

HW Platforms / R&D
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Antenna technical document for FCC, Polar OHR sensor, model 5T

Revision History:

Rev	Date	By	Description of Change
v.1.0	08.02.2024	JAI	Initial release

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1 General information

1.1 Antenna information

2.4GHz BLE Antenna

Maximum antenna gain at BLE frequency range is 2,6dBi.
Total Efficiency at BLE frequency range is -2.8dB.

Antenna type: Monopole FPC antenna

Antenna details

Antenna is monopole FPC antenna with gold-plated contact attached to the device's front cover

- antenna size: approx. 15 x 3.8 x 0.15mm
- antenna model number HONDANT_1
- radiation pattern: linear polarized, omnidirectional

Antenna location: antenna is attached on the inner surface of the front cover of the device.

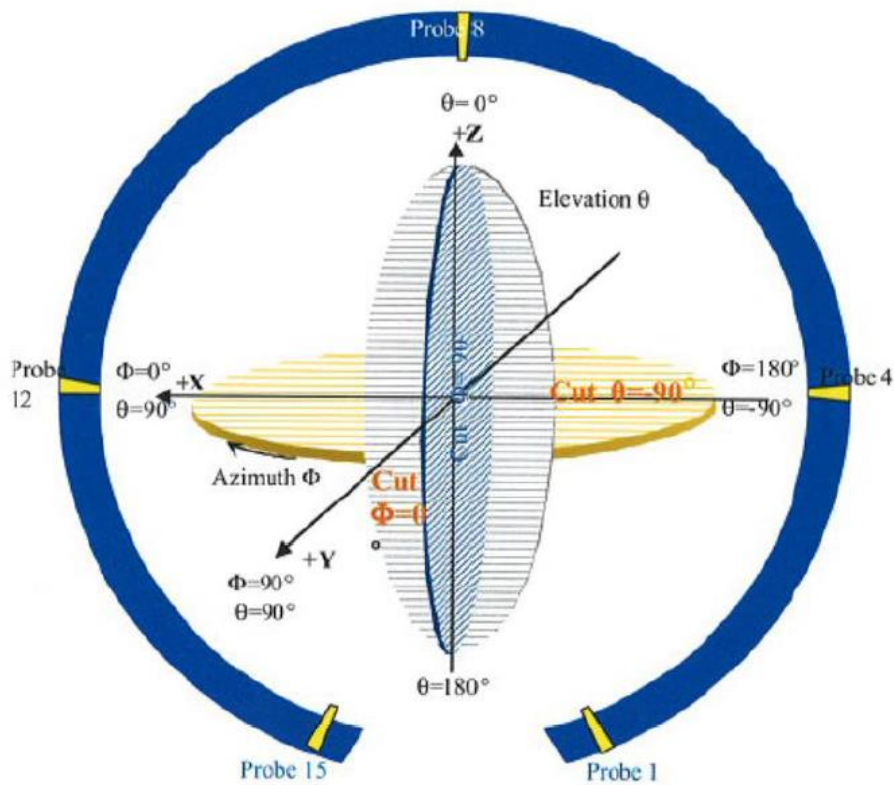


Antenna location

Monopole FPC antenna

2 Measurement coordinate system

Antenna efficiency and radiation pattern were measured with Satimo StarLab-antenna measurement system.

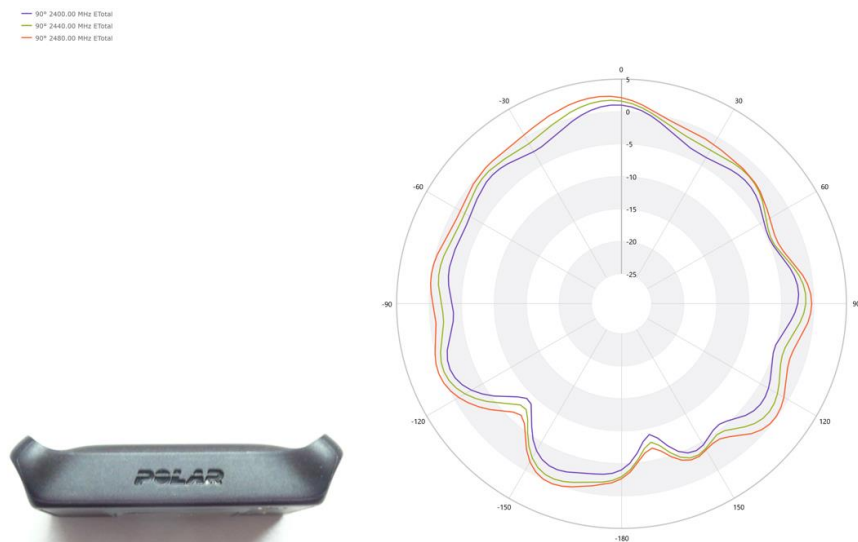


The coordinate system of the measurement chamber

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2.1 Antenna cut diagrams

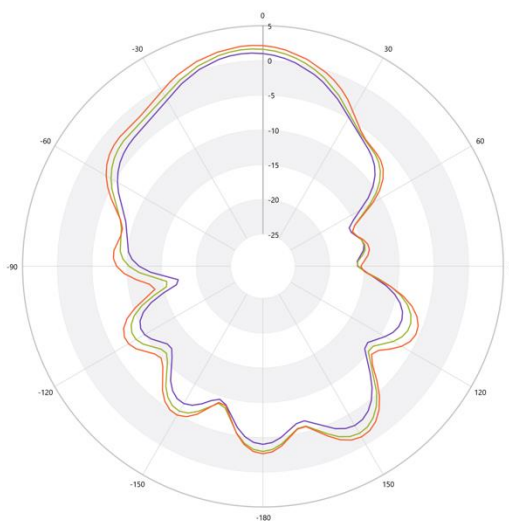
2.1.1 $\Phi = 0$ deg (XZ-plane)



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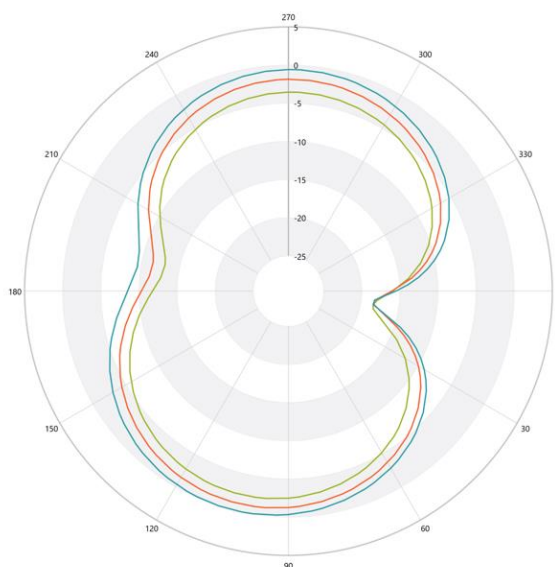
2.1.2 Phi = 90 deg (YZ-plane)

— 0° 2400.00 MHz ETotal
— 0° 2440.00 MHz ETotal
— 0° 2480.00 MHz ETotal



2.1.3 Theta = 90 deg (XY-plane)

— 90° 2400.00 MHz ETotal
— 90° 2440.00 MHz ETotal
— 90° 2480.00 MHz ETotal



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3 Measurement system

Main Specifications of antenna measurement system

Equipment: *StarLab* with anechoic enclosure, delivered by Satimo, France

Frequency range 0.8 GHz – 6 GHz

Accuracy: Peak antenna gain < +/- 1.1 dB within 0.8 – 1.0 GHz
 < +/- 0.8 dB within 1.0 – 6.0 GHz

Dynamic range: 50 dB (VNA driven)

Measurement device: VNA Agilent E5071B, 300 kHz – 8.5 GHz

Calibration antenna: Horn antenna SH800, 0.8 GHz – 12 GHz

Satimo StarLab block diagram

