



GeoHelix[®]-P2 GPS Antenna

IMS Connector Installation and Usage Guidelines

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1. INTRODUCTION

This document describes the functionality of the GeoHelix[®]-P2 antenna connector, developed by IMS. The connector provides a simple press-fit mounting for the GeoHelix-P2 antenna to ease its integration into customer products as an alternative to hand-soldering the antenna to a PCB. The connector is RoHS compliant and is reflowable.

The connector has been designed to hold the antenna firmly in place, however, additional supporting features must be incorporated in the product design in order for the antenna to have sufficient mechanical support. These requirements are detailed in the document **GeoHelix-P2 GPS Antenna Mechanical Integration Guidelines** that can be requested through the Sarantel Applications Engineering group. Overall, this document serves as a general guideline to the use of the IMS connector and is to be read in conjunction with the **Mechanical Integration Guidelines** document.

This document also details the PCB footprint, general RF layout for the connector, and its stencil requirement for PCB manufacture. The stencil requirement for the connector has been determined after a detailed solder reflow trial and must be adhered to for reasons outlined in this document.

The drawings in this document are NOT TO SCALE.

2. OVERVIEW OF THE IMS CONNECTOR

The IMS connector for the GeoHelix-P2 antenna can be reflow soldered onto the customer's PCB and the antenna inserted into its designated position. The connector occupies minimal area on the PCB, which is advantageous for smaller, multi-functional products with limited component space.

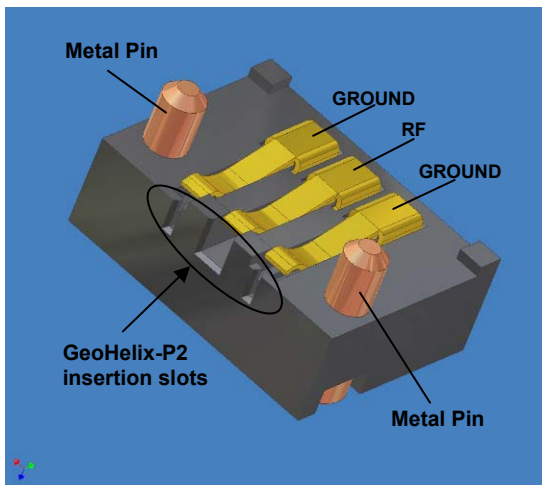


Figure 1: IMS Connector

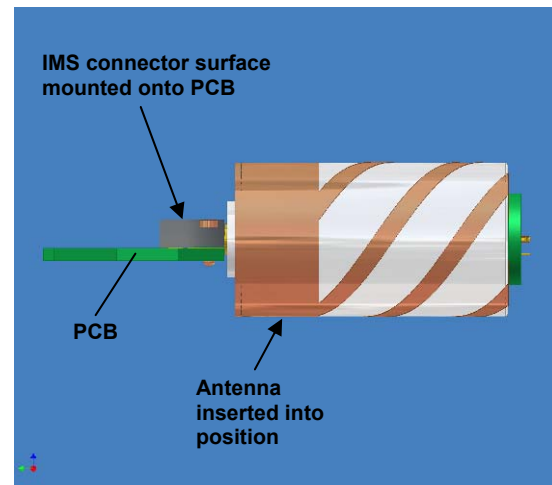


Figure 2: Connector with Antenna

Figure 3 provides mechanical dimensions of the IMS connector.

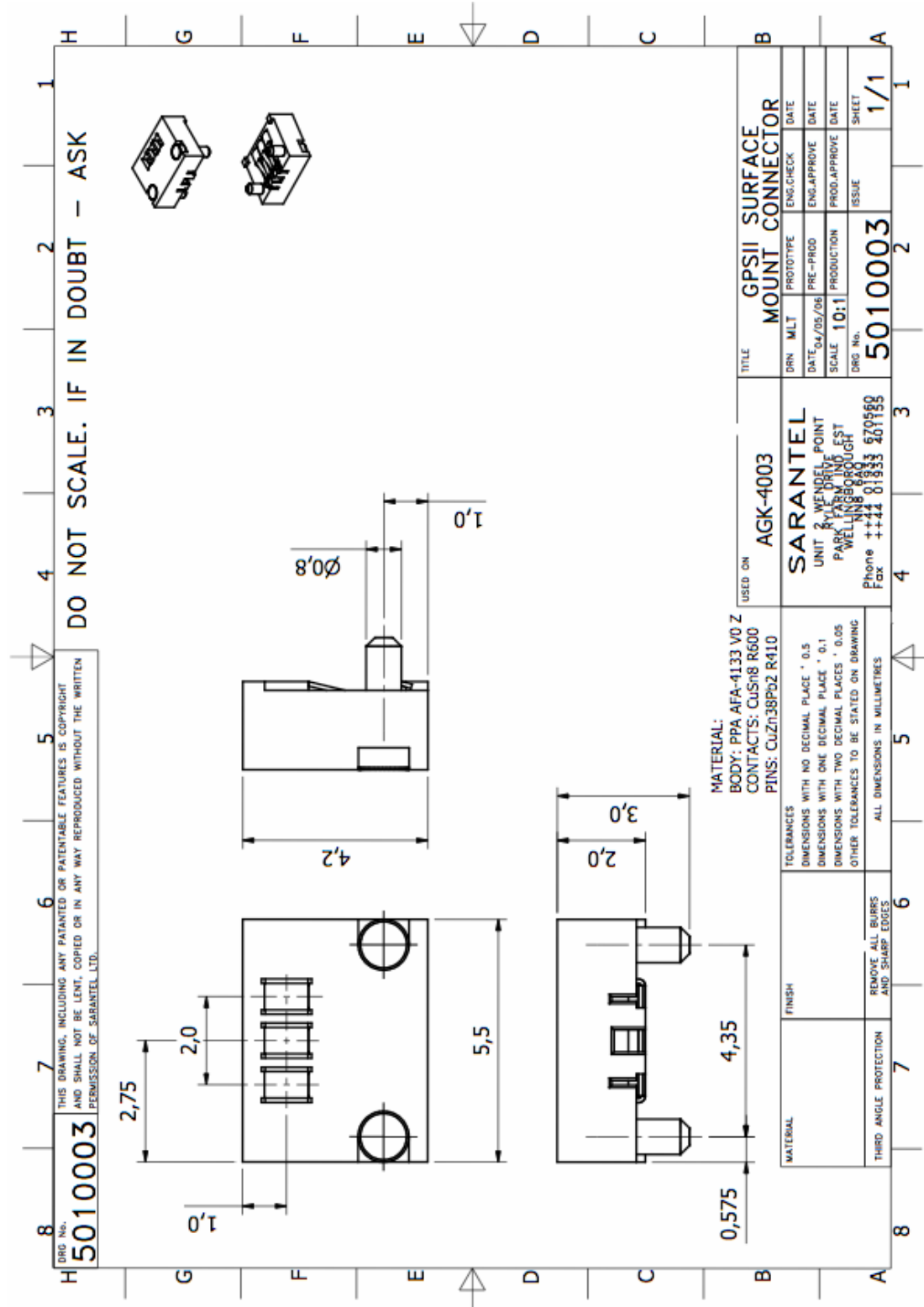


Figure 3: IMS Connector Dimensional Drawing

4. RF LAYOUT GUIDELINE FOR THE IMS CONNECTOR

It is important to note that there should be no Ground Fill or VIAS in the areas specified in the Figure below. Use of thermal relief on the 2 Ground pads of the connector and the two metal pins will ease re-work of the connector should the need arise.

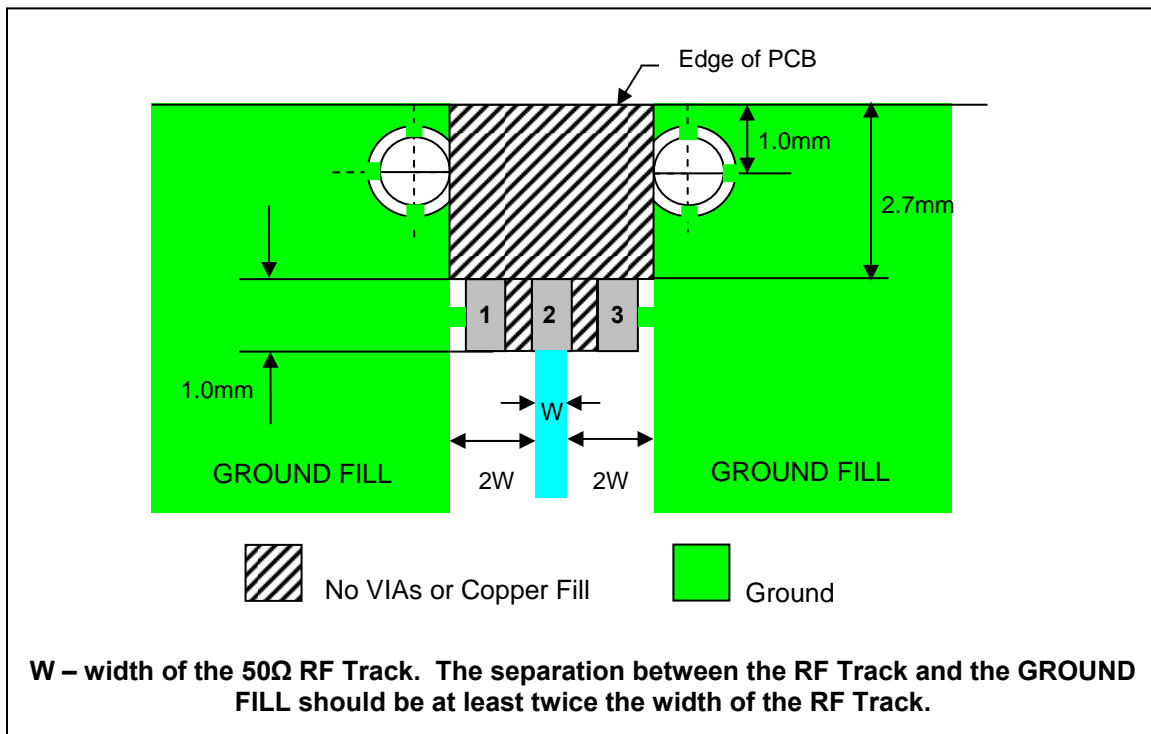


Figure 7: RF Layout Guideline for the IMS Connector

5. APPLICATION SUPPORT

This document provides general guidelines to the installation and use of the IMS connector in the integration of GeoHelix-P2 antenna into a product. Further mechanical integration guidelines are found in the technical note **GeoHelix-P2 GPS Antenna Mechanical Integration Guidelines**. It is strongly advised that customers be familiar with both documents.

Sarantel's applications group have significant previous design experience at the system and component level in a number of blue chip telecommunication and electronics companies. Combined with state of the art test facilities, this gives Sarantel the ability to offer unique support tailored to the customer's requirements.

This expertise can help avoid performance issues in the design phase, reducing the time to market, hence overall engineering costs, and ensure a more successful product.