

# AirSpeed 1050 B41/B38 Product Datasheet

Revision: 1.6



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## **High Capacity Compact Outdoor LTE-Advanced eNodeB with integrated backhaul**

AirSpeed 1050 is part of Airspan's carrier-class LTE Advanced outdoor small cell eNodeB family. AirSpeed 1050 is a Pico-class LTE eNodeB product, providing high-speed data, mobility, Voice over LTE, and broadcast/multicast services.

AirSpeed 1050 is a super compact, easy to install Pico-class eNodeB allows the operators to deploy LTE broadband services on Street Furniture, rooftop or building front.

The AirSpeed 1050 is a dual sector / carrier 2x2 MIMO product (2x 2T2R).

## **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. AirSpeed 1050 is ideal for these networks, maximizing the Macro / mini-Macro layers coverage by closing the small coverage holes, black spots and delivering high data rates where needed most, whether at the macro cell edge or closer to the user base enabling delivering the required capacity in densely populated areas.

## **Rapid Deployment - No Zoning, Zero Touch**

AirSpeed 1050 creates a single install process for LTE Access, and enables "Just add Power" plug and play deployment method and along with the easy zoning of the product saving deployment related costs and time.

## 1. PRODUCT INTRODUCTION:

The AirSpeed 1050 contains a 6W power eNB and dual sector 2x2 SBA. Each of the sectors supports 70° or 140° antenna patterns, to enable adaptation to specific deployment use case.

Supported patterns:

1. 70° - back-to-back, one antenna element active in each sector
2. 2x 70° - side-by-side, two antenna elements active in each sector

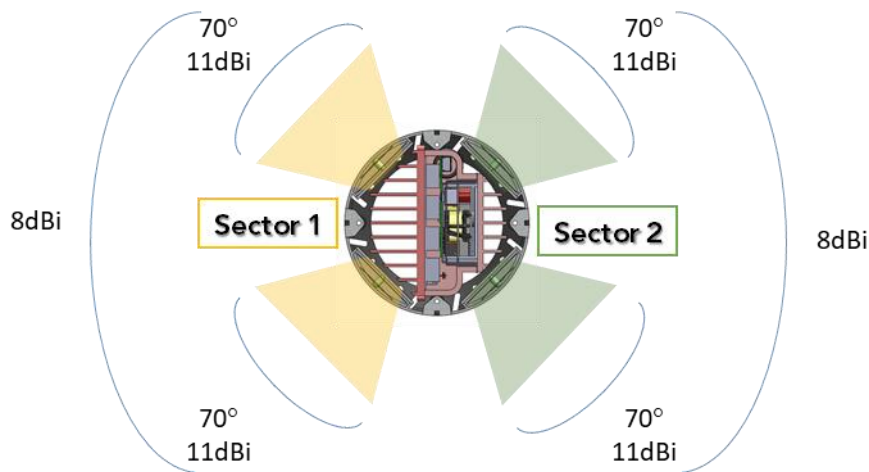


FIGURE 1: ANTENNAS ARRANGEMENT

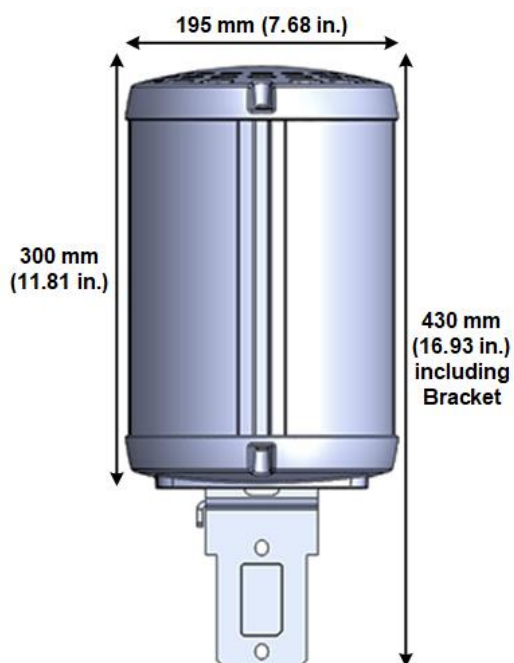
### 1.1. PRODUCT VARIANTS

Band	Variant	Power	Downlink Freq. (MHz)	Uplink Freq. (MHz)	Tx Power (dBm)	Backhaul
41, 38	AS105-U41-B08A	AC	2496-2690MHz	2496-2690MHz	4x 32dBm	Ethernet - SFP and Copper

## 2. PHYSICAL

### 2.1. SIZE

Parameter	Values
Total Size (Height & Diameter)	300 x 195 mm
Volume	9.5L
Weight	6Kg



### 2.2. ENVIRONMENT CONDITIONS

Type	Details
Operating temperature	-40°C to 55°C / -40°F to 131°F
Operating humidity	5% - 100% non-condensing
Storage temperature	-40°C to 70° C / -40°F to 158°F
Storage humidity	5% - 100% non-condensing
Rain and dust ingress protection	IP66

### 2.3. VOLTAGES AND AMPERAGE DRAWS

- AC power: 100VAC-240VAC, 50Hz-60Hz

Power Source	Nominal Power Consumption (W)	Max Power Consumption (W)
AC	40	50

## 3. PHYSICAL INTERFACES

This following defines all external Network and Maintenance equipment interfaces as well as System LEDs. All interfaces are Weatherproof, supporting IP66 Ingress Protection Rating.

### 3.1. ENB INTERFACES & LEDs

#### 3.1.1. POWER CONNECTION AC

Open ended 3 wires power cable connecting to a circuit breaker with an on/off switch

#### 3.1.2. ELECTRICAL ETHERNET

Connector Type	RJ45
Standard	IEEE802.3
Interface Speed	100/1000 Base-T
Quantity	1

#### 3.1.3. SFP INTERFACE

Weatherproofed interface to a pluggable SFP.  
It supports standard Ethernet and GPON pluggable SFPs.  
Approved SFPs:

Protocol	Type	Vendor	Model
Ethernet SM	1000BASE-LX, 1310nm, DDM, 10km	Finisar	FTLF1318P3BTL
Ethernet SM	1000BASE-LX, 1310nm, DDM	JDSU	PLRXPL-VI-S24-22
Ethernet SM	1000BASE-LX/LH, 1310nm, DDM	Cisco	GLC-LH-SMD-RGD
Ethernet SM	1310nm 10km	OE Solutions	RBT12SLX-ST3
Ethernet SM	1310nm 40km	OE Solutions	RBT12SEX-ST3
Ethernet SM	1310nm 10km	OE Solutions	RBT12SLX-ST4
Ethernet SM	1490nm 40km	OE Solutions	RBT12SEX-ST4
Ethernet SM	1490nm 80km	OE Solutions	RBT12SX-ST4
Ethernet SM	1590nm 80km	OE Solutions	RBT12SX-ST5
GPON	GPON Stick (GPON SFP ONU)	Finisar	FTGN2117P2xxN



In order to fit the weatherproofing solution the fiber cable must comply with following specifications:

1. Exposed fiber length (length of cable w/o the external jacket), including the length of the connector itself, should be less than 80mm
2. Rounded shape jacket with external diameter: 5-9mm

SFP connector adapter should be used for fiber connectivity (optional accessory).

For more details please approach Airspan's representative.

#### 3.1.4. GPS

Integrated GPS antenna is included in the product and located under the top cover.

#### 3.1.5. LED DISPLAY

A tri-color LED (Green/Red/Orange) on rear of the unit, provides unit status indication.

## 4. ANTENNAS (ENB)

Frequency	B41/B38 - 2496 – 2690	
Polarization	Dual Slant $\pm 45^\circ$	
Azimuth BW per antenna element	70°	
Antenna operation mode	1 antenna element active in each sector	2 antenna elements active in each sector
Boresight gain	11 dBi	8 dBi
Elevation BW	25°	

## 5. TRANSMITTER RADIO PERFORMANCE ACCESS (ENB)

### 5.1. ENB FREQUENCY

eNB Band	Variant	eNB Downlink Freq. (MHz)	eNB Uplink Freq. (MHz)
41, 38	AS105-U41-B08A	2496 – 2690	2496 – 2690

### 5.2. CHANNEL FREQUENCY RESOLUTION

The center frequency is tunable with a 100 KHz resolution

### 5.3. MODULATION & FEC

AirSpeed 1050 supports QPSK, 16QAM and 64QAM modulations on both Downlink and Uplink with all Modulation and Coding Schemes defined in 3GPP TS 36.211



## 5.4. TRANSMITTER POWER

Maximum Configurable Tx Power (per RF port)	32dBm
Transmit Power Accuracy	±1.5dB in normal conditions
Control Step	1dB

## 5.5. TRANSMITTER DYNAMIC RANGE

The transmitter supports a monotonic power control of 35dB with step size of 1dB

## 5.6. TRANSMITTER SPURIOUS EMISSIONS

AirSpeed 1050 complies with the “Category B” transmitter spurious emissions, as they are defined in TS 36.104

## 6. RECEIVER RADIO PERFORMANCE ACCESS (ENB)

### 6.1. RECEIVER SENSITIVITY LEVEL<sup>1</sup>

The values in the table below are defined for QPSK  $\frac{1}{2}$  with allocation BW as indicated by TS 36.104

Channel Bandwidth (MHz)	Allocation Size (RB)	Reference Sensitivity Level (dBm)
5	25	-99
10	25	-99
15	25	-99
20	25	-99

### 6.2. IN CHANNEL SELECTIVITY<sup>2</sup>

AirSpeed 1050 complies with ICS as defined by TS 36.104

### 6.3. ADJACENT CHANNEL SELECTIVITY<sup>3</sup>

AirSpeed 1050 ACS complies with ACS requirements as defined in TS 36.104

### 6.4. RECEIVE DYNAMIC RANGE

AirSpeed 1050's receiver has a dynamic range of 40dB

<sup>1</sup> The receiver sensitivity power level is the minimum mean power received at the antenna connector at which a throughput requirement is being met for a specified reference measurement channel. The AirSpeed 1050 meets the requirements defined for in TS 36.104 for Medium Area Base Stations

<sup>2</sup> In-channel selectivity (ICS) is a measure of the receiver ability to receive a wanted QPSK $\frac{1}{2}$  signal at its assigned resource block locations in the presence of an interfering signal received at a larger power spectral density.

<sup>3</sup> Adjacent Channel Selectivity (ACS) is defined as the measure of the receiver's ability to receive a wanted signal at its assigned channel frequency in the presence of an adjacent channel signal with a specified center frequency offset of the interfering signal to the band edge of a victim system



## **6.5. MAXIMUM INPUT SIGNAL**

The AirSpeed 1050 receiver can receive a maximum on-channel signal of  $-55\text{dBm}$

## **6.6. MAXIMUM INPUT SIGNAL WITHOUT DAMAGE**

The AirSpeed 1050 receiver can tolerate a maximum signal of  $-10\text{dBm}$  without damage

## **6.7. RECEIVER SPURIOUS EMISSION<sup>4</sup>**

AirSpeed 1050 complies with the receiver spurious emission as defined by TS 36.104 as well as ETSI EN 301 893.

## **7. CERTIFICATIONS**

- Radio: FCC Part 27
- Safety: UL-60950-1,UL-60950-22

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<sup>4</sup> The spurious emissions are the power of emissions generated or amplified in a receiver that appear at the receiver antenna connector