



A VOXX INTERNATIONAL COMPANY

Printed Monopole antenna

A6867S

Engineering Department

Voxx Electronics Corporation, Proprietary

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Project: 8052		Document: MonoP. Antena		Rev.: 1.0
	Name	Function	Verified	Date
Author	J.Lanthier	HW Designer		2023-05-05
Reviewer				YYYY-MM-DD
Approver				YYYY-MM-DD

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1 PURPOSE AND SCOPE

This document provides a high-level description of the monopole printed antenna characteristics of the A6867S product

Specifications are derived from simulations. Accurate gain would require approved laboratory to confirm the simulation.

Antenna matching has been done in the lab to transfer optimum power from the transmitter 50 Ohms source

2 DEFINITIONS AND ACRONYMS

2.1 Definitions

Not applicable

2.2 Acronyms

Table I - Definitions and Acronyms

Terms	Definition / Description
ASY	Assembly Drawing
FRM	Form
GRB	Gerber files for PCB
HTR	Hardware Test Report
IVU	In vehicle unit
MFR	Manufacture ZIP Package
HHU	Hand held Unit
REV	Revision Control & History change Document
SCH	Schematic Drawing
TWI	Test & Work Instruction

3 DOCUMENTS REFERENCES

- Schematic 170-10478-01 A6867S
- PCB 200-10478

4 RESPONSIBILITIES

Voxx Engineering: It is the responsibility of the Engineering management to implement, maintain, and revise this document.

5 ANTENNA DESCRIPTION

The antenna is a printed copper single element of 126mm long added at the extremity of the RF circuit. The element is printed on a region of 24X20mm.

There is a ground clearance under the entire antenna to match the simulation topology. The left side of the module matched the 24x43mm dimensions of the ground plane required by the simulation section 6 of this document.

The pattern is optimized to obtain the maximum range of the A6867S module.

5.1 Layout View

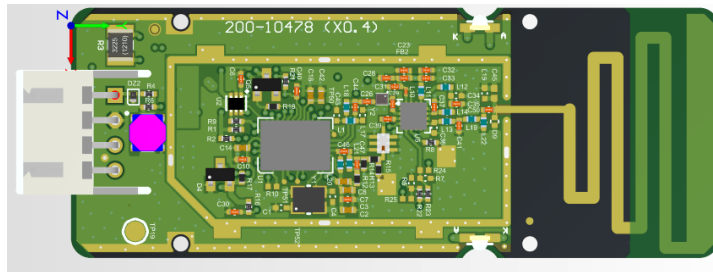


Figure 1 – A6867S module with printed antenna

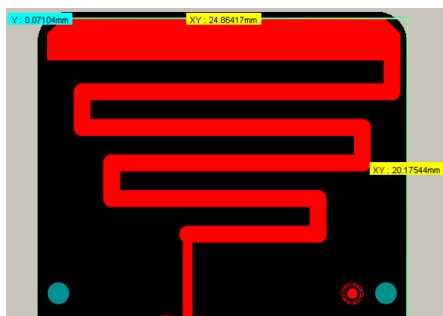


Figure 2 - A6867S printed antenna dimensions

6 SIMULATION

6.1 Antenna model

3D model representation of the printed antenna parameters entered for the simulations. The rectangular grid represents the module ground plane area of the A6867S

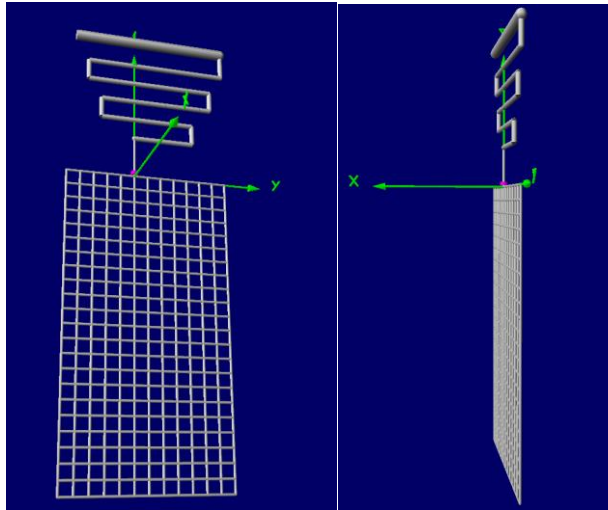
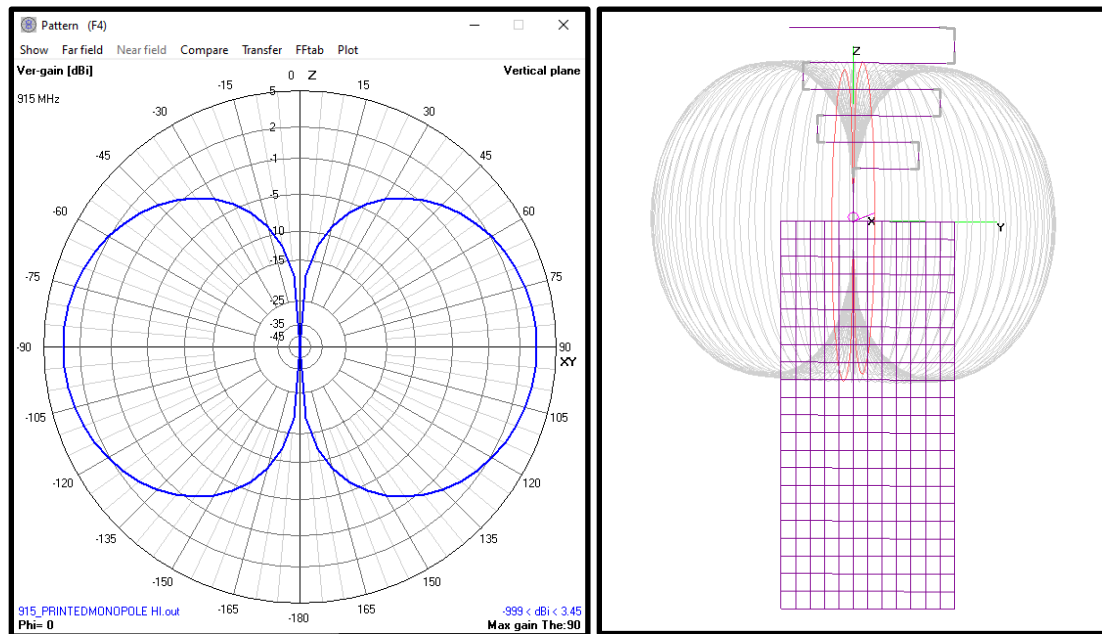


Figure 3 - Printed antenna model

6.2 Radiated patterns

6.2.1 Vertical plane



6.2.2 Horizontal plane

