

DIGI WDS / ANTENNA DESIGN

PART NUMBER:

WDS-ANT107-1, WDS-ANT107-2, WDS-ANT107-3

CUSTOM PCB TRACE ANTENNA DESIGN

Maximise your product's wireless performance
with custom antenna design solutions

The antenna is the most common point of failure in a wireless design. When designed correctly, the antenna creates a high performance wireless product this is certification ready.

Antenna design is a very complex process that requires simulation tools and experienced RF antenna designers. Digi's Wireless Design Services has a state of the art RF testing lab along with experienced engineers that design hundreds of certification ready products each year.

Custom printed antenna design involves integrating a custom trace antenna into the customer's PCB. This is a cost effective solution for the customer since a printed antenna has negligible manufacturing cost.

We will assist the customer with the integration of the antenna into their PCB design software and provide a recommended matching network to include in the design. Once the boards are manufactured, the customer should send two devices to Digi WDS so we can perform tuning and/or matching to ensure the antenna resonance is spot on. The antenna can easily be detuned when placed close to nearby conductors or dielectric materials, so this step is mandatory. This product provides a very low cost antenna solution while achieving good wireless performance. It also reduces risk since simulations give confidence on performance expectations.

Schedule time to complete is 4-6 weeks.

The customer should provide the following items:

1. Mechanical files
2. Schematics/PCB files
3. Bill of Materials
4. Device use cases
5. Datasheets for material properties
6. Cellular carrier(s) if applicable
7. Two devices

The deliverables are as follows:

1. Antenna Development Report
 - a. Requirements
 - b. Simulations (Multiple designs; Design tradeoffs; Results comparison to requirements)
 - c. Antenna Prototypes (Antenna tuning matching; Far-field measurements; Result comparison to requirements)
 - d. Antenna Integration (Help integrate antenna into CAD; Tune antenna on multiple boards; Far-field measurements; Result comparison to requirements; Recommendations for next steps)

For more information on how Digi WDS/Antenna Design can bring powerful, reliable connectivity to your assets, visit www.digi.com/wds.

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