SWD034

P/N: SW24108IB66

Features:

- SMD Compliant
- Impedance 50 Ohm
- Size 7.0 x 2.0 x 2.0 mm

Applications:

- Portable devices
- Remote monitoring
- Asset tracker
- Wearable devices
- Others

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1. Introduction

The Sunnyway SWD034 is a low profile SMD embedded antenna designed for direct SMD mount on a device PCB. It provides high efficiency in a very small factor 7.0*2.0*2.0mm.

Its rectangular shape and small size make it very easy to integrate - it is packaged in tape and reel, and solder can be directly reflowed to the edge of PCB by picking and placing. This antenna is recommended for long ground planes of 110 mm or longer to obtain the highest rated efficiency.

Typical applications:

- Portable devices
- Wearable devices
- Others

2. Electrical Specification

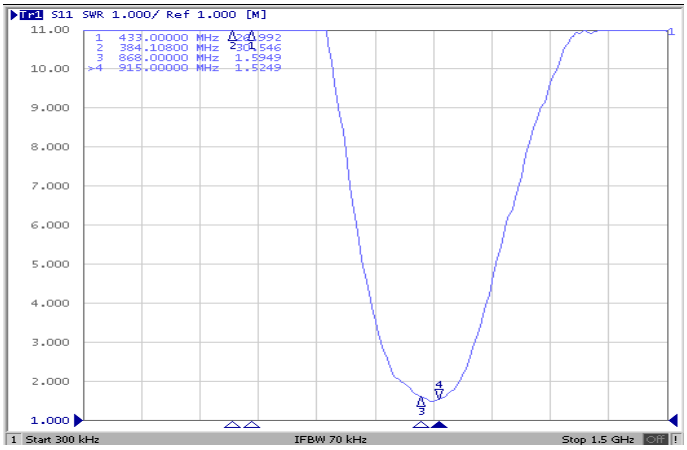
Frequency range(MHz)	**850~880**	**902~928**
Peak Gain (dBi)	2.39~3.44	3.65~4.17
Average Gain (dB)	-3.19~-2.19	-3.08~-2.45
VSWR	＜2.0	＜2.0
Return Loss	＜-10	＜-10
Efficiency (%)	47.98~60.36%	49.25~56.9%
Polarization mode	Linear	
Radiation pattern	Omni-Directional	
Output impedance (Ω)	50	
Max. Input Power(W)	5	

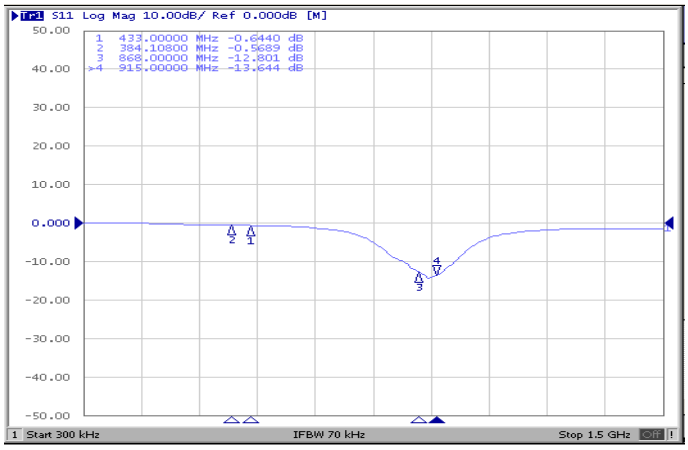
3. Mechanical and Environmental Specification

Mounting Type	SMD
Antenna size(mm)	7.0 (L) x 2.0 (W) x 2.0 (H)
Material	PCB
Operating Temperature (˚C)	- 40 ˚C ~ + 85 ˚C
Storage Temperature(˚C)	- 40 ˚C ~ + 85 ˚C
Weight (g)	0.05

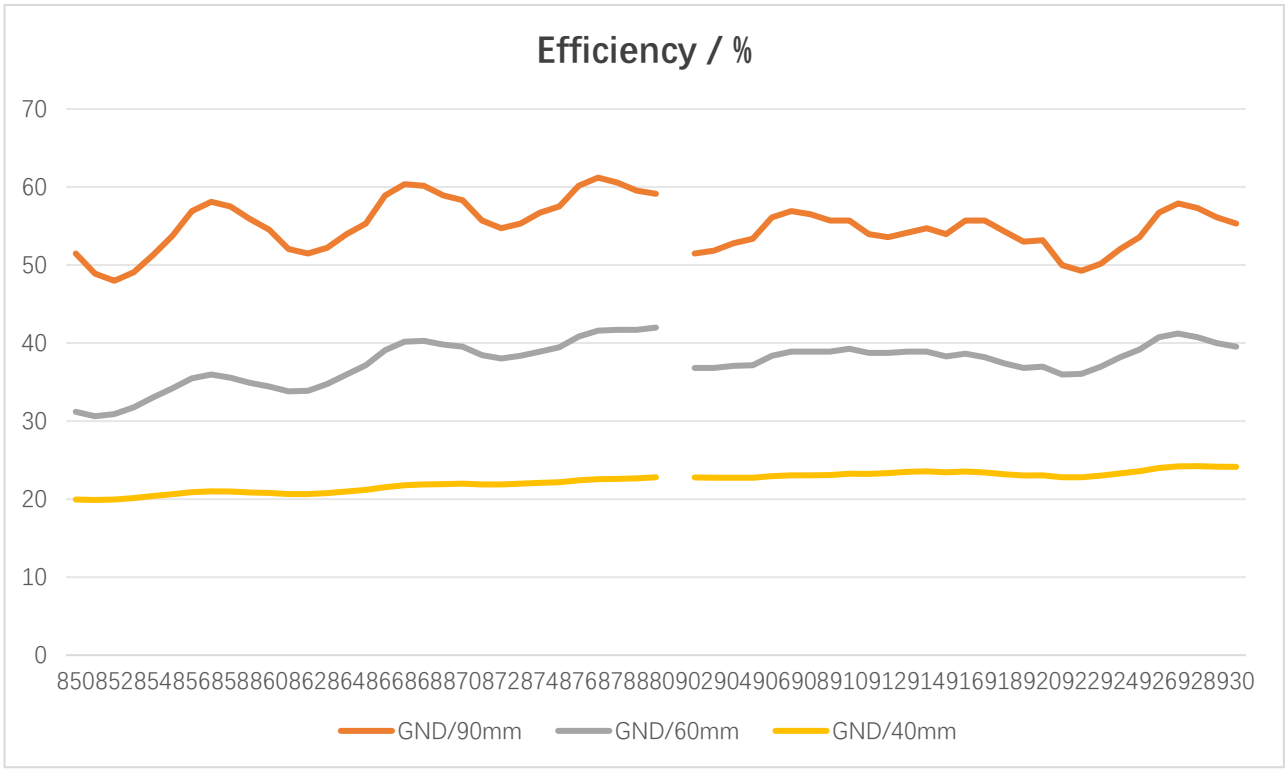
4. Antenna parameters

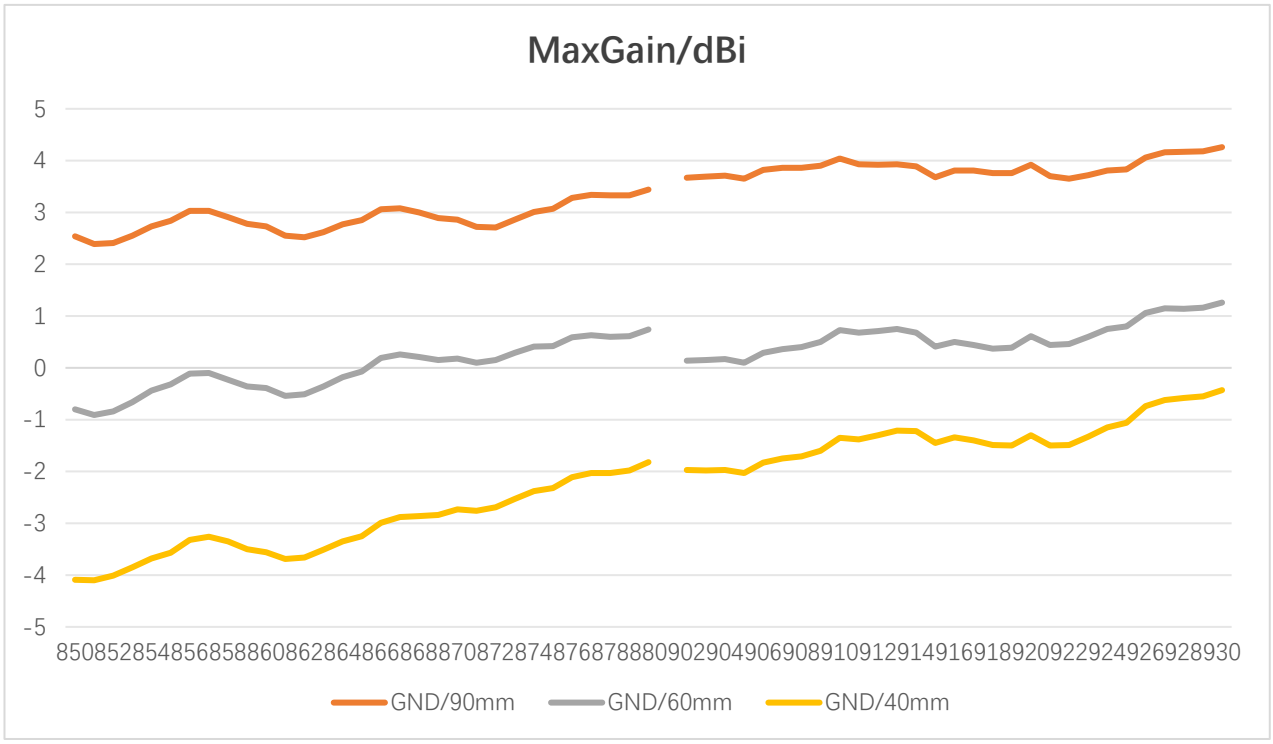
4.1 VSWR and Return Loss



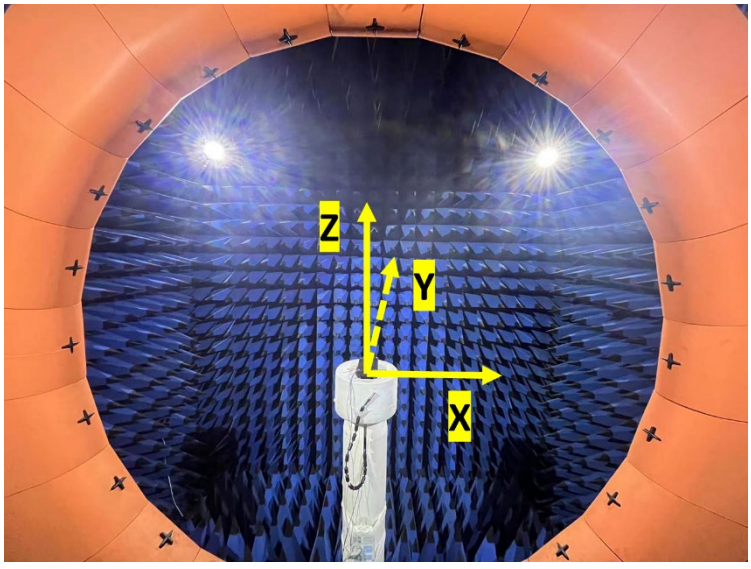


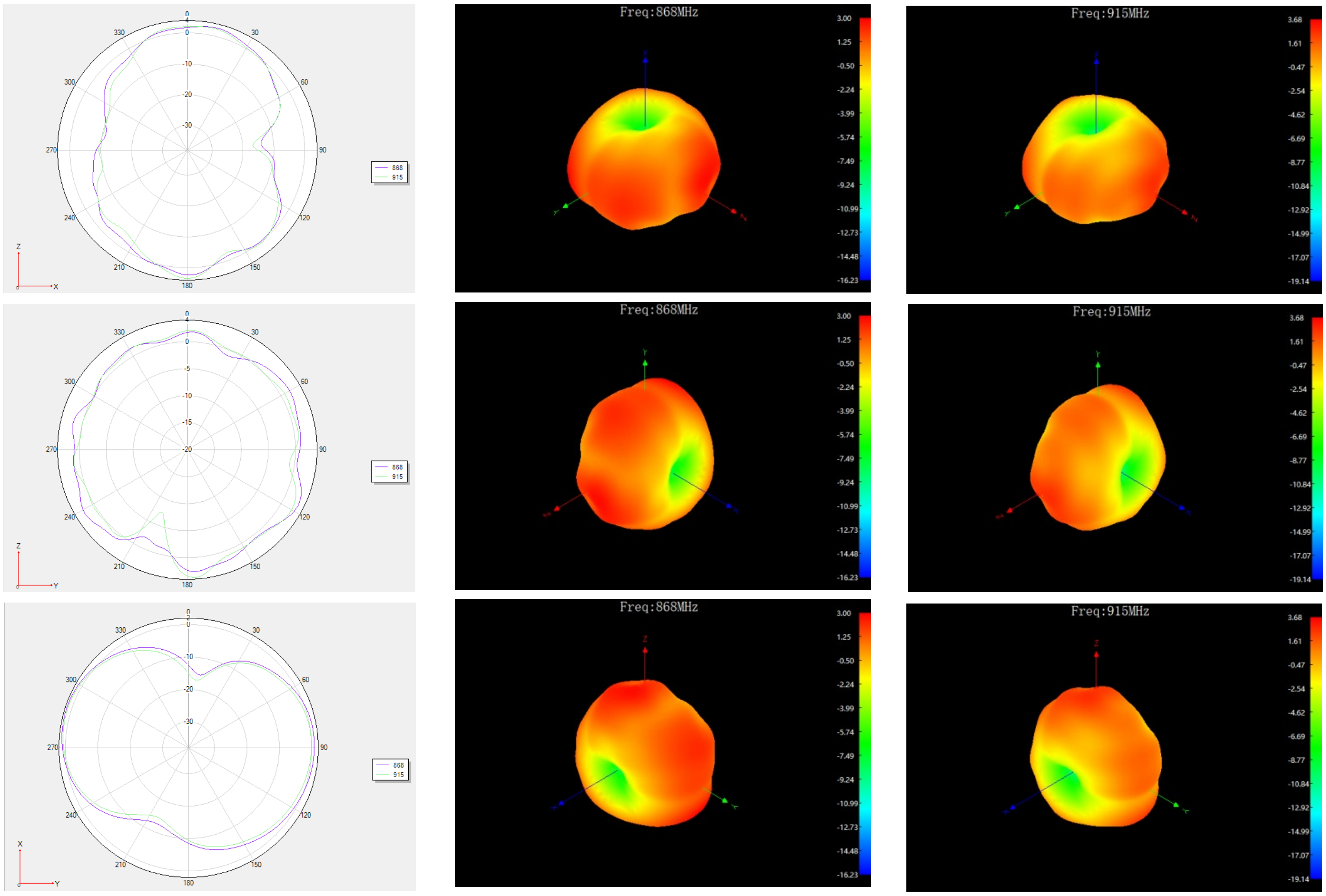
4.2 Efficiency and Gain





4.3 Directional pattern（GND/90mm）

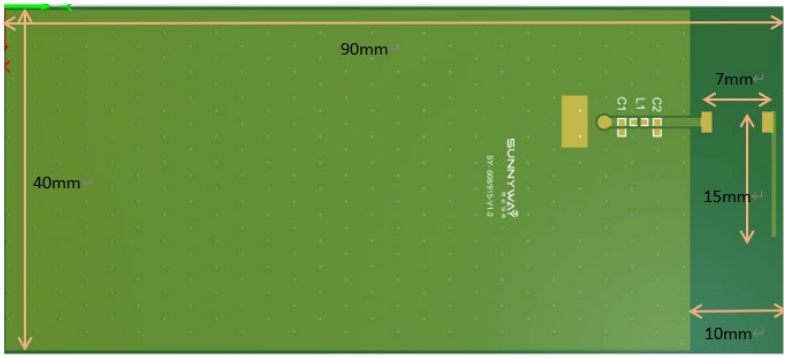


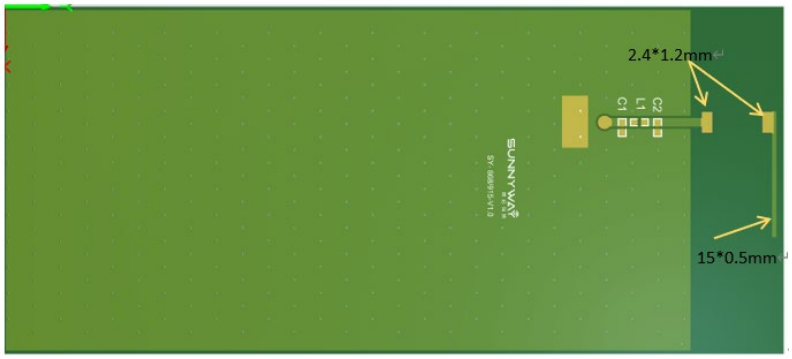


5. Matching circuit

The antenna requires a matching circuit that must be optimized for each product. The matching circuit will require up to three components and the following circuit should be designed into the host PCB. Not all components may be required but should be included as a precaution.

The matching network must be placed close to the antenna feed to ensure it is more effective in tuning the antenna.





Component	Type	Value
C2	N/A	N/A
L2	Inductance	8.2nH
C1	N/A	N/A

6. Antenna Drawing