InfiNet Wireless InfiLINK 2x2 & InfiMAN 2x2 vs. Airspan iBridge 440 & 460

A Competitive Analysis for Choosing the Most Valuable Wireless Solution Vendor

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OVERVIEW

SUMMARY:

- ITEM 1: Carrier grade competitor
- ITEM 2: Side-by-side comparison
- ITEM 3: Weigh the benefits
- ITEM 4: Economic value




ITEM1: CARRIER GRADE COMPETITOR

About Airspan

General overview

- Public Company (OTC Pink: AIRO), delisted on September 18, 2009 from NASDAQ
- Sub-6 GHz wireless broadband radio, V & E-BANDs
- 4G LTE Pico/Micro/Macro Base Stations, Indoor WiFi, Backhaul and Network Equipment (EPC, EMS Advanced SON and 5G V-RAN)
- Operating from U.S. (Florida, Boca Raton) with R&D facilities in the U.K. & Israel and regional sales offices in Europe, Americas & Asia Pacific

Solutions offered

- Small Cells
- Indoor WiFi
- Rural
- Vertical Markets IoT & M2M
- Citizen Broadband Radio Service (CBRS)

ITEM 2: SIDE-BY-SIDE COMPARISON

How they look like

InfiMAN 2x2

iBridge 440 & 460

iBridge 440 (PTP architecture)

iBridge 460 (PTP, PMP architecture)

ITEM 2: SIDE-BY-SIDE COMPARISON

InfiNet Wireless R5000 vs Airspan iBridge 440 & 460

	InfiNet Wireless R5000	*iBridge 440 & 460*	*R5000 wins with*
Supported frequencies	• 3.1 - 3.4 GHz • 3.4 - 3.7 GHz • 3.7 - 3.9 GHz • 3.9 - 4.0 GHz • 4.9 - 6.0 GHz • 6.0 - 6.4 GHz	iBridge 440: • 4.9 - 6.1 GHz iBridge 460: • 3.65 GHz • 5.725 - 5.850 GHz	• Wider range of frequencies • Flexibility: frequency range can be changed by license software upgrade; not necessary to replace hardware
Integrated antenna options/ RF connectors type for external antennas	*BS:* • 14 dBi, 90° (3 GHz) • 16 dBi, 90° (5 GHz) • 21-23 dBi, 90° for Qmxb • 2 N-type connectors *CPE:* • 19/22 dBi integrated flat (3 GHz) • 19/23/26/28 dBi integrated flat (5 GHz) • 19/24/27 dBi integrated flat (6 GHz) • 2 N-type connectors	• The exact gain is not mentioned in the datasheet, but there are 2 models only with integrated antenna	• Wider range of integrated antennas to ease the installation & to perfectly fit to any required link distance

ITEM 2: SIDE-BY-SIDE COMPARISON

InfiNet Wireless R5000 vs Airspan iBridge 440 & 460

	InfiNet Wireless R5000	*iBridge 440 & 460*	*R5000 wins with*
Throughput	*PtP (in 40 MHz):* • Up to 280 Mbps *PtMP BS (in 40 MHz):* • Up to 240 Mbps per sector *PtMP CPE (in 40 MHz):* • Up to 180 Mbps per CPE	• 400 Mbps in 80 MHz	• Higher spectral efficiency of up to 7 Mbps/Hz compared with 5 Mbps/Hz at iBridge 440 & 460 • Higher capacity for each CPE in the sector
Channel bandwidth	• 3.5/5/7/10/14/15/20/28/30/40 MHz	• 20/40/80 MHz for iBridge 440 • 10/20/40 MHz for iBridge 460	• Ability to address any customer requirement regarding the channel width (the 80 MHz channel of iBridge 440 doesn't bring any real benefit in the unlicensed bands where the radio spectrum is highly congested)
Modulation levels	• QAM64 5/6, QAM64 ¾, QAM64 2/3, QAM16 ¾, QAM16 ½, QPSK ¾, QPSK ½, BPSK ½	• Up to 256-QAM rate 5/6	

ITEM 2: SIDE-BY-SIDE COMPARISON

InfiNet Wireless R5000 vs Airspan iBridge 440 & 460

	InfiNet Wireless R5000	*iBridge 440 & 460*	*R5000 wins with*
Ethernet interface	*BS:* • 1 x Gigabit Eth *CPE:* • 2 x Fast Eth, 2nd PoE out port	• 1 x Gigabit Eth	• 2nd PoE-enabled port for the entire suite of CPEs (except the Smnc 19 dBi model) which can be used to ease the CCTV setup or to power up another InfiNet unit
Output power (per RF chain)	*BS:* • Up to 23 dBm (3 & 6 GHz) • Up to 27 dBm (5 GHz) • Up to 25 dBm for Qmxb *CPE:* • Up to 23 dBm (3 & 6 GHz) • Up to 25 dBm (5 GHz)	• Up to 27 dBm for iBridge 440 • Up to 30 dBm for iBridge 460	
Power consumption	• Up to 12 Watt for BS except Qmxb which reaches up to 40 Watt • Up to 7 Watt for CPE	• Up to 13 W for iBridge 440 • Up to 30 W for iBridge 460	• Lower power consumption of the units in a sector which has a direct impact in TCO

ITEM 3: WEIGH THE BENEFITS

Air protocol

- InfiNet Wireless proprietary air protocol, more suitable for multiservice IP networks
- Adaptive Marker Access (minimized latency for priority traffic, less sensitive to interference, license exempt & licensed bands)
- Native TDMA support (reduced overall jitter, licensed bands, use of GPS synchronization)
- Beamforming smart antenna: operates with adaptive beam which is electronically steered towards the CPE under operation
- 2x2 MIMO, OFDM, dynamic TDD, auto-bitrate, ATPC, DFS and Instant DFS

- 2x2 MIMO, TDD
- CSMA & TDMA protocols
- Innovative antenna steering technology and advanced OFDMA for iBridge 460

ITEM 3: WEIGH THE BENEFITS

Main networking features set

- Multicast friendly (IGMP snooping, multicast server)
- Diagnostic tools (enhanced tools to diagnose almost all levels of functionality from network side to radio)
- ARP protocol support
- Traffic filtering up to Layer 4
- RIPv2/OSPFv2/static routing
- Tunneling (Ethernet-over-IP, IP-over-IP)
- L2/L3 Firewall, NAT(multipool, H.323-aware)
- DHCP client/server/relay
- Web GUI, CLI, SNMPv1/SNMPv3, configurable SNMP Traps

- L2 network bridge only when used standalone
- Benefit of the Airspan's aCore (Evolved Packet Core) components for access control, packet routing and transfer, mobility management, security, radio resource and network management, when integrated in the access part of the Airspan's LTE network

ITEM 3: WEIGH THE BENEFITS

QoS, security & enhanced radio tools

- 17 priority levels
- IEEE 802.1p, IP TOS/DiffServ support
- Full voice support
- Traffic limiting (absolute, relative, mixed)
- Traffic redirection

- Storm/flood protection
- 128 bit advanced over-the-air encryption

- Automatic over-the-air firmware upgrade
- Spectrum Analyzer mode
- Channel testing tools
- Radio link test and radio link statistics tools

- L2 network bridge only when used standalone
- Benefit of the Airspan's aCore (Evolved Packet Core) components for access control, packet routing and transfer, mobility management, security, radio resource and network management, when integrated in the access part of the Airspan's LTE network

ITEM 4: ECONOMIC VALUE

Choosing InfiNet Wireless solutions

- Sell **more services** to individual customer with **less investment** (lower CAPEX & OPEX) for **higher ARPU & faster ROI** by:
  - Using a higher capacity solutions (with up to 40% more throughput)
  - Using the most appropriate equipment and technology for each requirement: beamforming with TDMA GPS sync and dynamic TDD, or polling marker access, low/medium/high gain integrated antennas for CPEs depending on their location in the sector, or high Tx power for CPEs for higher link availability
  - Benefiting from the differentiating networking features (rich networking feature set - L2 and L3 switching, routing, traffic shaping, advanced QoS mechanism, etc.) without the need to integrate the wireless backhaul solutions with a core network
- ***Lower dollar/bps ratio for InfiNet Wireless R5000 solutions which generate higher economic value compared to Airspan iBridge backhaul solutions***

ITEM 4: ECONOMIC VALUE

Choosing InfiNet Wireless solutions

- ***Guarantees lower TCO*** by:
  - Units stock keeping/rotation (“any unit - any topology” concept)
  - “Pay as you grow” remote capacity upgrade
  - Common firmware platform for all units/ topologies/ frequency bands, extensive feature set available across all models
  - All InfiNet Wireless units can be used as CPE or as BS in a PtMP architecture, or as endpoint in a PtP architecture - only license software upgrade is required
  - Same units for multiple applications - only different configurations are applied
  - Unlimited number of CPEs connected to BS (in PtMP)

- *Airspan iBridge backhaul solutions can be used in a limited range of applications and their only real benefit is when used as part of a complete Airspan LTE small cell solution*
- *When used as stand alone backhauling solutions, they generate way lower benefits compared with InfiNet Wireless R5000 solutions as it can be noticed within this presentation*

InfiNet wireless

THANK YOU!