SUUNTO

Radiation pattern and Antenna system description

Manufacturer: Suunto Oy
Product model: OW233

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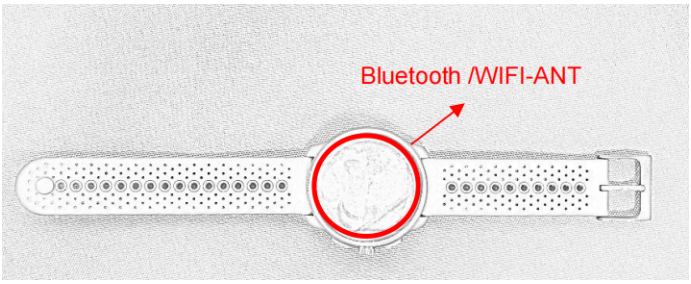
Antenna system structure OW233

- Antenna system consists of a radiator, connection elements and a ground plane.
- Bezel is utilized as the radiating element for all protocols (Dualband GNSS&BLE/WLAN)
- Radiator is connected to GNSS receiver, WLAN&BLE transceivers and PCB ground using galvanically connected clips between bezel and corresponding PCB connections.
- Bezel diameter 43.0mm, height 3.0mm



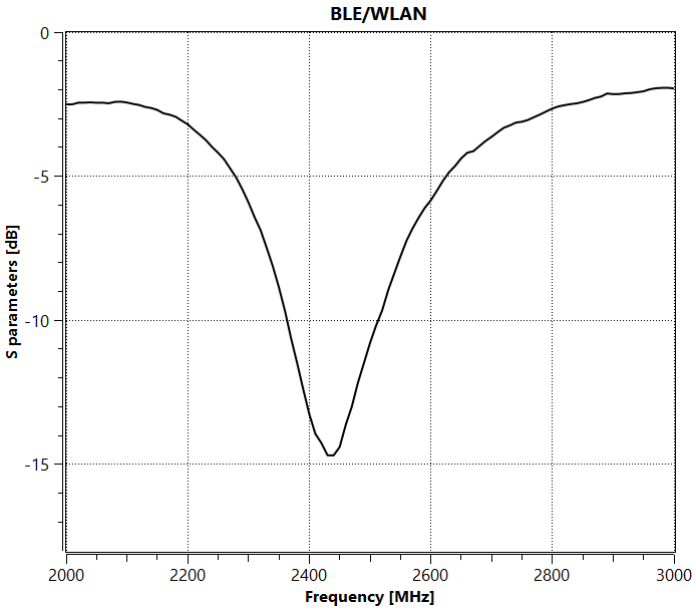
Radiation parameters

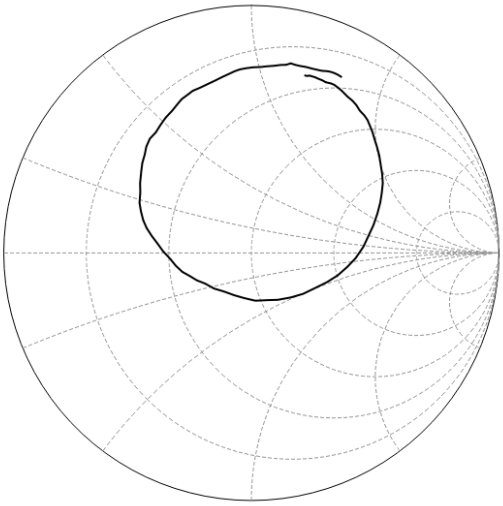
- BLE/WLAN 2.4 GHz antenna
  - Peak gain = -5.4 dBi
  - Efficiency = -9.6dB
  - Center frequency= 2442 MHz
  - Bandwidth = 85 MHz

- Dualband GNSS antenna L5-L1
  - L5 Center frequency = 1175 MHz
  - L1 Center frequency = 1575 MHz
  - L5 Bandwidth = 25 MHz
  - L1 Bandwidth = 55 MHz

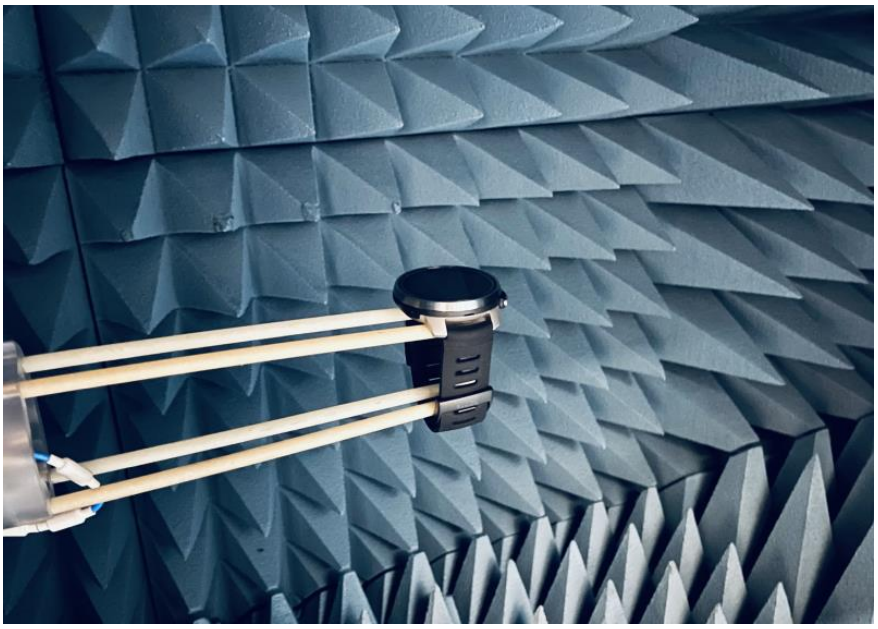
  - L5 Peak gain = -8.8 dBi
  - L1 Peak gain = -7 dBi

Impedance

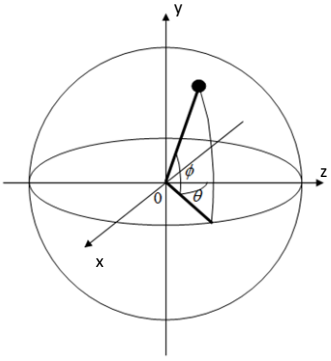




Measurement



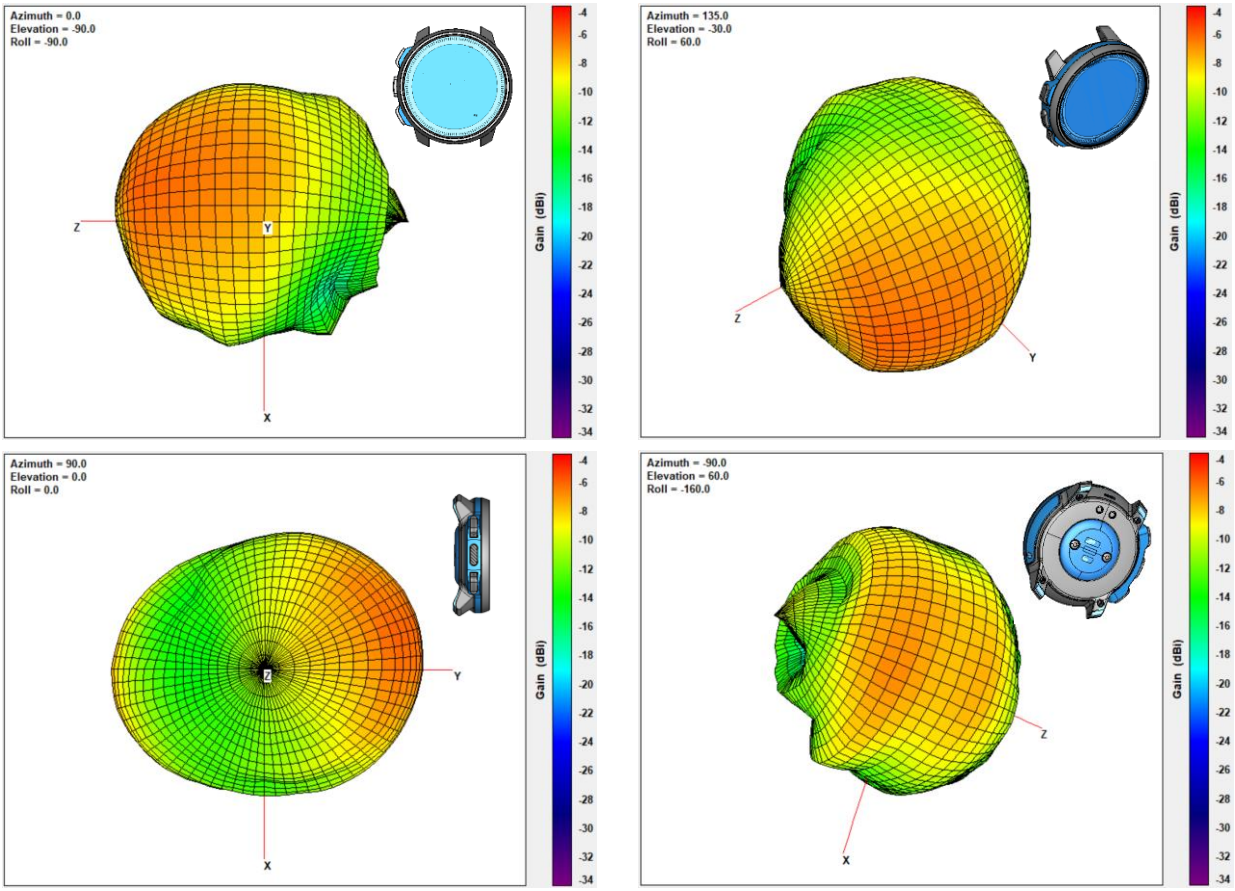
Measurement setup

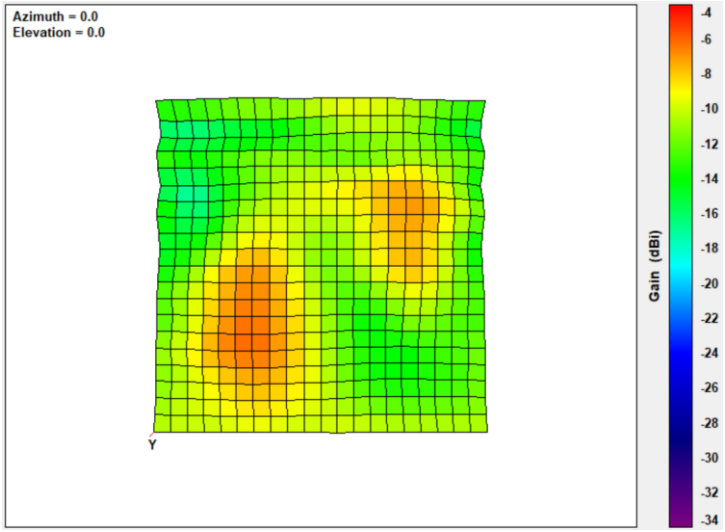


Spherical polar coordinate system used. Measuring antenna is located along z-axis

Coordinate system

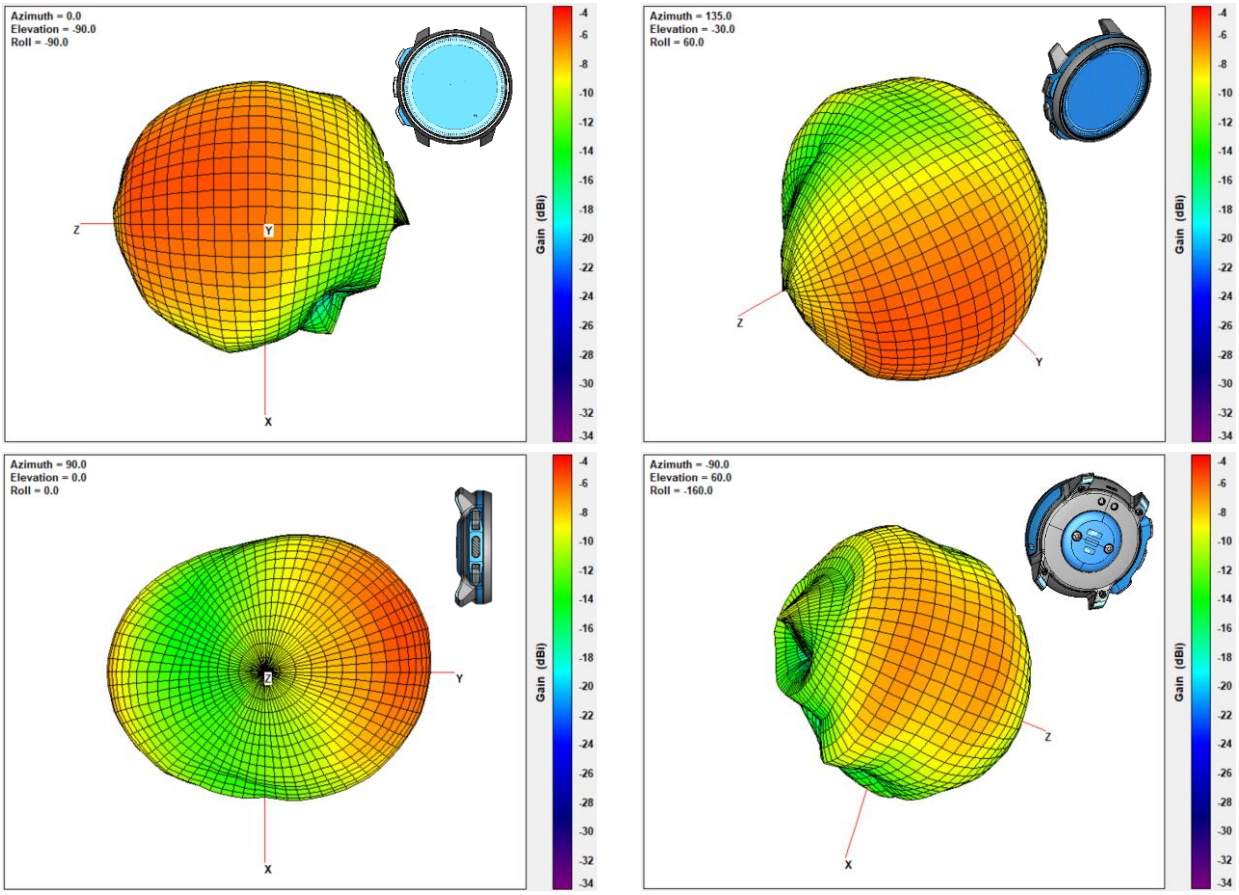
Radiation pattern, 2400MHz

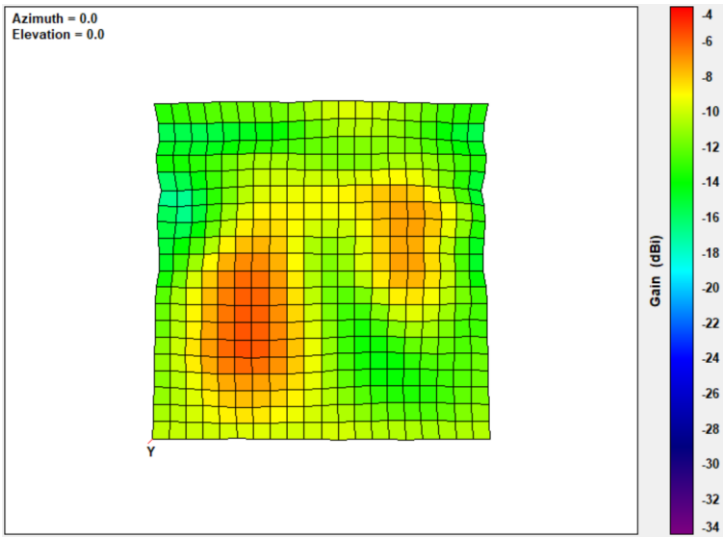




Peak gain -5.9dBi

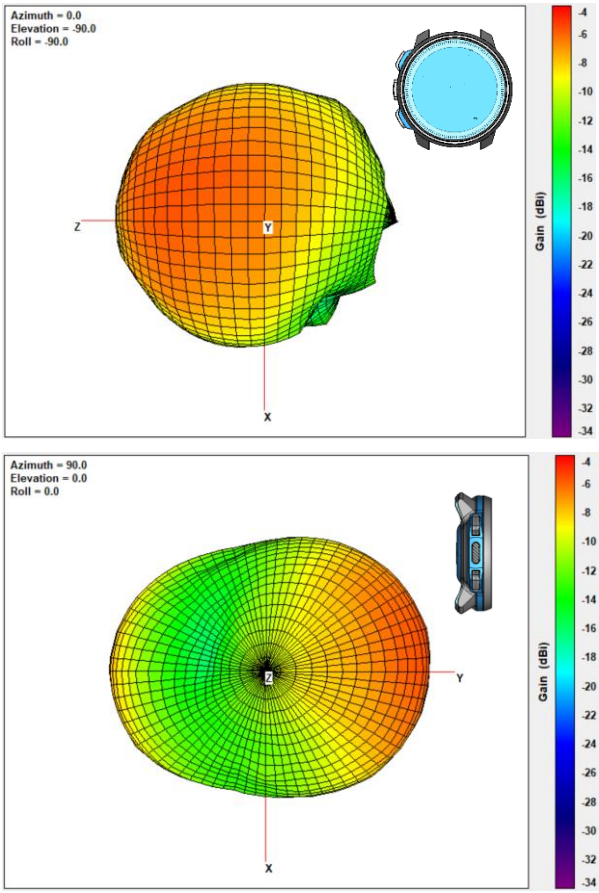
Radiation pattern, 2440MHz

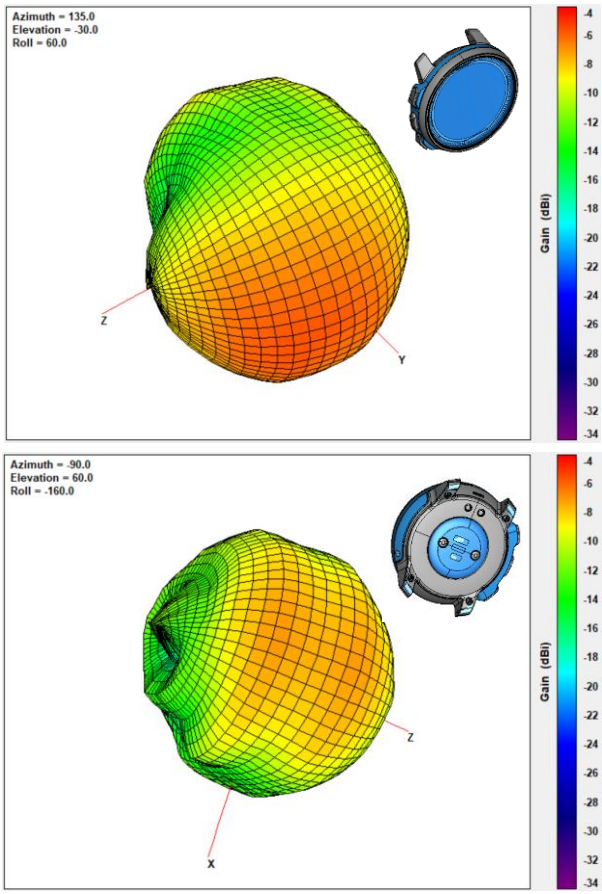


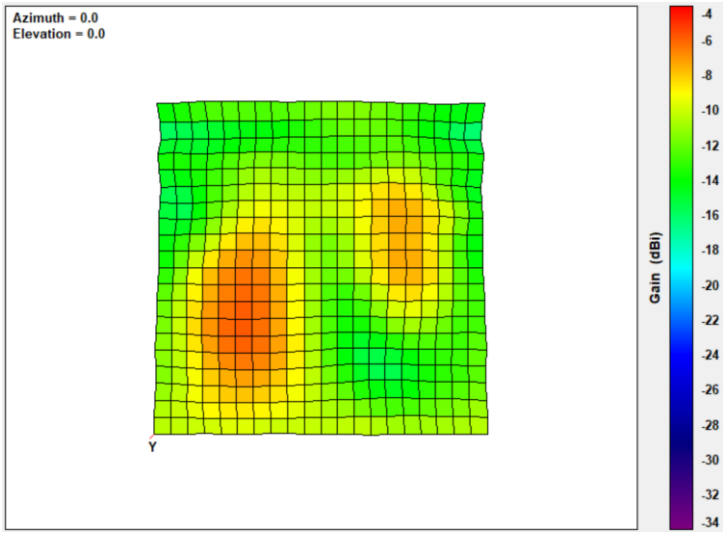


Peak gain -5.4dBi

Radiation pattern, 2480MHz







Peak gain -5.6dBi