

## Antenna Gain Information: A04277, B04277, C04277, D04277

### Equipment Description:

This report contains the antenna gain information for the antennas for Garmin Model A04277, B04277, C04277, and D04277. The approximate operational frequency band of these technologies is given, and the maximum gain within the frequency band is reported.

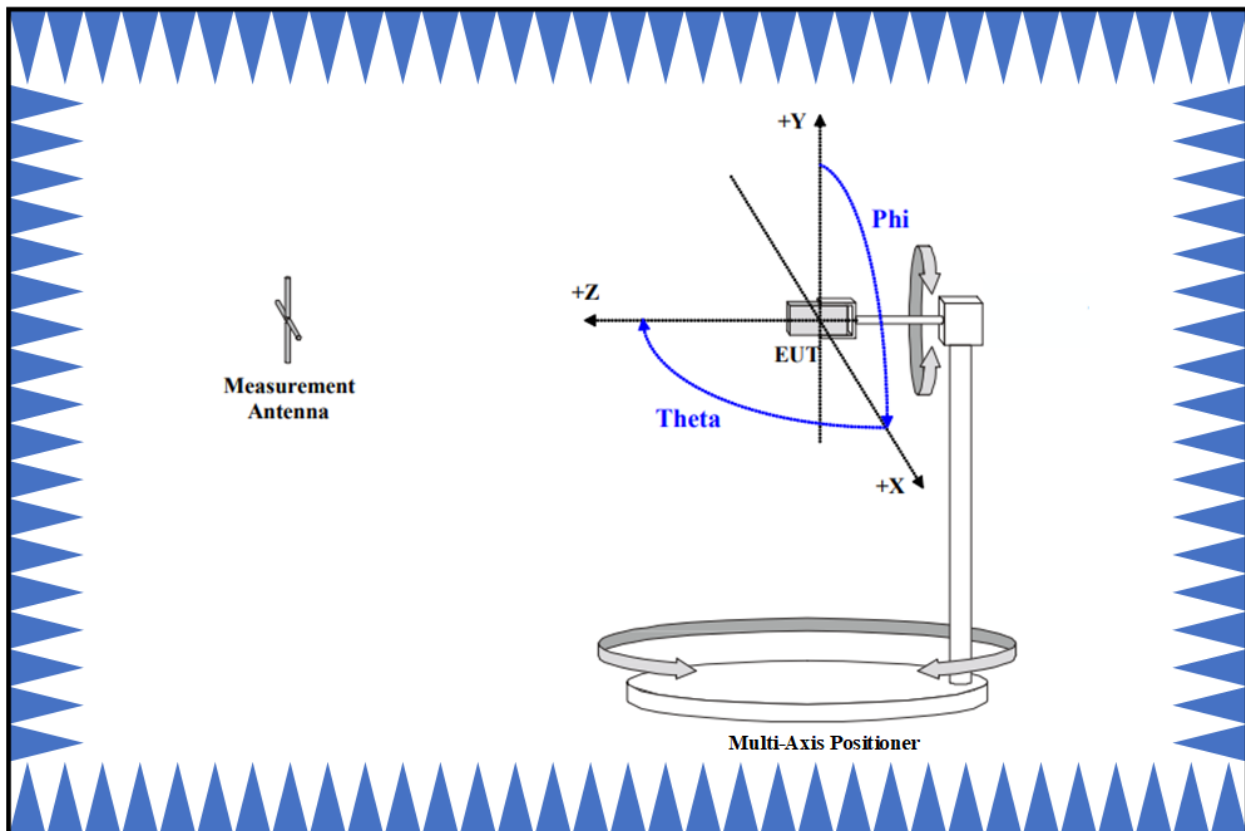
### Reported Data:

Antenna	Gain @ Frequency	Approximate Frequency Band
Bluetooth	5.74 dBi @ 2400 MHz	2400 to 2480 MHz
ANT	4.65 dBi @ 2460 MHz	2400 to 2480 MHz
WiFi 0	0.90 dBi @ 2460 MHz	2400 to 2480 MHz
WiFi 1	0.90 dBi @ 2460 MHz	2400 to 2480 MHz

### 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.

### 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:**

Information regarding antenna design, dimension, cable length, etc. is provided in the Confidential Operation Description exhibit.