

RS916AC1 Integral Antenna

Data Sheet

This document provides the specification of the integral antenna designed in the wireless radio modules with model name of *RS916AC1* and brand name of *SILICON LABS*.

Contents

1. Overview	2
2. Antenna specification.....	2
3. Gain, Efficiency and Radiation patterns.....	3
4. Picture and Dimensions.....	6

1. Overview

The integral antenna of the RS916AC1 modules is a PCB trace type. The embedded antenna is not commercially available: it is only intended for use as the self-contained integral antenna of the radio module.

Similarly to the module, the integral antenna itself is identified as follows:

Model name: RS916AC1
Brand name: SILICON LABS
Manufacturer: Silicon Laboratories Finland Oy (address: Alberga Business Park,
Bertel Jungin aukio 3, 02600 Espoo, Finland)

2. Antenna specification

Parameter	Min	Typ	Max	Unit
Frequency Range	2402	-	2480	MHz
Peak Gain	-	-	1.66	dBi
Efficiency	-	-	-0.65	dB
Impedance	-	50	-	Ω
Return Loss	-	-	-23	dB

Note: This antenna meets the specifications in the table above if the host board is designed so that it takes into account the guidance and constraints stipulated in the user manual / datasheet of the module, following in particular the design guidelines section for host boards.

3. Gain, Efficiency and Radiation patterns

Peak Gain (dBi) = 1.66 dBi

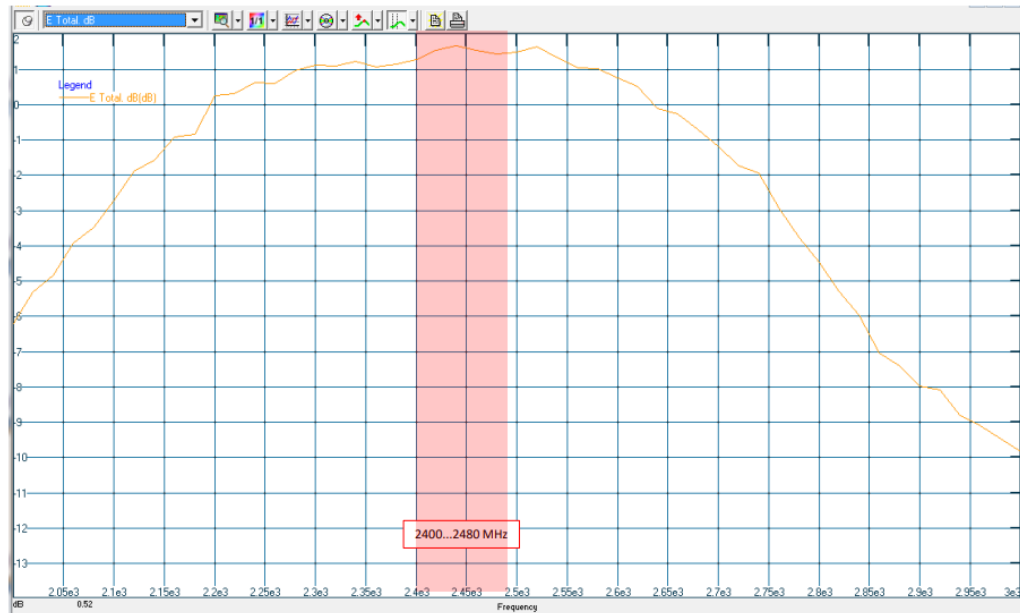


Figure 2: Integral Antenna Gain

Efficiency (dB) = -0.65 dB

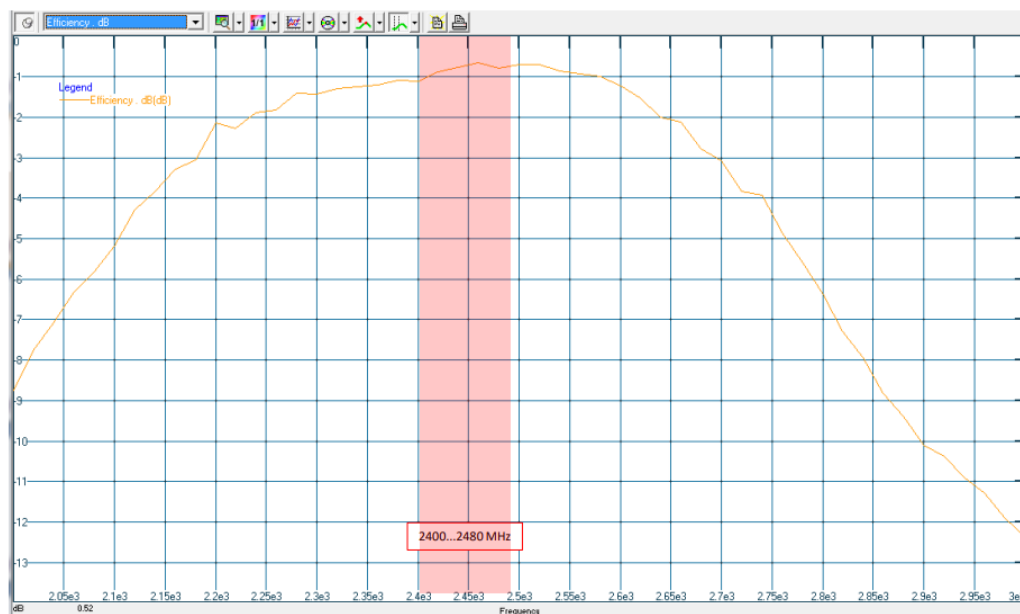


Figure 3: Integral Antenna Efficiency

Phi0 Gain cut (dBi)

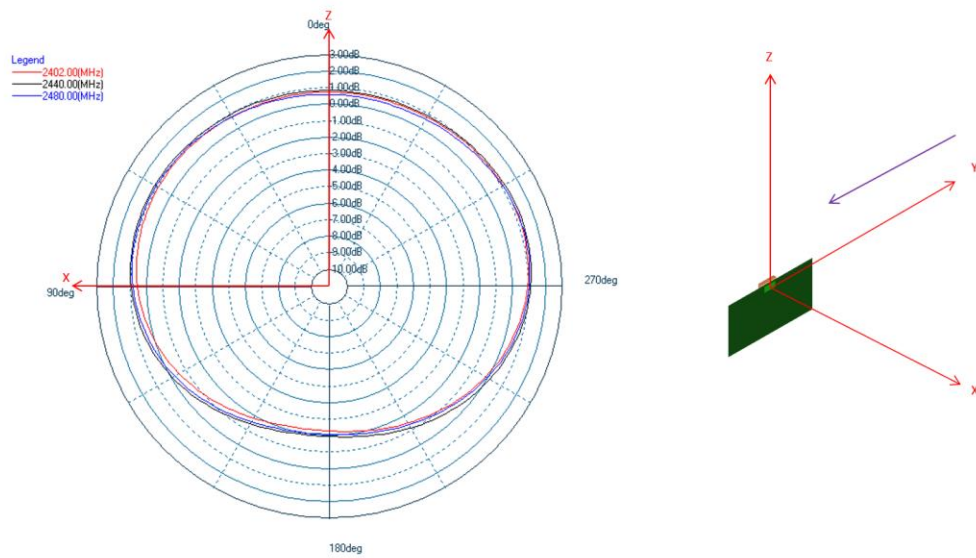


Figure 4: Integral Antenna Radiation Pattern Phi 0°

Phi90 Gain cut

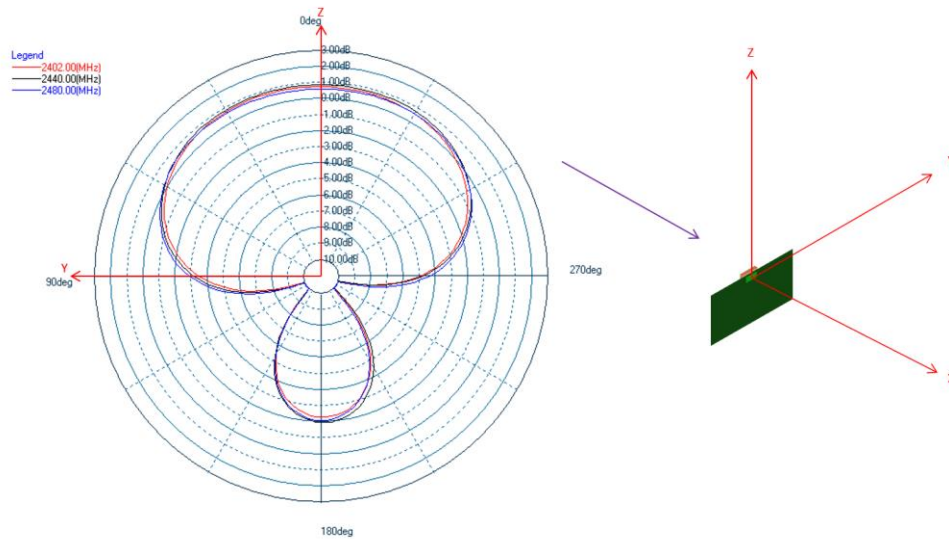


Figure 5: Integral Antenna Radiation Pattern Phi 90°

Theta90 Gain cut

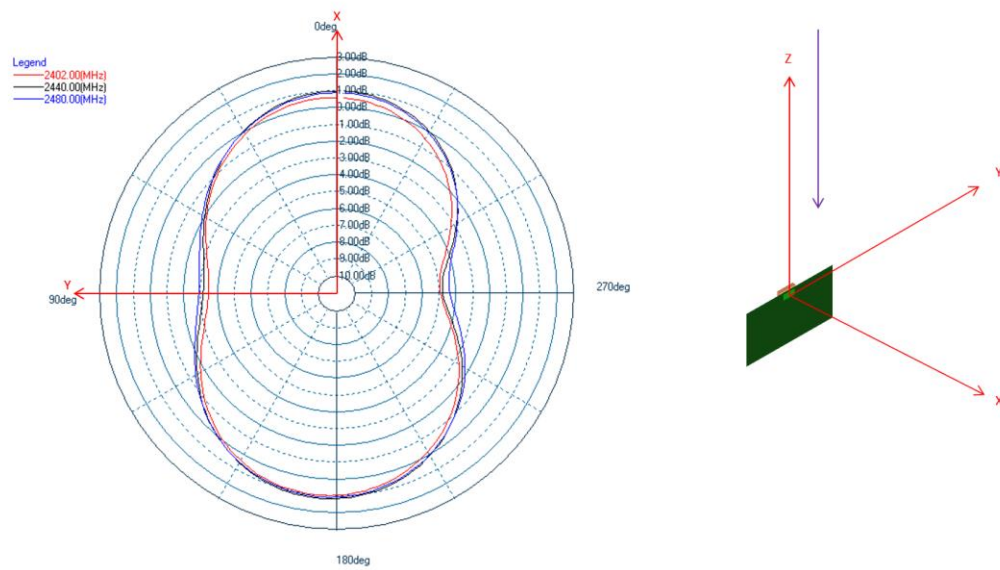


Figure 6: Integral Antenna Radiation Pattern Theta 90°

4. Picture and Dimensions



Figure 7: Photo of the antenna realized on the RS916AC1. It consists of a PCB antenna trace and 7 ceramic capacitors (C9,C11-C16)

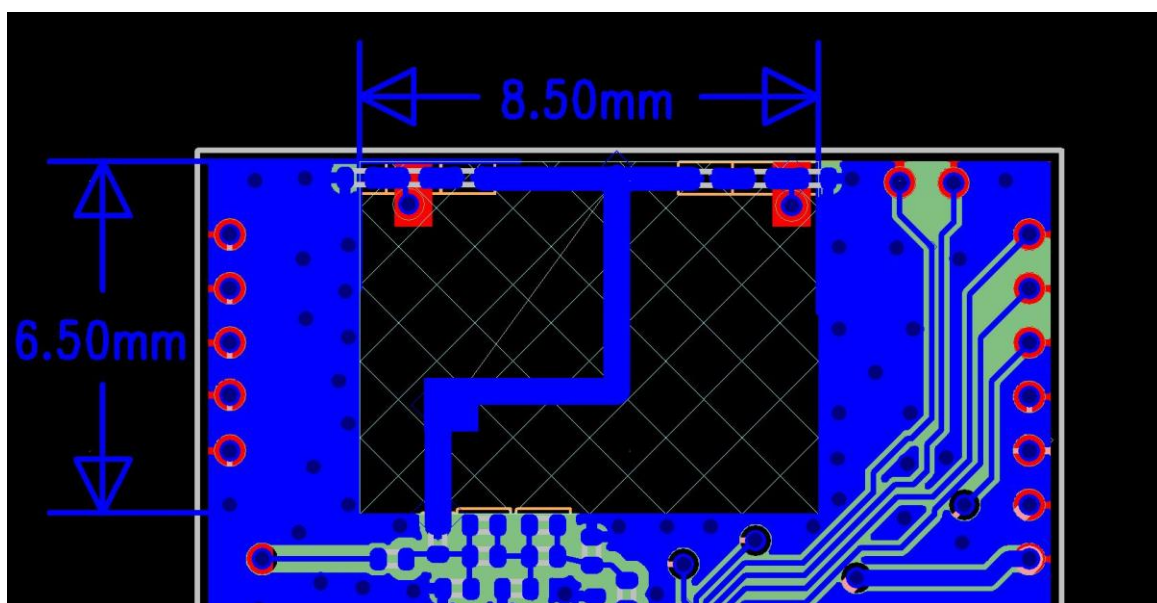


Figure 8: Dimensions of the antenna realized on the RS916AC1.