



**SKIDATA**<sup>®</sup>  
KUDELSKI GROUP

## BLE Module

Specification of the BLE PCB Antenna Type 1

Belongs to: FCC ID:QSS-BLE

Belongs to: IC:6215A-BLE

Author: SCMN

Version: 1.1

2022-11-16

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## Version History

Date	Version	Changed by	Description of Changes
2022-11-11	1.0	SCMN	
2022-11-16	1.1	SOCH	Modifications due to FCC requirements

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## 2. Overview

The **BLE PCB Antenna Type 1** is a circularly polarized Microstrip (Patch) Antenna intended to work in the 2,4 GHz ISM Band (2,4 GHz – 2,5 GHz) especially for BLE operation (2,402 GHz – 2,480 GHz). It is manufactured as a PCB (FR4) antenna.

### 2.1 Technical Characteristics

- Dimensions: 60 mm × 100 mm × 2,1 mm (approximately)
- Operating frequencies: 2,402 GHz – 2,480 GHz (2,4 GHz ISM Band)

## 3. Specification

The given data are based on simulation.

### 3.1. Electrical Characteristics

Frequency (GHz)	2,400	2,440	2,480
Peak realized gain (dBi)	2,30	2,54	1,72
Efficiency (%)	49	47	43
Axial ratio (dB) @ theta = 0°	7,06	3,47	3,96
Return loss (dB)	< -10	< -10	< -10
Polarization	RHCP		
Feed impedance (Ohm)	50		

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## 3.2. Antenna Characteristics – Radiation Pattern

Fig 1: XZ plane: 2,40 GHz, 2,44 GHz, 2,48 GHz

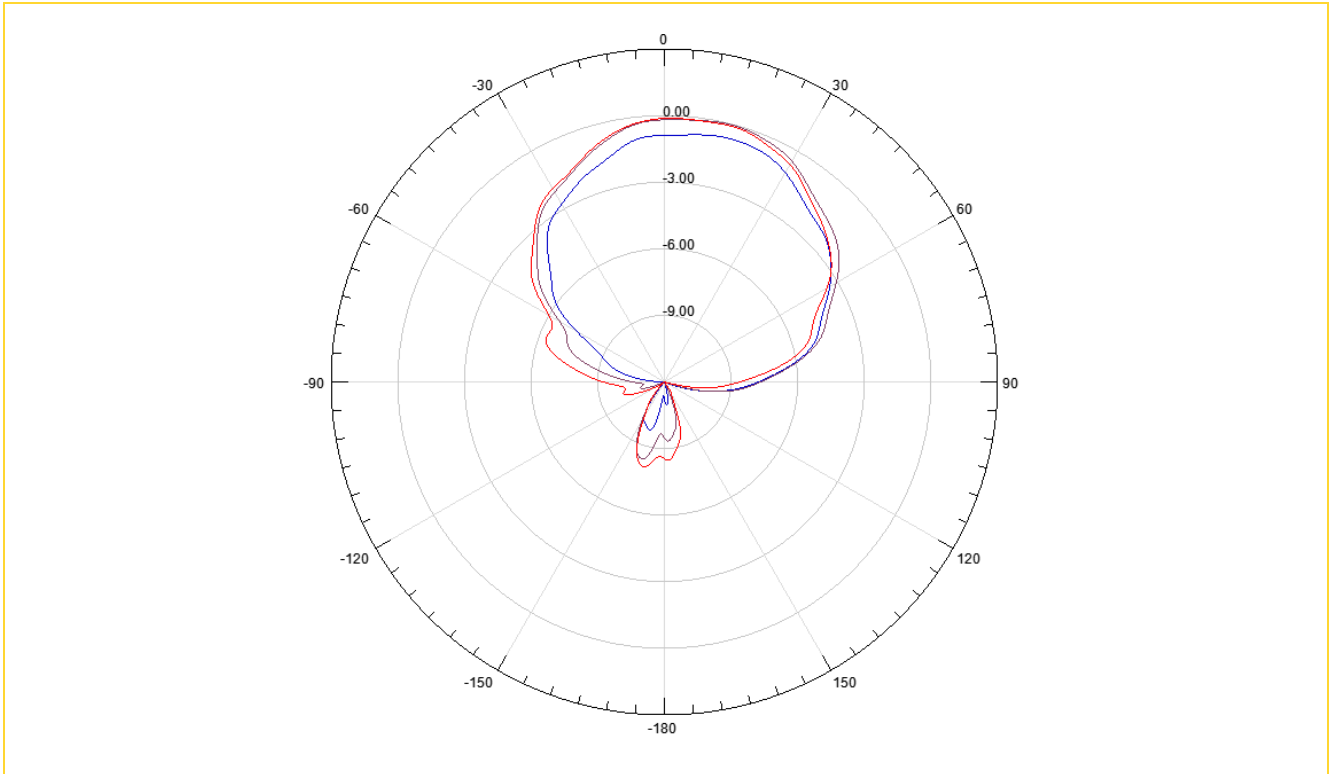
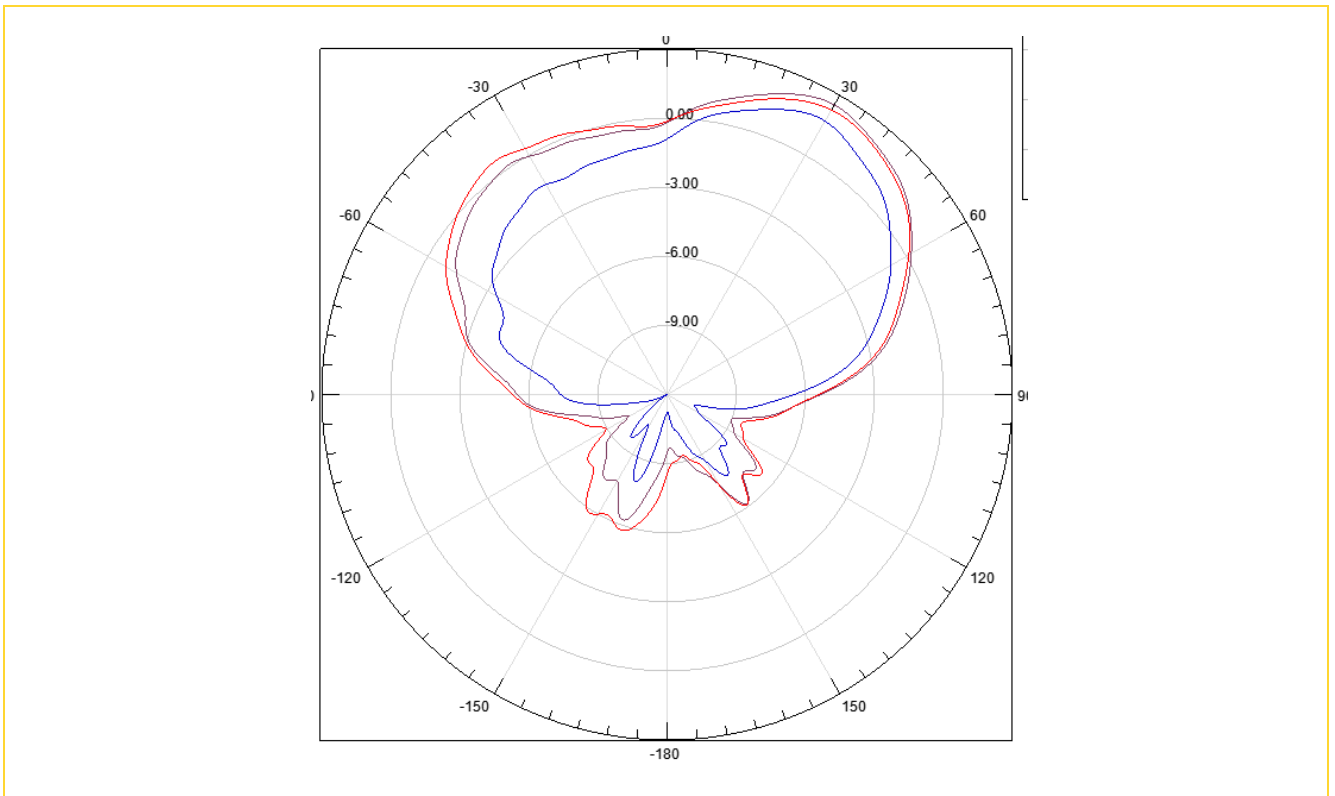


Fig 2: YZ plane: 2,40 GHz, 2,44 GHz, 2,48 GHz



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Fig 3: XY plane: 2,40 GHz, 2,44 GHz, 2,48 GHz

