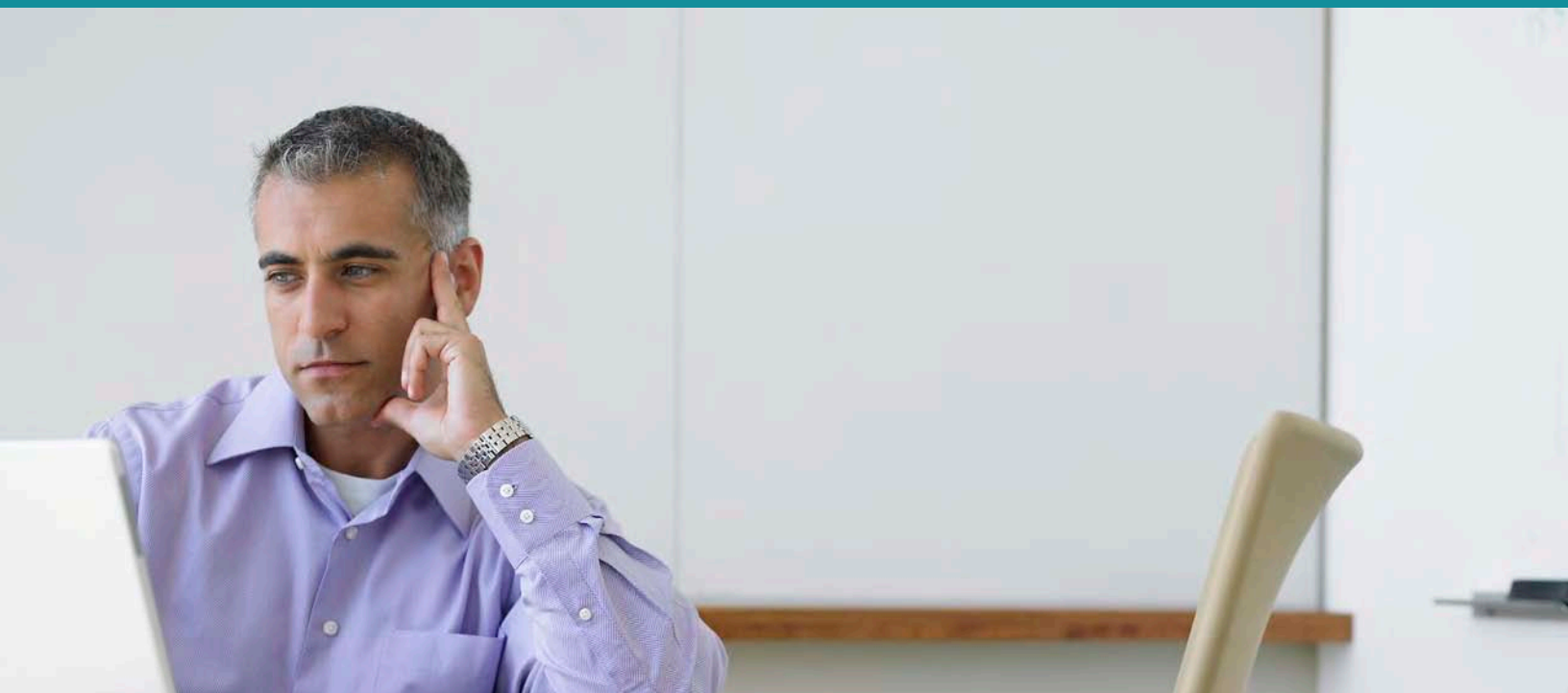


# Air4G

Innovative. Compact. All-outdoor.



***Integrated WiMAX and LTE  
multi-platform base station  
exceeding the extremes in cost-efficiency***



Air4G



Air4G  
A 4G network revolution in a  
compact, efficient package

# Integrated WiMAX and LTE multi-platform base station



Airspan Networks is addressing a growing demand for 4G connectivity worldwide. The use of mobile broadband services is accelerating at exceptional rates with increased applications such as gaming, social networking and video for mobile devices. 4G, namely WiMAX and LTE, enables users to carry the same user experience they have at home or in the office while they are on-the-go.

Airspan's Air4G base station ensures the highest quality, capacity and range on a network while meeting the requirements of a wide variety of applications for carriers and operator as well as vertical markets such as smart utilities, transportation and public safety.

4G connectivity means that a user can enjoy bandwidth intensive applications while on the move – whether in a car or on a train. This works due to the network support for handoffs and roaming. Airspan solutions maintain a connection while the user moves across cell borders, essentially handing off the service from one base station to the next.

Air4G operates in the 700 MHz, 1.4 GHz, 2.3-2.7 GHz, 3.3-3.8 GHz bands. Air 4G has variants with two transmitters and four receivers as well as variants with four transmitters and four receivers. Air4G has TDD and FDD variants.

The unique form factor of Air 4G secures the investment of the operator and minimizes the OPEX and CAPEX. Yet, Air 4G has advanced capabilities such as MIMO and advanced Frequency Domain Scheduling. These capabilities enable higher throughput and capacity and better use of the spectrum.

Air 4G is interoperable with end devices of all form factors, based on all leading chips. It is also interoperable with various core network solutions.



## **ALL-OUTDOOR, ALL-IN-ONE**

***Traditional split indoor-outdoor architecture base stations which support multiple sectors are being replaced by new, lower CAPEX and OPEX, compact base stations. Air4G is such a product. Its all-outdoor, compact structure yields a lower power consuming, greener solution that is environmentally friendly.***

***Air4G is a highly integrated compact, yet powerful, base station with all-in-one packaging of RF and base-band components. It is available as an all outdoor solution for Mobile WiMAX and LTE applications to minimize physical footprint and operator OPEX. It saves the need for an air conditioned shelter (which is required in other architectures such as split indoor/outdoor architectures). Air4G complements Pico Base Stations like AirSynergy (and naturally has much higher Tx power and much better link budget). Thanks to the efficient power amplifier technology employed in its RF implementation, Air4G implements dual 40dBm (10W) transmitters in 2.x GHz and dual 37 dBm (5W) transmitters in 3.X GHz band.***

### **4G CONNECTIVITY – CHOOSE YOUR FLAVORS**

Air4G is able to operate both WiMAX and LTE platforms at the same time. This means that a migration from one technology to the other is possible. Since immediately switching all the devices on a network to LTE is unrealistic, operators can now count on a single base station deployment that can support both WiMAX and LTE devices at the same time allowing for a gradual migration to LTE with uninterrupted customer service. Air4G allows the operator to benefit from the best of both worlds. VPNs and other VLAN-based services can be operated over WiMAX, while at the same time Air4G can serve advanced mobile LTE end devices.

### **INNOVATIVE RADIO TECHNOLOGY**

Air4G employs software defined radio (SDR) technology, together with two transmit paths and four receive paths, antennas and GPS receiver all in a highly integrated, physically small and light, all outdoor package. Air4G has been designed and optimized for the 700 MHz, 2.3 GHz, 2.5 GHz and 3.3-3.8 GHz Mobile WiMAX / LTE bands. The product has been designed to address the markets needs by supporting the current and future air interfaces thanks to its SDR technology.

When running mobile WiMAX, Air4G supports 3.5 MHz, 5 MHz, 7MHz and 10MHz channel sizes. However, the product is capable of supporting 2x7 MHz and 2x10 MHz (using dual PHY/MAC) channels doubling the capacity of the sector. When running LTE, Air4G supports all LTE channel sizes starting at 1.4 MHz and going up to 20 MHz. Air4G can also run WiMAX and LTE at the same time. A possible migration from WiMAX to LTE may start with Air4G supporting one or two WiMAX channels of 10MHz, then moving to one 10MHz channel running WiMAX and another 10 MHz channel running LTE and finally running 20MHz LTE, at a point where the operator does not need to serve any WiMAX end devices. Air4G roadmap includes support in four (4) transmitters and four (4) receivers as well as FDD.



## **FLEXIBLE ARCHITECTURE**

Air4G has been conceived for deployment in 1-sector configuration or in 3-sector configuration, which is the optimum configuration for Mobile WiMAX and LTE deployments. Air4G design also incorporates an Ethernet switch which enables the traffic from 3 sectors to be aggregated for backhaul and network interfacing. The switch has copper and Fiber Giga Ethernet interfaces towards the backhaul or backbone.

As explained, Air4G has an embedded radio. In addition Air4G has CPRI interfaces allowing the use of external Remote Radio Head (RRH). The use of CPRI is relevant only when operating as an LTE eNodeB.

## **COST-EFFECTIVE**

Air4G supports a pay-as-you-grow deployment plan. An operator can begin with a single unit and add base stations as needed. With flexible options, Air4G supports WiMAX 16e and LTE and has a migration path to LTEAdvanced.

Providing high power and consuming less power perfectly positions Air4G to save operating expenses and cut costs while maximizing revenue potentials. Its compact size allows for easy, quick and flexible installation anywhere needed – not just on traditional communications towers.

When needed, Air4G can be used in a stand-alone mode where there is no need for a core network, providing an ideal cost-effective solution for fixed applications, while standing ready for an easy upgrade to a fully mobile network when the operator is ready.

Air4G has IOT with a rich portfolio of third party end devices, including various indoor CPE, outdoor CPEs and USB dongles from various ODMs, using various chips.

Air4G is managed via Airspan's SNMP based EMS called Netspan.

# LTE SPECIFICATIONS

## RADIO INTERFACE

3GPP Version:	Release 8/9 (10 in future)
Operational Frequency Bands:	700 MHz 2.3 – 2.4 GHz 2.496 – 2.7 GHz 3.3 – 3.8 GHz <i>Including E-UTRA operating bands #7, 17, 38, 40 and 41</i>
Duplex:	FDD & TDD
Channel BW:	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
Max Transmit Power:	2 x +40 dBm, 4 x 37 dBm
MCS Support:	QPSK, 16-QAM, 64-QAM
Synchronization:	GPS & IEEE1588

## KEY FEATURES

### Advanced Antenna Techniques

- 2 x 2 MIMO
- SU-MIMO
- MU-MIMO

### System Features

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

# WiMAX SPECIFICATIONS

## RADIO INTERFACE

Operational Frequency Bands:	700 MHz 1.4 GHz 2.3 – 2.4 GHz 2.496 – 2.7 GHz 3.3 – 3.8 GHz
Duplex:	TDD
Channel BW:	3.5 MHz, 5 MHz, 7 MHz, 10 MHz, 2 x 7 MHz, 2 x 10 MHz
Max Transmit Power:	2 x +40 dBm
MCS Support:	QPSK, 16-QAM, 64-QAM
Synchronization:	GPS & IEEE1588

## KEY FEATURES

- MIMO Matrix A and B
- Dual MAC/PHY
- Four (4) receivers
- IP and Ethernet CS (including VLAN tagging/untagging)
- VoiceMAXe support
- Fractional Frequency Reuse (FFR)
- Standalone mode
- Profile C (working with ASN GW)

## PHYSICAL SPECIFICATIONS

Antenna Configurations: Quad Port and Dual Slant antennas  
65 and 90 degree sector antennas  
Omni antennas  
Antennas with Manual Electric Tilt (MET)

Dimensions:

Air4G 2Tx4Rx 52.7 cm x 34.7 cm x 17.0 cm

Air4G 4Tx4Rx 60 cm x 40 cm x 20 cm

Weight:

Air4G 2Tx4Rx 19 kg

Air4G 4Tx4Rx 21 kg

Power Consumption:

Air4G 2Tx4Rx 400 Watts max

Air4G 4Tx4Rx 500 Watts max

Operating Temperature Range: -40°C to +55°C

IP Rating: IP66

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

[www.airspan.com](http://www.airspan.com)

or email:

[sales@airspan.com](mailto:sales@airspan.com)

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## 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 6 GHz frequency bands.

Contact Airspan today!

