

Airgain Embedded Antenna Product Datasheet

Model N2430GND

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Coverage. Performance. Smart.

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Revision history

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Disclaimers

The information in this document is provided in connection with Airgain Antenna products and is proprietary and confidential. Airgain may make changes to at anytime, without notice. ***Please verify with Airgain before finalizing a product design.***

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1. Model N2430GND

Using Air gain's patented technology, the Model N2430GND antenna provides a high gain, on-board antenna solution for Wi-Fi and ISM band applications. As embedded antenna solutions become the focus of next generation wireless product design, the N2430GND provides the flexibility of an embedded antenna without sacrificing performance. The N2430GND antenna was designed to accommodate most WLAN access point applications, such as routers and gateways, with a low-cost, low profile, and enhanced performance design.

2. Features

The Model N2430GND is defined by the following features:

- IEEE 802.11 a/b/g/n compatible
- Dual Band
- On-board, low profile design
- 4dBi @ 2.44 GHz, 6dBi @ 5.2 GHz, 6dBi @ 5.8 GHz, Peak Gain
- Low Cost, High performance
- Reliable Through-Hole mounting



Figure 1
Model N2430GND Antenna

3. Specification and Interface

Standard	IEEE 802.11n and 802.11 a/b/g
Frequency Range	2.4 to 2.49 GHz, 4.9 to 5.9 GHz
Peak Gain	4dBi @ 2.44 GHz, 6dBi @ 5.2 GHz, 6dBi @ 5.8 GHz
VSWR	2:1
Feed Impedance	50 Ohms
Power Handling	30 dBm
Interface	Two, 1 mm x 2.4 mm, Through hole pins for 50 ohm microstripline trace
Antenna Dimensions	34.0 x 12.2 x 5 (mm)
Weight	1.5 g (0.053 oz)

4. Radiation Patterns (Preliminary)

Data shown is for one N2430GND's mounted on a Model N2430GND Evaluation PCB and covered with a 2.5mm thick ABS plastic sheet.

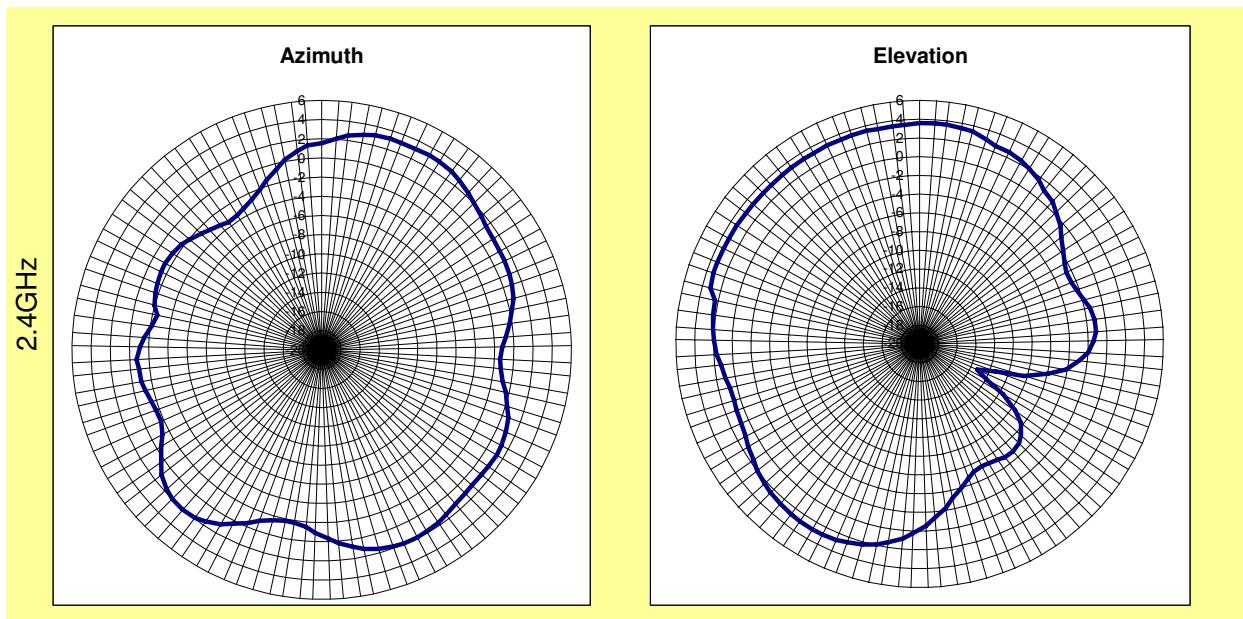


Figure 2
2.4GHz Radiation Patterns

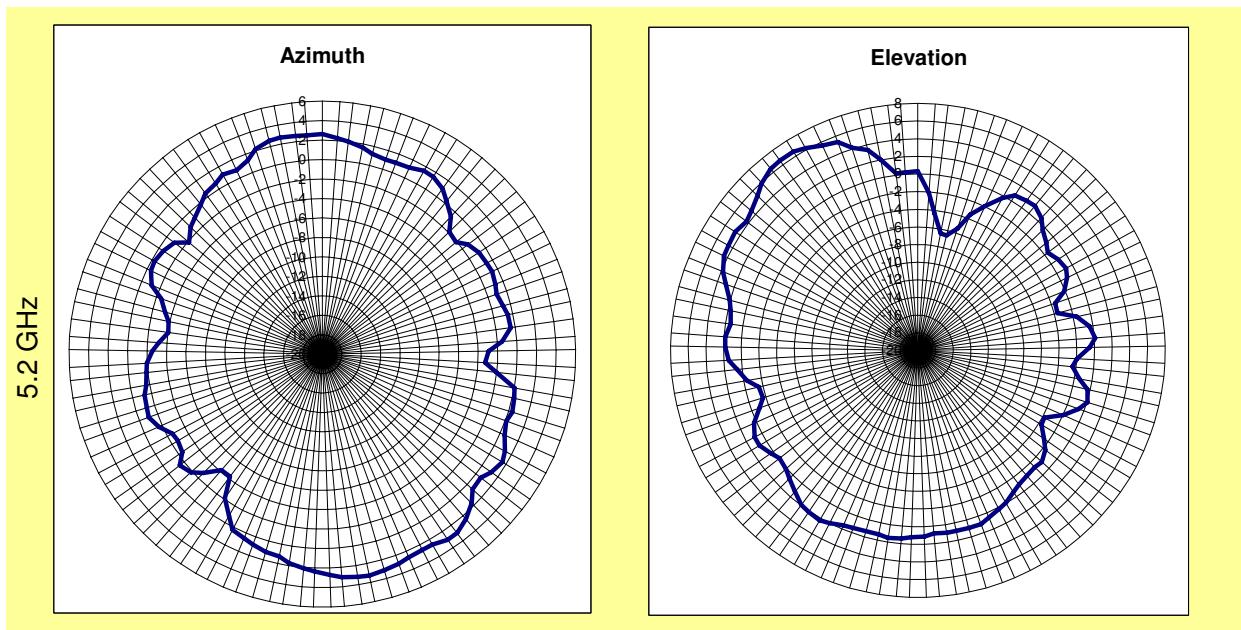


Figure 3
5.2 GHz Radiation Patterns

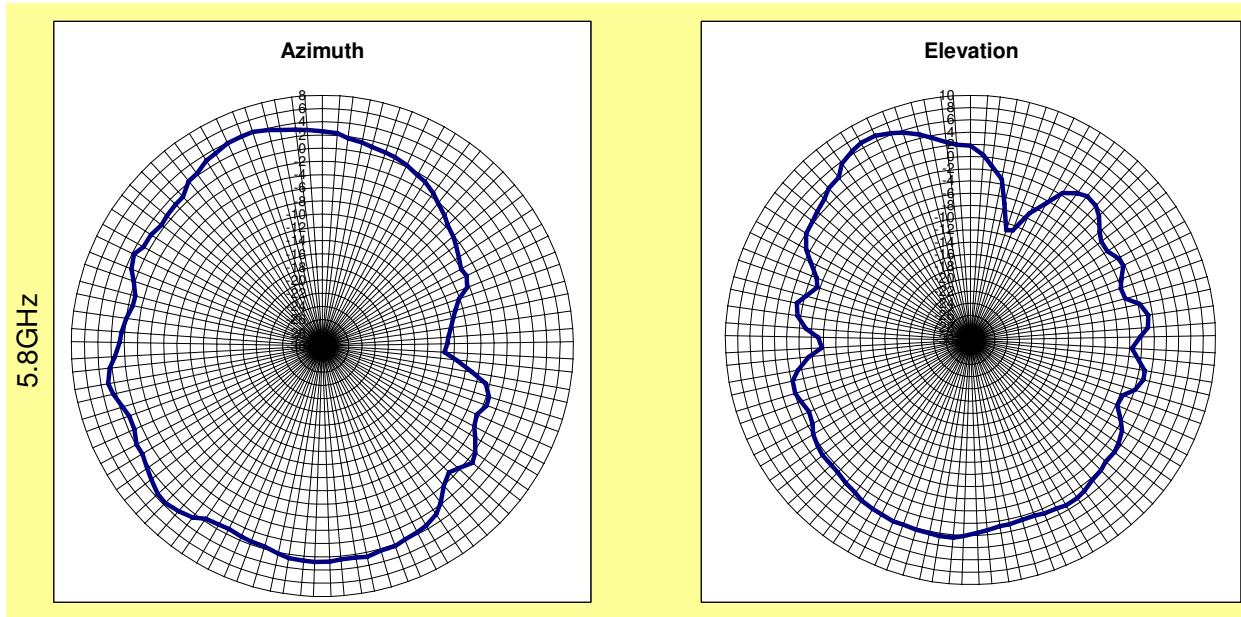


Figure 4
5.8 GHz Radiation Patterns

5. Dimensions

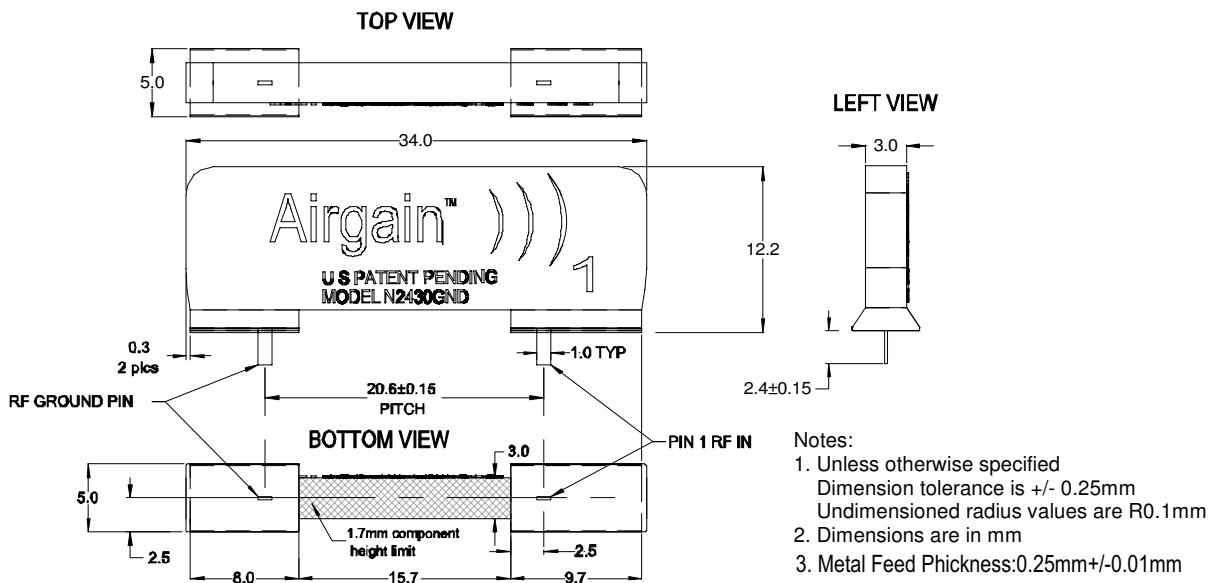


Figure 5
Model N2430GND Dimensions

6. ROHS

Model N2430GND Antennas are RoHS compliant.

7. Layout Reference Design Recommendations

Airgain provides guidelines that should be followed to achieve the best performance when incorporating the Model N2430GND antenna into a new PCB design. These recommendations, except for the antenna feeds, which are micro coax cables, are also implemented in the Model N2430GND Reference Board design, available through Airgain sales representatives. Airgain's recommendations apply to both IEEE 802.11a/b/g and n applications. The recommended layout of a design implementation is shown in Figure 6. The Model N2430GND antenna is designed to mount near the application PCB edge. The important mounting constraints on a PCB are shown on the following page.

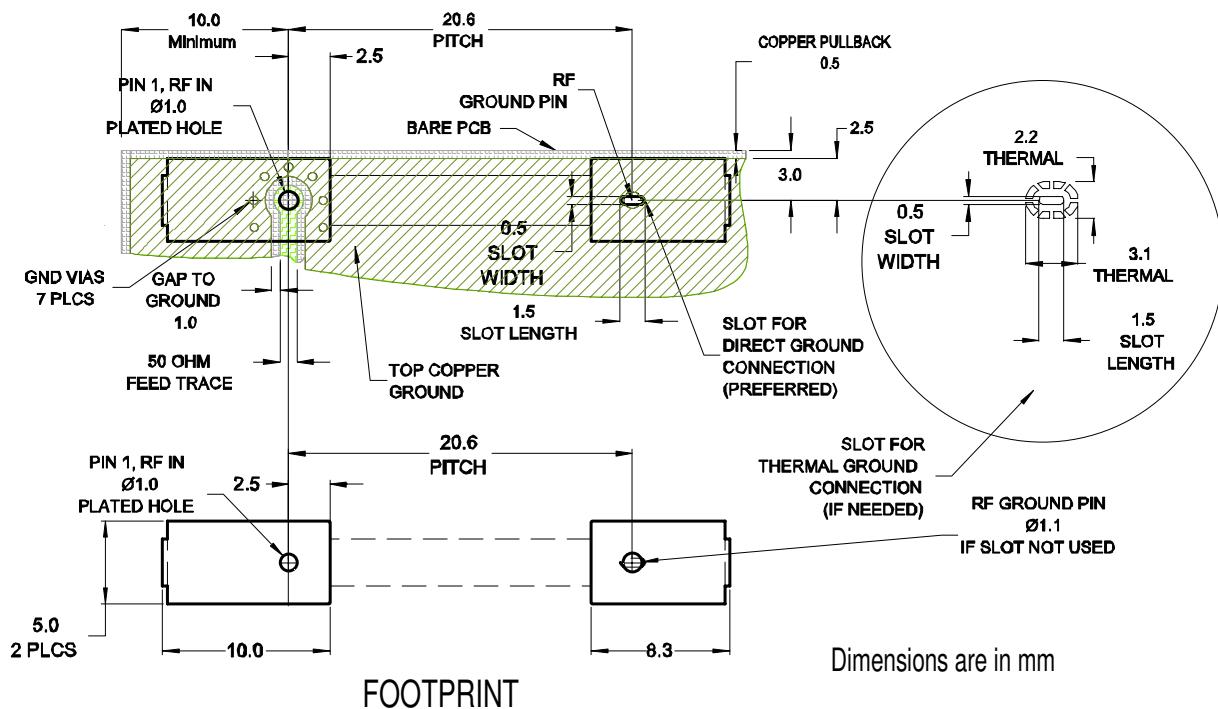


Figure 6
Top View of a Design Layout

Notes:

- Keep a minimum distance of 10 mm from the antenna feeding point to the orthogonal edge of PCB.
- Keep 2.5 mm distance from the Model N2430GND centerline to the edge of the copper layer parallel to the Model N2430GND.
- For Components taller than 2.5 mm, maintain a 5 mm keepout area alongside the N2430GND.

8. Supporting Documents

The following design documents are used as references for design implementation of the Airgain Model N2430GND antenna product: Contact your Airgain representative for more information

Dimension Drawing	096-07-00-001-1 REV A MODEL N2430GND ASSY.pdf
Drawing of the Evaluation Board	103-07-00-001-1_A_ASSY.PDF