

Radiation pattern and Antenna system description

Manufacturer: Suunto Oy

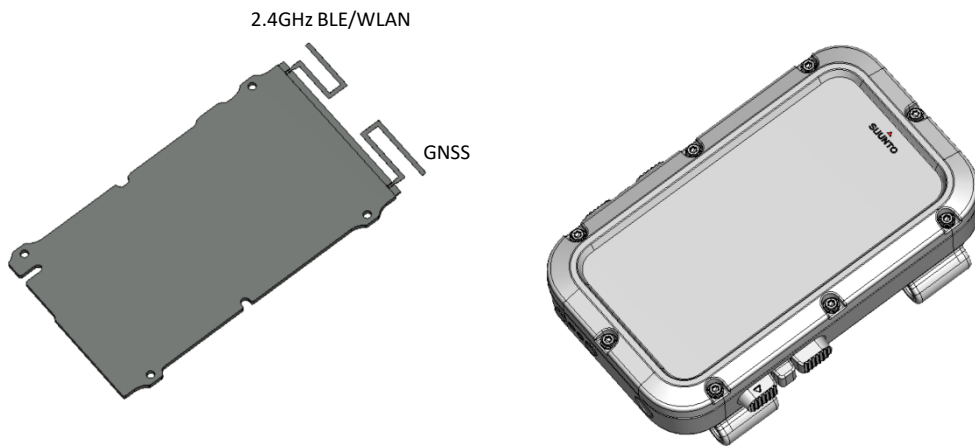
address: TammistonKauppatie 7, 01510 Vantaa, Finland

Product model: DW251

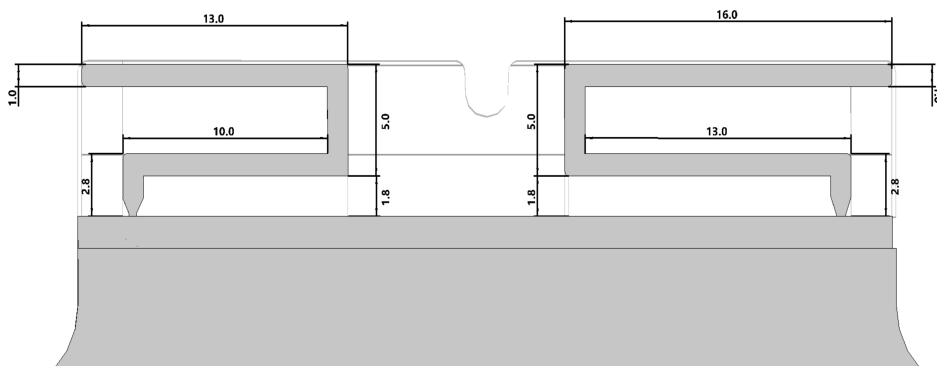
E. Varjonen 16.10.2025

Antenna system structure DW251

- Antenna structure consists of two integrated PCB radiators



Radiator locations on PCB



- Antenna Dimension, units: mm

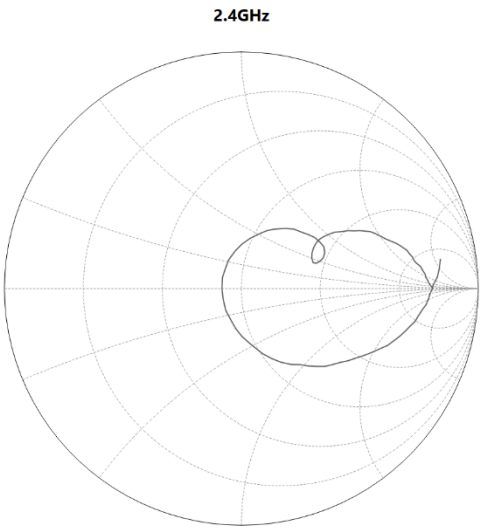
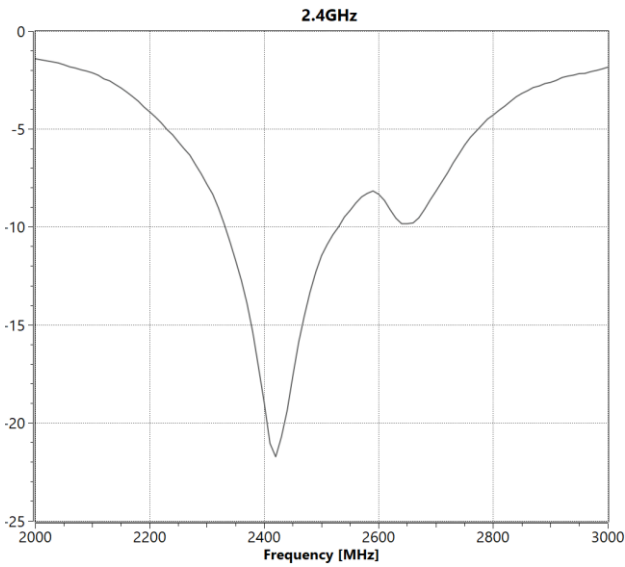
Radiation parameters

- BLE/WLAN 2.4 GHz antenna

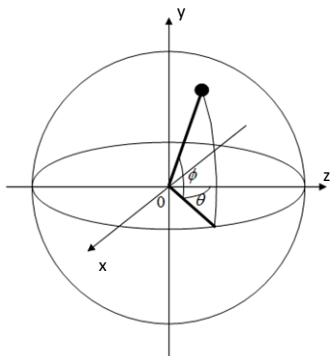
Frequency (MHz)	2400	2440	2480
Gain (dBi)	1.7	1.4	1.3
Efficiency (%)	48	49	47

- Dualband GNSS antenna L5-L1
 - L5 Center frequency = 1175 MHz, Gain -7.3dBi
 - L1 Center frequency = 1575 MHz, Gain -3.8dBi
 - L5 Bandwidth = 25 MHz
 - L1 Bandwidth = 55 MHz

Impedance



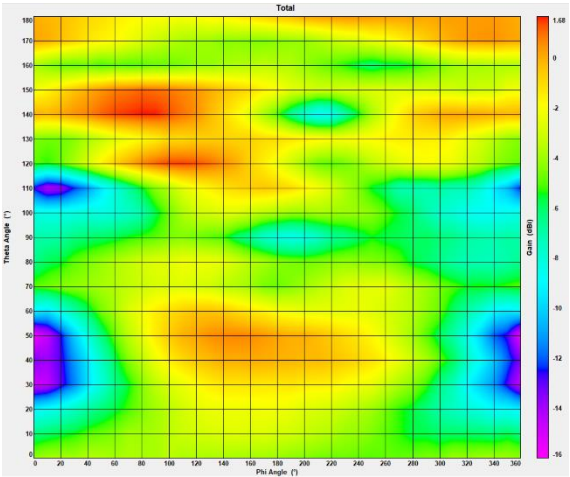
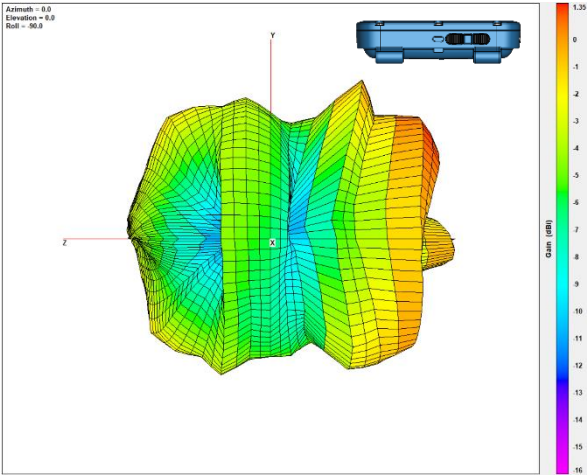
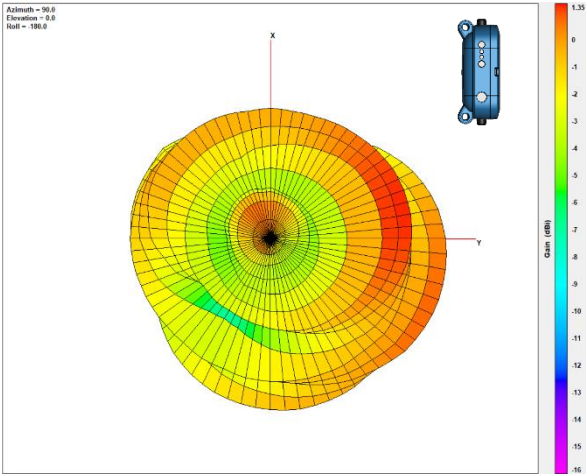
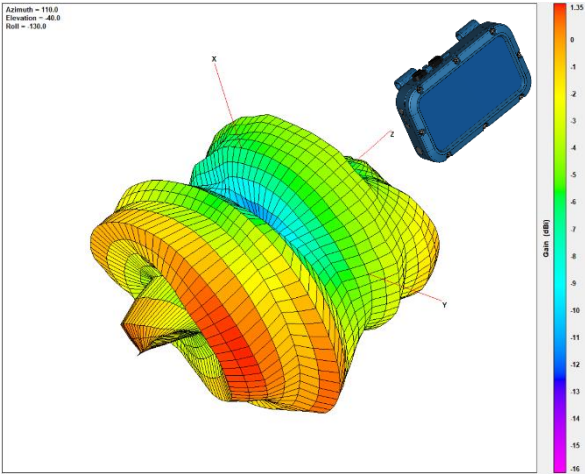
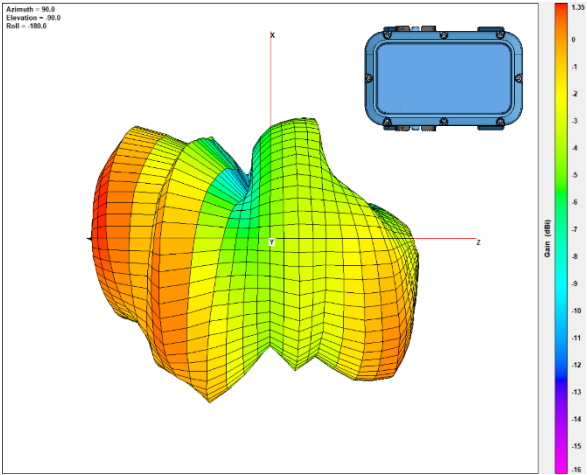
Measurement setup



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

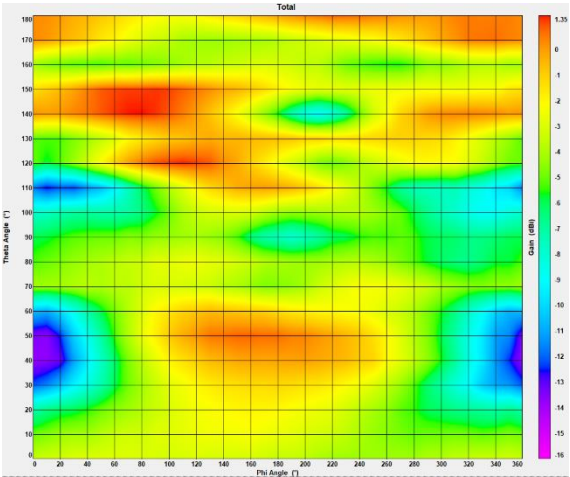
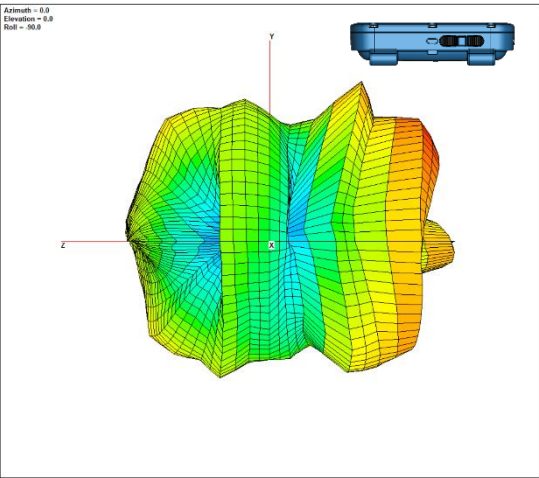
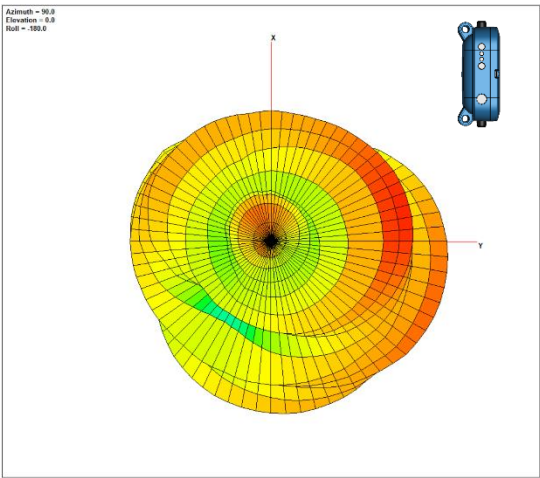
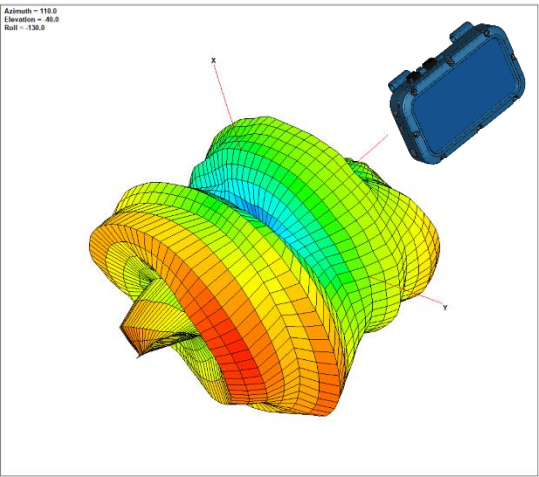
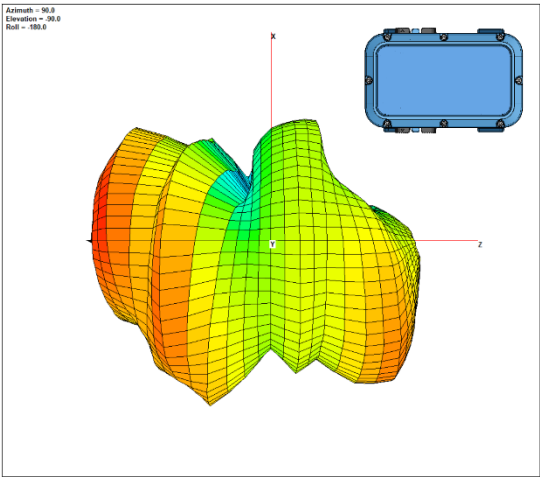
Coordinate system

Radiation pattern, 2400MHz



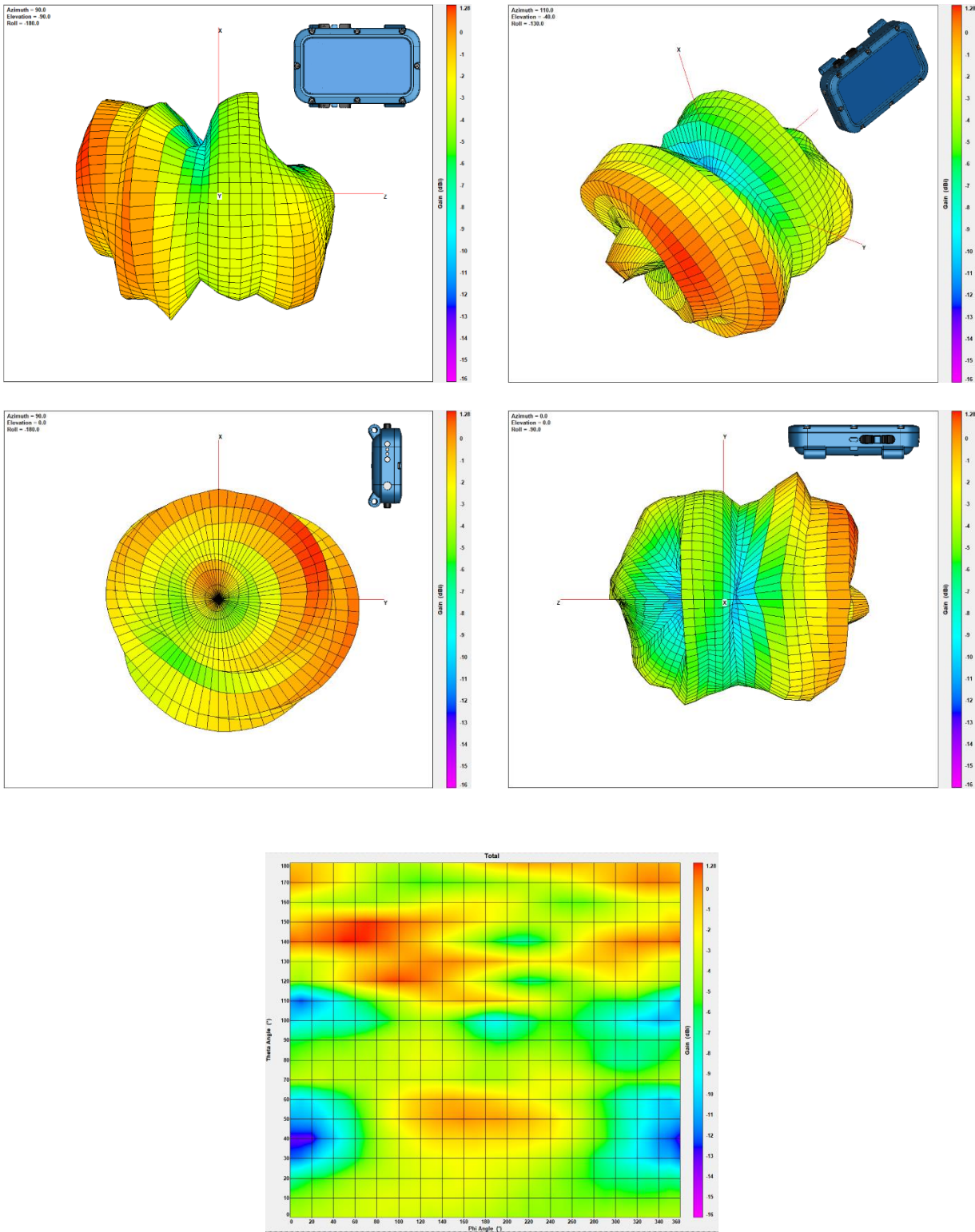
Peak gain 1.7dBi

Radiation pattern, 2440MHz



Peak gain 1.4dBi

Radiation pattern, 2480MHz



Peak gain 1.3dBi