Антена F7L

v1.0.1

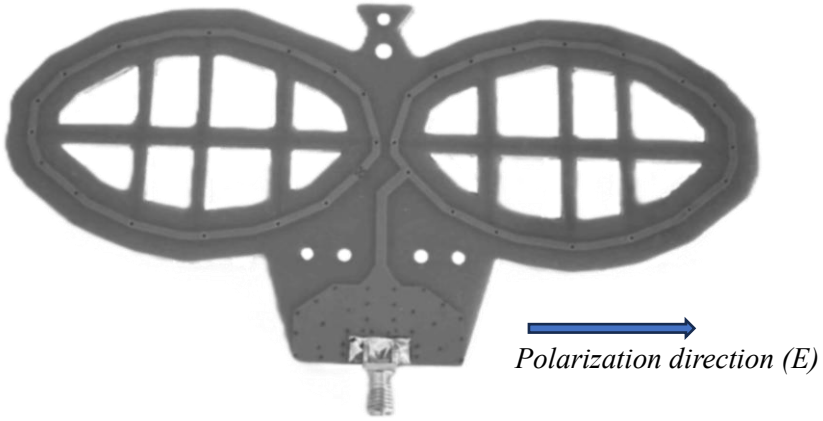

Figure 1 Antenna view

700-1100MHz **Linear Polarized Antenna for FHSS Systems**

General information:

This antenna is designed to optimally receive signals of any modulation at frequencies from 700 -1100 MHz and above, depending on the desired antenna sensitivity. Also using FHSS in this band.

It has linear polarization (in the case of receiving a signal with circular polarization, it will have a 3dB lower level of reception, but reception at all angles of electrical will.

It is light in weight and compact in size.

It is not a shortened antenna, which allows you to have a high gain.

The radiation pattern is close to a dipole (toroid), but in a wider frequency band.

It allows you to use the transition between frequencies in this band, as well as in additional bands of operation of this antenna (see the documentation frequency response) during the operation of the system, to use PPRF (pseudo-random adjustment of the operating frequency) systems.

It has low windage and a variety of mounting options.

Features:

1. Small, compact size and light weight
2. Possibility of fastening to clamps, bolts, etc.
3. Broadband Frequency Range
4. Applications for FHSS systems
5. Ability to use SMA connectors or coaxial cable soldering

Specification

1. Wave impedance: 50 ohms
2. Dimensions (without connector): 14 x 7 x 0.2 cm
3. Operating frequency band

1. For use as a receiving antenna
    1. Gain is better than -4dBi: from 640 – 1140 MHz, and 1320 MHz – 2054 MHz
2. For use also in signal transmission mode
    1. S11 is better than -8dB: 720MHz – 1000MHz, and 1650MHz – 2300MHz
3. For more detailed information and higher or lower requirements, see the Package Leaflet. Measurement Plays

4. Gain: up to 1 dBi
5. Polar Pattern Type: Toroid
6. Connector type: SMA or soldered to coaxial cable
7. Polarization Type: Horizontal

Typical electrical characteristics (T=25 °C)

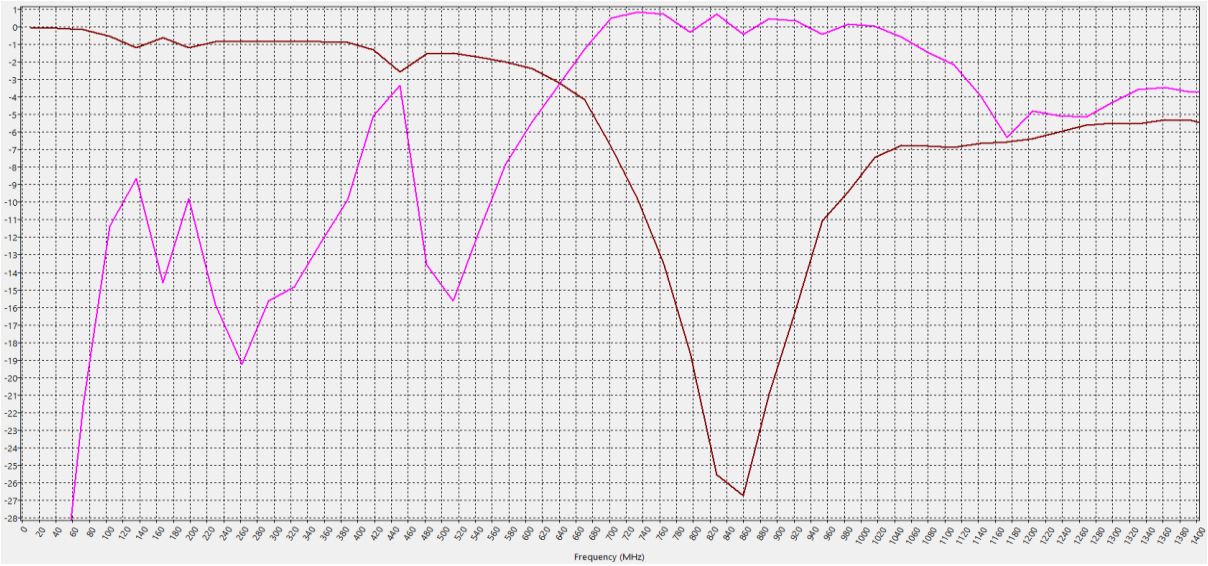

Figure 1 Antenna Matching (S11 – 50 Ohm) (black) and Gain (blue) vs Frequency (up to 1400 MHz), dB(i)

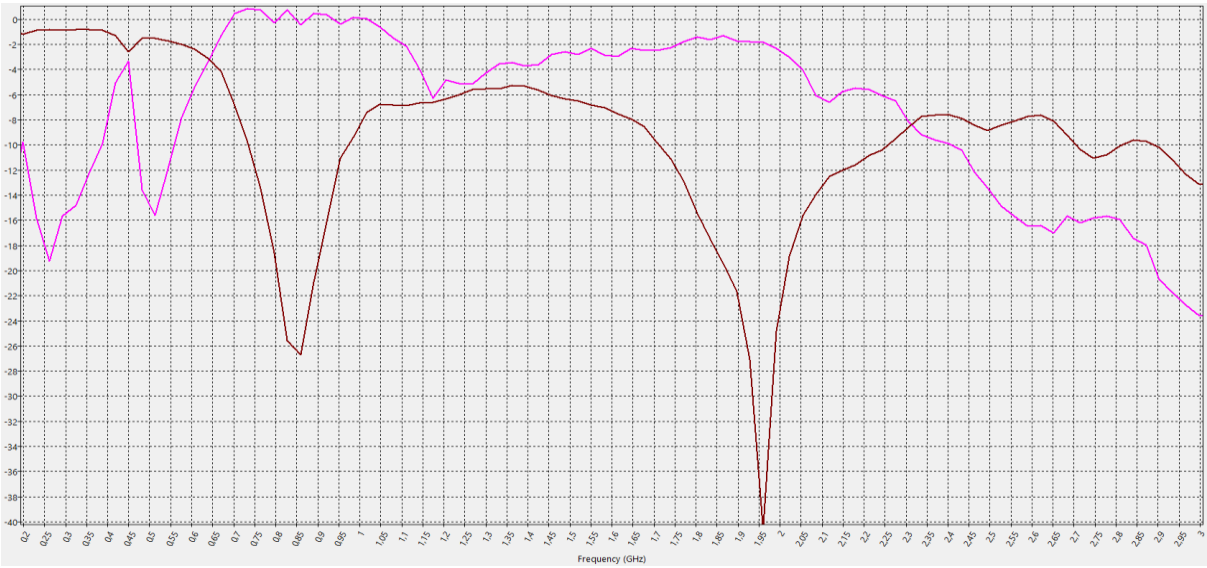

Figure 3 Antenna Matching (black) and Gain (blue) vs Frequency (up to 3GHz), dB(i)

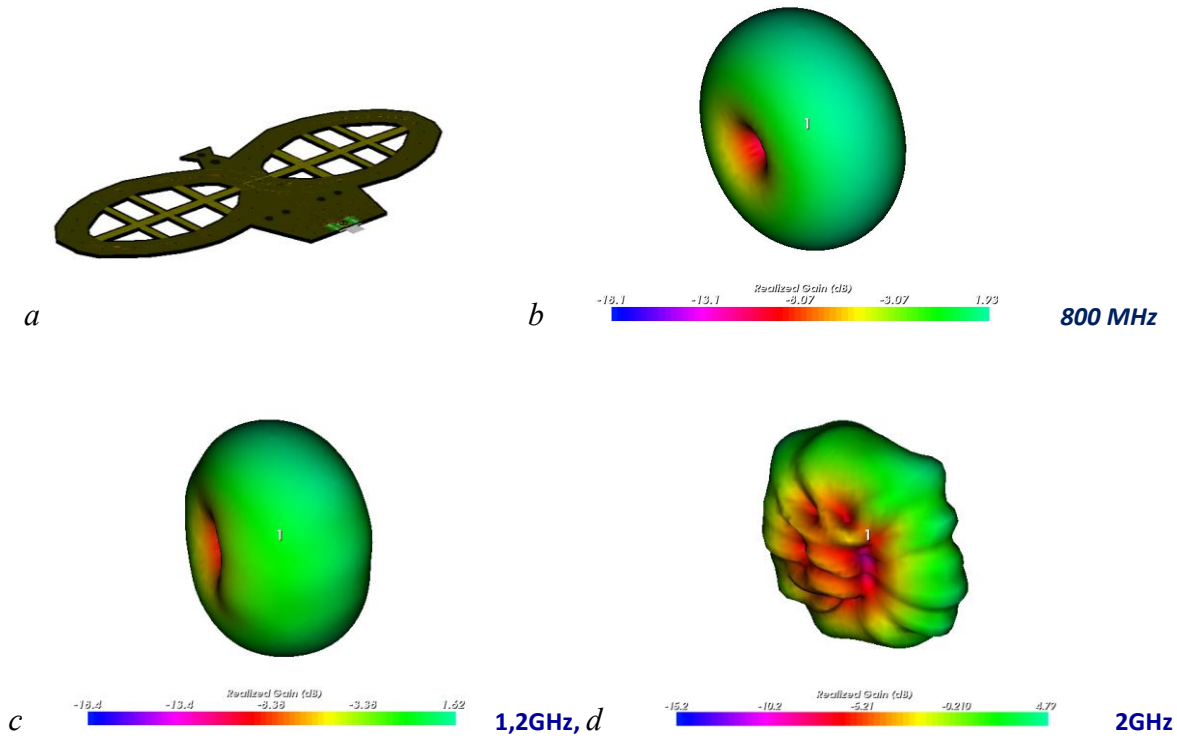

Figure 4 Antenna Radiation Pattern, dB(i)

(a – antenna orientation, b – 800 MHz, c – 1200 MHz, d – 2 GHz)

Equipment and assembly

1. Antenna with connector or soldered
2. Documentation

Installation

1. The antenna has a geometric shape and holes for fastening with clamps or screws
2. The desired distance from metal objects is more than 5 cm, a massive dielectric is 3 cm
3. If necessary, control the antenna parameters using a vector spectrum analyzer or by the effect on the level of the received signal