting wireless backhaul.

Air-Synergy is Airspan's latest generation of Software Defined Radio (SDR) Base Stations, which supports multiple radio interfaces to allow both access and wireless backhaul to be provided from the same unit. Air-Synergy is an all-in-one compact Pico Base Station, which supports a wide range of radio interfaces using Airspan's field proven SDR technology, including WiMAX and LTE 4G technologies.

The integration of both backhaul and access technologies is an industry first, and redefines the way in which networks can be constructed. This technique enables Air-Synergy to be deployed on street furniture (e.g. lamp posts), with connections automatically established through neighbouring nodes to establish a backhaul connection with the network.

A key feature of the Air-Synergy technology is the ability to self-configure, self-connect, self-heal and self-optimize when deployed as a network of elements. At the same time Air-Synergy provides guaranteed levels of service with Quality of Service (QoS) characteristics in line with the requirements of the access interface



4G ACCESS

Air-Synergy supports either LTE or 802.16e WiMAX access technologies in addition to Airspan's Intelligent Wireless Backhaul technology, iBridge. WiMAX provides anytime, anywhere mobile access to broadband services at much higher capacity than is possible with 3G networks. Airspan's LTE solution is compliant with the 3GPP standards and interoperable with commercial UE devices.

Air-Synergy is based on Airspan's Software Defined Radio (SDR) technology, and as a result supports a range of air interfaces through remote software updates.

INTEGRATED WIRELESS BACKHAUL

Air-Synergy uniquely provides an integrated wireless backhaul solution using Airspan's iBridge technology. iBridge is a self-configuring, self-connecting point-to-multipoint backhaul solution, which automatically extends the reach of the network from existing Points of Interconnect (POI). iBridge supports multi-hop relay connections, providing either LTE or WiMAX coverage from each node in addition to the iBridge backhaul functionality.

SUSTAINABLE

Air-Synergy Pico Cells can be installed on existing street poles (lamp posts or utility poles) which are either OPEX free, or have a nominal on-going OPEX, thus avoiding the recurring costs associated with a traditional Macro Base Station. Air-Synergy also requires a fraction of the power of a Macro Base Station, which further reduces the OPEX, and also allows renewable energy sources, such as solar panels, to be used.

ALL-IN-ONE SOLUTION

Air-Synergy consists of a single self-contained unit, removing the need for an equipment rack or any indoor equipment. Units are powered from a compact power supply unit based on commercial Power Over Ethernet technology.



PLUG AND PLAY

Air-Synergy supports automated configuration from the management system, simplifying the installation of each base station. This automation, coupled with the self-connecting iBridge backhaul results in a true plug and play solution, allowing service to be rapidly deployed.

REDUCED CAPEX / OPEX

Air-Synergy is a compact all-outdoor 4G Pico Base Station, which can be installed without conventional indoor infrastructure and associated power and air-conditioning systems.

The integration of wireless backhaul reduces the equipment installed per site, as separate backhaul infrastructure is not required. This in turn reduces spares holding and inventories.

The iBridge backhaul supports self healing, allowing the network to automatically recover in the event of failure. This increases overall service availability and customer satisfaction.

FLEXIBLE ARCHITECTURE

The iBridge network can support different topologies as new elements are added to the network, enabling a highly flexible and versatile deployment. Each Air-Synergy node can adopt both access and backhaul functionality, automatically changing backhaul role from termination to relay to ensure a dynamic self-adapting architecture.

Through the use of Airspan's real-time iBridge SON Server, iBridge supports self-continuous optimisation of backhaul links, ensuring interference between iBridge nodes is minimised and delivering end-to-end QOS across the network with minimal spectrum consumption.

RADIO PLANNING

Air-Synergy is designed to integrate with standardised WiMAX and LTE SON solutions. When coupled with the iBridge SON Server, this allows a broadband wireless network to be deployed without the need for extensive, formal planning. Nodes are incrementally added in the target service area until the desired coverage is achieved. The products self-configure, self-connect, and self-optimize. In addition, unlike conventional mobile network planning and design, expansion of the coverage area can be optimised and adapted depending on the local need. The "Pico Cell" technology solution is designed for deployment onto standard utility poles, for example telephone poles, street lamps or power poles. Coverage is created by deploying multiple cells in chains or clusters, depending on the desired wireless service footprint.

LTE SPECIFICATIONS

RADIO INTERFACE

Version:	Release 8/9 (10 in future)
Operational Frequency Bands:	2.3GHz 2.6GHz 3.5GHz 800MHz 700MHz
Duplex:	FDD & TDD
Max Channel BW:	10MHz (20MHz in future)
Max Transmit Power:	2 x +27dBm & 2x +30dBm options
MCS Support:	QPSK, 16QAM, 64QAM
Synchronisation:	GPS & IEEE1588

KEY FEATURES

Advanced Antenna Techniques

2x2 MIMO
SU-MIMO
MU-MIMO

System Features

Inter-RAT Mobility
RAN Sharing
Automatic Neighbour Relation (ANR)
Inter-cell Interference Coordination

iBridge SPECIFICATIONS

iBridge RADIO INTERFACE

Operational Frequency Bands:	Various (between 450MHz and 6GHz)
Duplex:	TDD
Max Channel BW:	10MHz
Max Output Power:	2 x +27dBm or 4x +27dBm
MCS Support:	Up to 256QAM rate 5/6

WiMAX SPECIFICATIONS

R1 RADIO INTERFACE

Operational Frequency Bands:	3400-3600MHz 3600-3800MHz 2.6GHz 2.3GHz 1.4GHz 700MHz
Duplex:	TDD
Max Channel BW:	10MHz
Max Transmit Power:	2 x +27dBm & 2x +30dBm options
MCS Support:	Up to 64QAM rate 5/6

KEY FEATURES

Advanced Antenna Techniques	System Features	Network Architecture
2x2 MIMO	Fractional Frequency Reuse (FFR)	IP convergence sublayer
Matrix A MIMO	Handover	Ethernet convergence sublayer
Matrix B MIMO	AES Encryption	Profile C interoperability with ASNGW
Adaptive Matrix A & Matrix B	EAP-TTLS & EAP-TLS Authentication	Standalone Mode

PHYSICAL SPECIFICATIONS

aNode Configurations:	Dual & Single RF Node Options
Antenna Configurations:	X-Polar Omni X-Polar Smart Switching Directional X-Polar Sectored Quad X-Polar Sectored
Site Configurations:	Omni Access (with or without iBridge Backhaul) Multi-sector (with or without iBridge Backhaul) Single-sector (with or without iBridge Backhaul) iBridge Relay (with or without Access) iBridge Base
*Dimensions:	480x122mm
*Weight:	6kg
*Power Consumption:	<60 Watts
Operating Temperature Range:	-40degC to +50degC
IP Rating:	IP66

*applicable to a basic node

For more information about Airspan, its products and solutions, please visit our web site:

www.airspan.com

or email:

sales@airspan.com

Airspan has sales offices in the following countries

Finland

Poland

Russia

United Kingdom

United States

Australia

India

Indonesia

Japan

Philippines

Sri Lanka

About Airspan

With over 500 customers in over 100 countries and as a top vendor for carrier-class broadband wireless solutions, Airspan is recognized as a leader and pioneer in 4G and broadband wireless technologies.

Providing an expansive product portfolio, Airspan offers customers the widest selection of 4G products in the industry with an unsurpassed level of technology to benefit their business case. Airspan has solutions spanning the 700 MHz to 6GHz frequency bands.

Contact Airspan today!