

GM260PA Integral Antenna Data Sheet

This document provides the specification of the integral antenna designed in the Bluetooth Low Energy (LE) and 802.15.4 wireless radio modules with model names of [B|G]GM260P[2|3]2A and brand name of SILICON LABS.

Antenna type: PCB Trace

Manufacturer: Silicon Laboratories Finland Oy
Address: Alberga Business Park, Bertel Jungin aukio 3,
02600 Espoo, Finland - Web: <https://www.silabs.com/>

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1. Overview

The integral antenna of the modules with model names of MGM260P22A, MGM260P32A, BGM260P22A, and BGM260P32A 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 modules.

The integral antenna itself is identified as follows:

Model name: GM260PA

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 of Operation	2402	-	2480	MHz
Peak Gain (Relative to Isotropic)	-	-	+2.87	dBi
Efficiency	-	-	-0.45	dB
VSWR	-	-	2:1	-
Reference Impedance	-	50	-	Ω
L x W	-	4.4 x 8.8	-	mm

Table 1: Antenna Specification

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

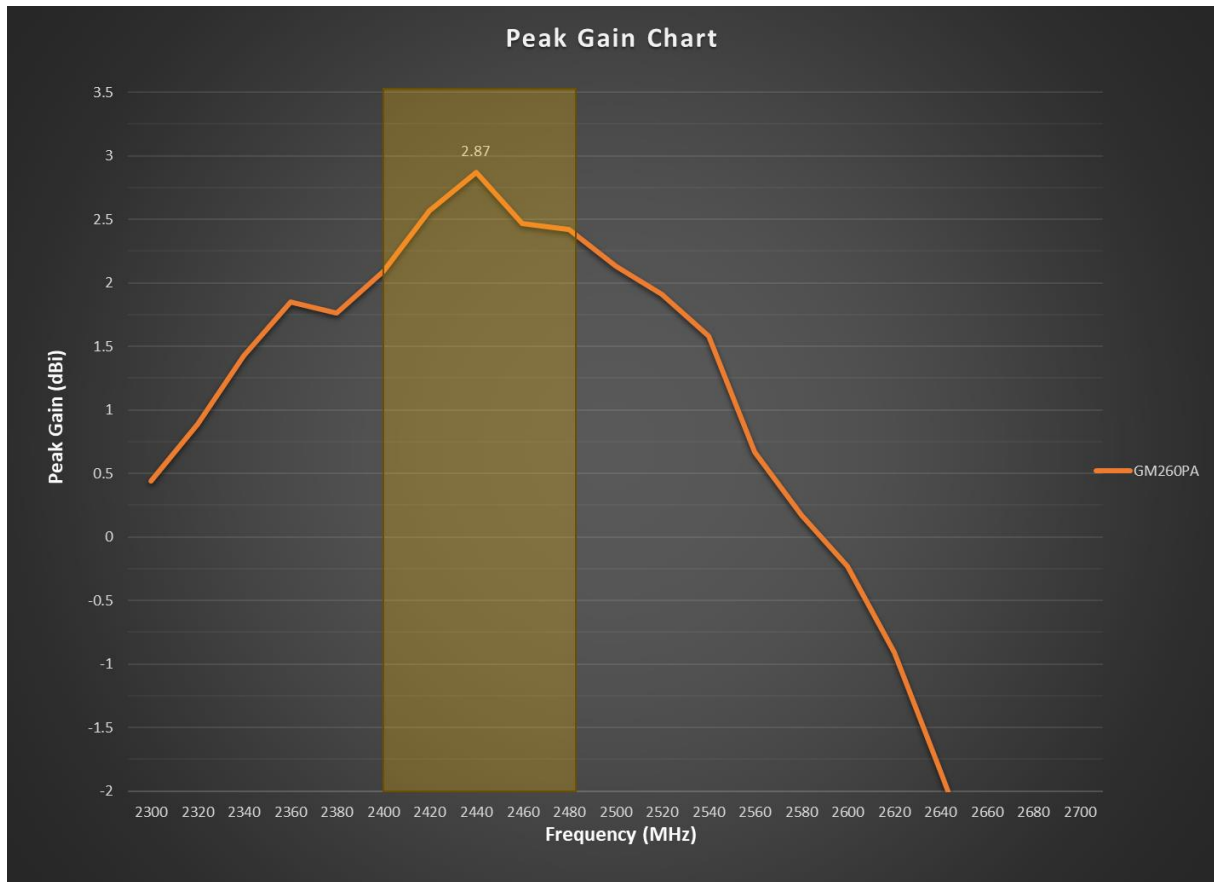


Figure 1: Integral Antenna Gain



Figure 2: Integral Antenna Efficiency

Phi0 Gain cut (dBi)

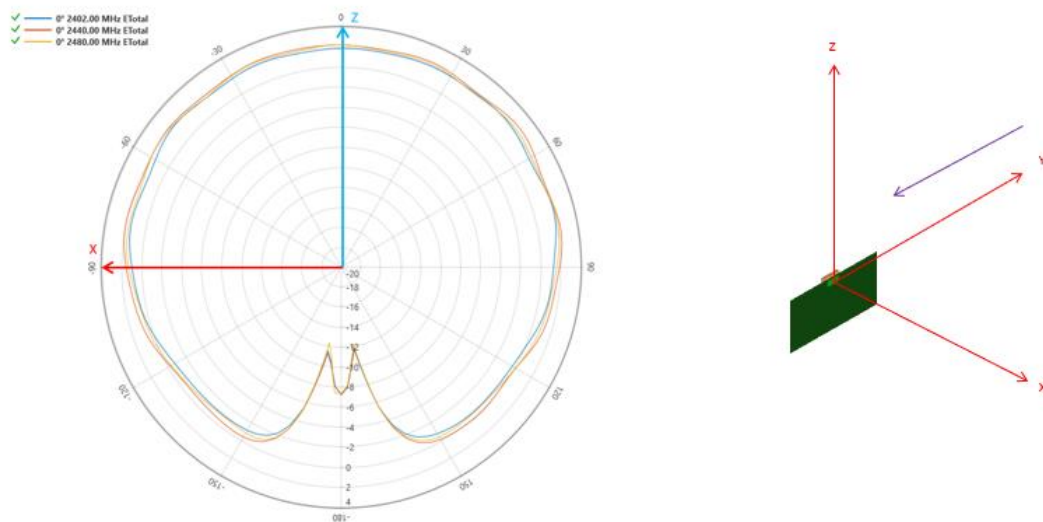


Figure 3: Integral Antenna Radiation Pattern Phi 0°

Phi90 Gain cut

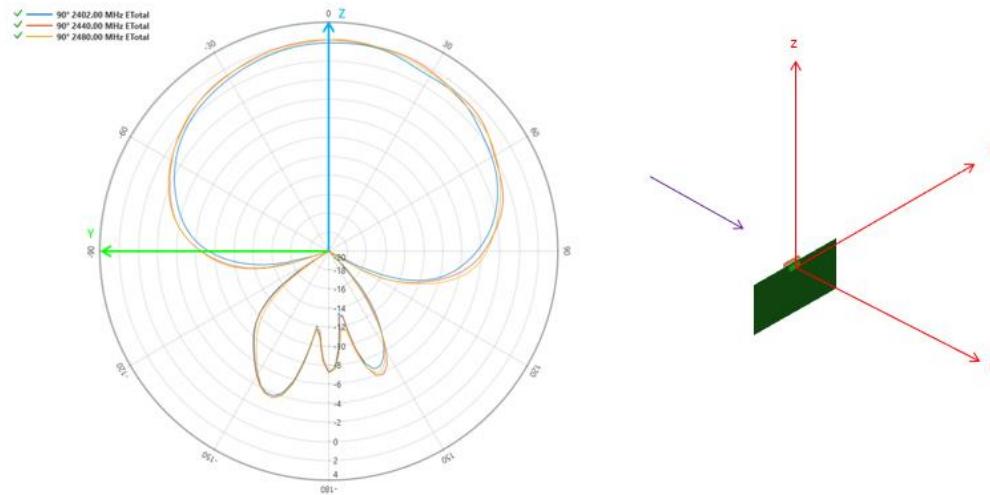


Figure 4: Integral Antenna Radiation Pattern Phi 90°

Theta90 Gain cut

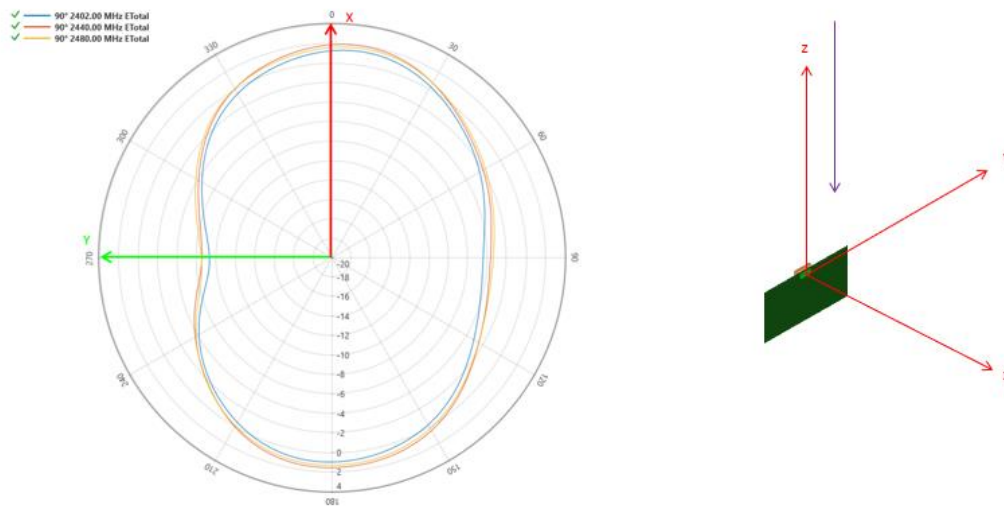


Figure 5: Integral Antenna Radiation Pattern Theta 90°

3.1 Note on the peak gain, efficiency, and radiation patterns (gain cuts)

Figures 1 to 5 depict measurements performed on manufacturer's behalf by a third-party independent lab, as follows:

Name: Sasken Finland Oy (part of Sasken Technologies Ltd.)

Address: Vissavedentie 1, FI-69600 Kaustinen, Finland (Web: <https://www.sasken.com/fi/>)

Testing Date / Operator: September 04, 2024 / Aki Myllymäki

Test equipment:

- Model name / description: Satimo SG64 / Multi-probe system for the most accurate solution in testing antennas and wireless devices, particularly developed to measure stand-alone antennas or antennas integrated in subsystems
- Manufacturer: Satimo (part of Microwave Vision Group)
- Software name and version: WaveStudio 23.3.2
- Configuration: Probe Array Controller (PAC) for passive measurements
- Calibration date: February 8, 2024 / Validity: 1 year / Sasken internal calibration check
February 8, 2024 / Validity: 2 years / Full system calibration
- Calibration info: Reference point: end of antenna feed cable on antenna mast
Reference antenna: Dual-Ridge Horn antenna SH400/S#0040, 0.4-6GHz

Note 1: Additional details of the test setup and measurements are in the separate report by the independent lab, which can be provided upon request.

Note 2: Figures 6 and 7 in this document show the engineering samples which were under evaluation, and which are fully representatives of the production modules. These modules are also fully representatives of the identical series models with model names of BGM260P32A and BGM260P22A.

4. Pictures

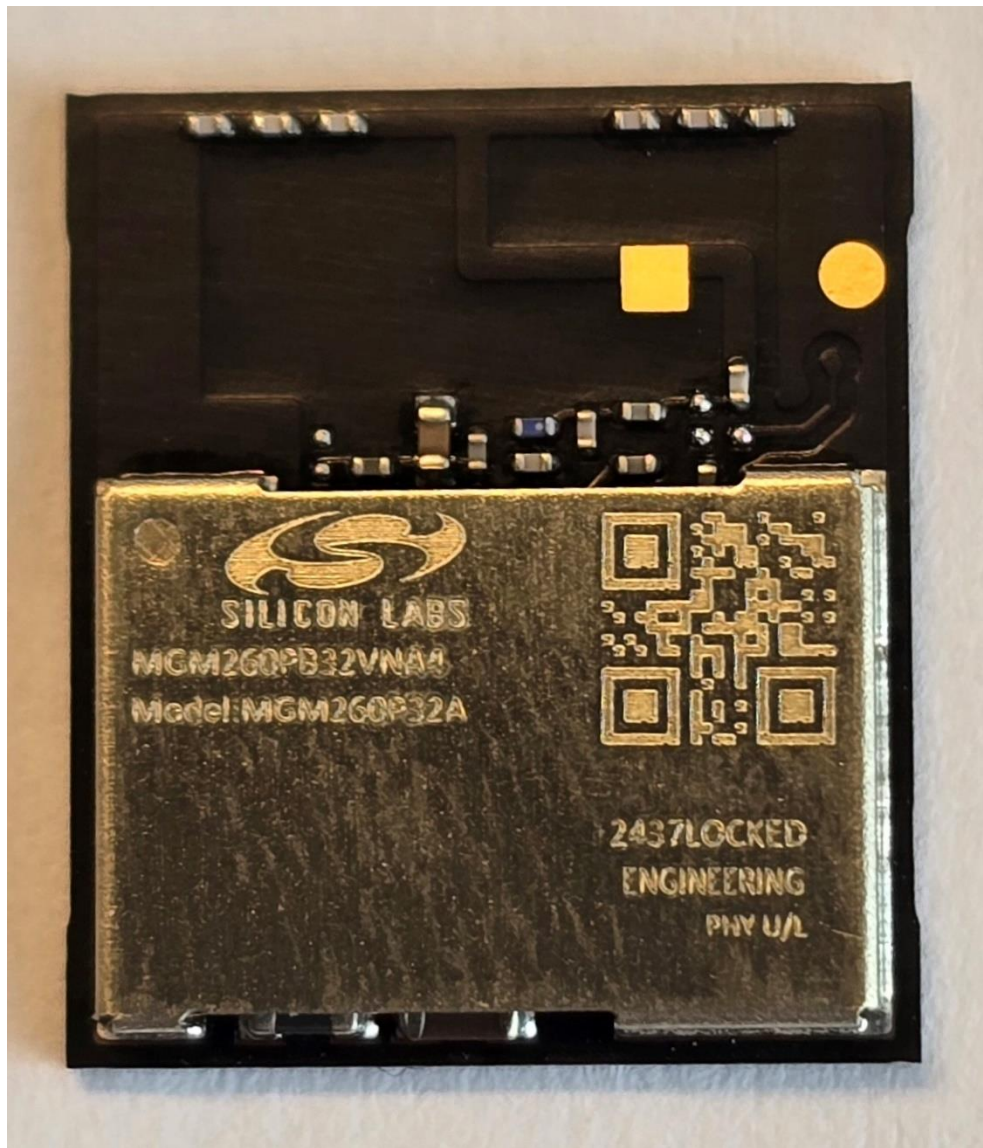


Figure 6: MGM260P32 module engineering sample



Figure 7: MGM260P22 module engineering sample