

# Antenna Data Sheet

## Antenna Manufacturer Information:

The antenna(s) for Garmin Model **A04630** are custom designed and manufactured by Garmin International, Inc. (Garmin) with headquarters located at 1200 E. 151<sup>st</sup> Street, Olathe, KS, 66062, USA. Garmin is an antenna manufacturer that specializes in antenna construction and has been a technology leader in high-performance antenna design for over thirty years. State-of-the-art equipment is used as described below to design, measure, and analyze new designs that are superior to competitor designs and highly proprietary in nature.

## Equipment Description:

This data sheet contains the antenna gain information for the **antenna(s)** for Garmin Model **A04630**. The approximate operational frequency band of these technologies is given, and the maximum gain within the frequency band is reported.

## Reported Data:

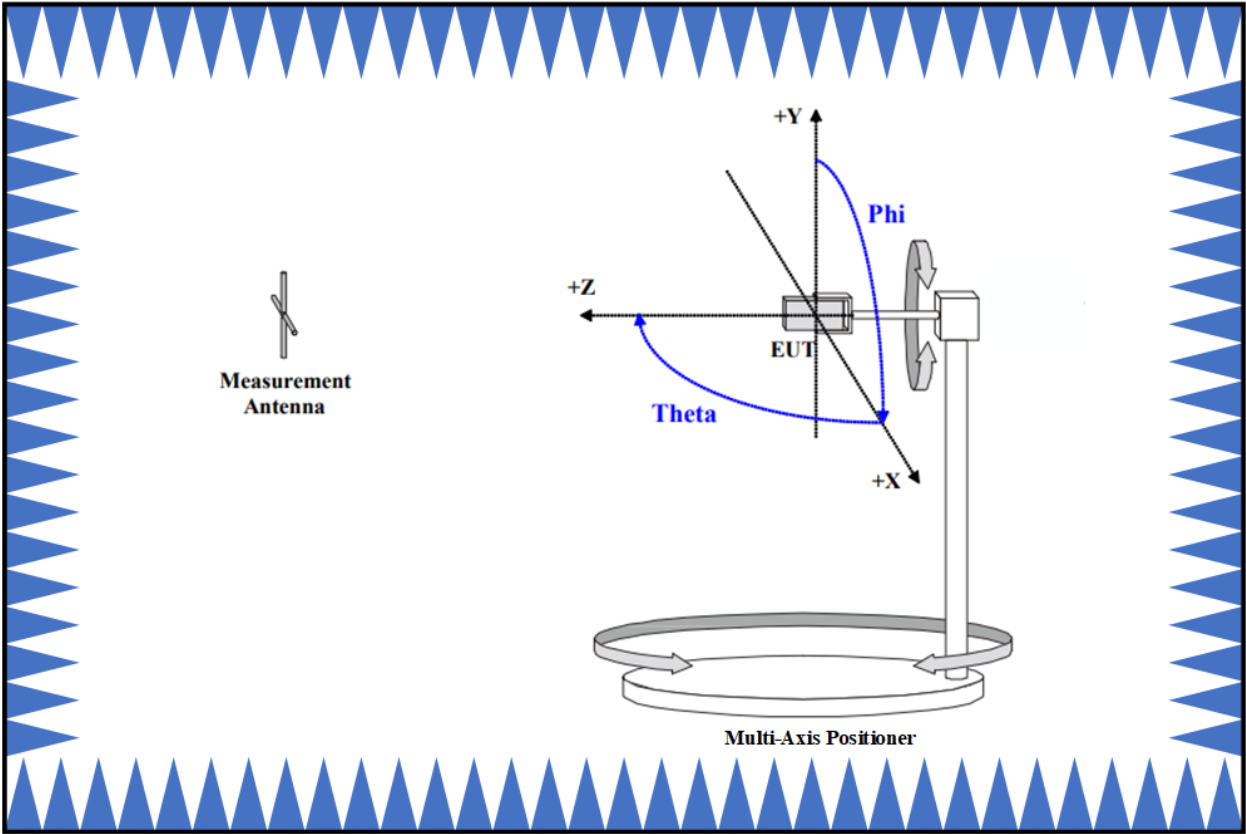
Antenna Model Number	Antenna Maximum Gain @ Frequency	Antenna Approximate Frequency Band
<b>A04630 Antenna 1</b>	<b>-5.03 dBi @ 2400 MHz</b>	<b>2400 to 2480 MHz</b>
<b>A04630 Antenna 2</b>	<b>0 dBi @ 13.56 MHz</b>	<b>13.56 MHz</b>

## Procedure:

Garmin uses an ETS-Lindgren AMS-8500 3D Fully Anechoic Automated Antenna Measurement System. The measurement chamber is fully anechoic and contains both the Equipment Under Test (EUT) and the measurement antenna. The EUT is mounted on a Multi-Axis Positioner, which can orient the antenna in all orientations relative to the measurement antenna. The measurement antenna is dual-polarized and measures both horizontal and vertical polarization simultaneously. The other equipment includes a Vector Signal Generator, a multi-channel Vector Network Analyzer, and a control PC. Data is taken and analyzed using EMQuest Data Acquisition and Analysis Software. The output includes the maximum 3D antenna gain within the frequency band.

# Antenna Data Sheet

**Setup:**



**Equipment List:**

3D Chamber PC interfaced to Test Equipment
EMQuest Software w/ Required Drivers for Equipment Installed
AMS-8500 Anechoic Wireless Test Chamber
Dual Polarization Measurement Antenna (ETS 3164)
Multi-Axis Positioning System (MAPS)
Multi-Axis Positioning Controller (ETS EMCO Model 2090)
Network Analyzer (Agilent E5017C)
Automated RF Switch Controller (Agilent)

**Additional Information:**

Proprietary information regarding antenna design, dimensions, cable length, etc. are provided in the Confidential Operation Description exhibit.