iBridge
Small Cell Backhaul
and Wireless Carrier Ethernet Solutions

Multi-Band, Compact and Versatile
Enabling high capacity and robust small cell deployments
Deploying scalable small cell backhaul networks that pass the test of time.
Mobile Carriers are currently experiencing an unprecedented growth in mobile data traffic, which today’s 3G and 4G LTE networks are struggling to satisfy.

iBridge is Airspan’s portfolio of small cell backhaul products, covering a wide range of licensed and license exempt frequency bands from 400MHz to 6 GHz and in future also in 60 - 80GHz bands, and supporting Point-to-Point and Point-to-MultiPoint topologies.

iBridge supports sophisticated TDD radio interface technologies which are optimised for different frequency bands, supporting single channel LOS operation in V-Band, and 2x2 MIMO NLOS operation in sub 6GHz bands.

iBridge utilizes the latest “Plug & Play” technology and smart antennas to enable the rapid deployment of smalls cells on street furniture (e.g. lamp posts), with backhaul connections automatically established with neighbouring iBridge nodes.

The integration of backhaul and access technologies is an industry first, and redefines the way in which networks can be constructed.

iBridge supports tight or loose integration with the access network. It can be run as a standalone small cell backhaul solution or can be tightly integrated with the access to provide a single box, single management solution. In addition, Airspan can supply iBridge modules for integration with 3rd party access solutions.
MULTI-STANDARD SMALL CELL BACKHAUL AND WIRELESS CARRIER ETHERNET

iBridge is a high capacity small cell wireless backhaul solution which runs on a variety of platforms according to frequency band and antenna requirements. It can be deployed as an integral part of the access network, or as a standalone small cell backhaul solution. iBridge combines wireless technologies suited to a mix of Licensed, Lightly Licensed, License Exempt, NLOS and LOS to create a hybrid solution capable of fulfilling all wireless small cell backhaul scenarios.

THE POWER OF HETNETS

As operators struggle to cope with growing customer demand for higher throughput, they are discovering that layering small base stations into a macro cell coverage area, enables a significant increase in network capacity by filling in coverage gaps and addressing actual traffic distribution where demand is highest. iBridge is the perfect wireless backhaul solution for deploying such networks, delivering deep penetrating high capacity to the pico-layer by adopting advanced QoS and SON techniques.

WIRELESS CARRIER ETHERNET

This Carrier Ethernet based technology also provides a solution for PTP and PTMP Wireless Carrier Ethernet applications (eg. B2B and M2M etc)

PLUG & PLAY

iBridge is a self-connecting, self-discovery, selfoptimizing, self-healing system. It utilizes steerable MIMO antenna technology to remove the need for manual alignment during installation. Combined with iBridge’s zero-touch auto-provisioning functionality, it enables a single person ultra-rapid deployment.

ALL-IN-ONE SOLUTION

AirSynergy 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 or POE unit based on AC or -48V DC power sources.
LICENSED SPECTRUM OPERATION
iBridge contains advanced steerable antennas to support full Plug and Play deployment, and to allow the system to automatically adapt and optimise over time. Network-wide measurements allow interference to be characterised, and for the network to adapt to maximise performance.

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.

STEERABLE ANTENNAS
iBridge enables a future-proof architecture which can evolve to support Fronthaul for small cell virtualisation. iBridge has been optimized around Airspan's AirRAN solution, supporting low latency communications between the Virtualized RAN and distributed small cells to provide low cost Massive MIMO.

FRONTHAUL ARCHITECTURE
iBridge enables a future-proof architecture which can evolve to support Fronthaul for small cell virtualisation. iBridge has been optimized around Airspan's AirRAN solution, supporting low latency communications between the Virtualized RAN and distributed small cells to provide low cost Massive MIMO.

mmWAVE
iBridge provides a platform that evolves to mmWAVE frequency bands such as V-BAND and E-BAND which provide significantly more capacity than today’s backhaul networks and allow denser deployments of small cell backhaul.

Airspan’s innovative antenna steering technology provides an easy and rapid deployment model, reducing OPEX and ensuring backhaul links are robust, and can easily adapt as new nodes are introduced to the network.
SUPPORTING A SMALL CELL DEPLOYMENT LIFECYCLE

An iBridge network can support different topologies as new elements are added to the network, enabling a highly flexible and versatile deployment. Each iBridge node can adopt any network role, automatically changing backhaul role from termination to relay to ensure a dynamic self-adapting architecture. The steerable antennas enable the network to be optimized without the need to revisit already deployed sites (no need for manual antenna re-pointing). iBridge supports self-continuous optimization of backhaul links, ensuring interference between iBridge nodes is minimized as new nodes are added.
### SPECIFICATION SUMMARY

<table>
<thead>
<tr>
<th>Model</th>
<th>Architecture:</th>
<th>Operational Frequency Bands:</th>
<th>Duplex:</th>
<th>MIMO:</th>
<th>Min Channel BW:</th>
<th>Max Channel BW:</th>
<th>Max Transmit Power:</th>
<th>MCS Support:</th>
</tr>
</thead>
<tbody>
<tr>
<td>iBridge 400</td>
<td>PTP, PMP</td>
<td>700 MHz to 4.9GHz</td>
<td>TDD</td>
<td>2 x 2 with Matrix A &amp; B</td>
<td>5MHz</td>
<td>40 MHz</td>
<td>2x +30dBm</td>
<td>Up to 64-QAM rate 5/6</td>
</tr>
<tr>
<td>iBridge 440</td>
<td>PTP</td>
<td>5 GHz</td>
<td>TDD</td>
<td>2 x 2</td>
<td>80 MHz +30dBm</td>
<td>(subject to country regulations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iBridge 460</td>
<td>PTP, PMP</td>
<td>5.8GHz</td>
<td>TDD</td>
<td>2 x 2 with Matrix A &amp; B</td>
<td>5MHz</td>
<td>40 MHz</td>
<td>2x +30dBm</td>
<td>Up to 64-QAM rate 5/6</td>
</tr>
<tr>
<td>iBridge 300</td>
<td>PTP, PMP</td>
<td>700 MHz to 4.9GHz</td>
<td>TDD</td>
<td>2 x 2 with Matrix A &amp; B</td>
<td>5MHz</td>
<td>10 MHz</td>
<td>2x +30dBm</td>
<td>Up to 64-QAM rate 5/6</td>
</tr>
</tbody>
</table>

### PHYSICAL SPECIFICATIONS

| Antenna Configurations: | X-Polar Omni  
| X-Polar Smart Switching Directional 
| X-Polar Integrated Antenna  
| X-Polar Steerable Antenna (360 degree coverage) 
| External Antenna |
| *Dimensions:* | 530 x 134 x 85 mm / 20.8 x 5.2 x 3.3 in.  
| *Weight:* | 5.5 kg / 12 lb  
| *Power Consumption:* | <60 Watts  
| Operating Temperature Range: | -40°C to +50°C / -40°F to +122°F  
| IP Rating: | IP66 or IP67 (Optional)  

*Single RF Node, >1 GHz*
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

- Poland
- Russia
- United Kingdom
- United States
- Australia
- India
- Indonesia
- Israel
- Japan
- Philippines
- Sri Lanka
- Dubai

About Airspan

With over 1000 customers in over 100 countries and as a top vendor for carrier-class LTE RAN access and backhaul solutions, Airspan is recognized as a leader and pioneer in LTE and OFDMA technologies.

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

Contact Airspan today!