

TEST CASE 7: Planar Filter

Planar triplate stripline filter

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1. Definition of the Geometry

The target is a 3 poles planar triplate stripline filter operating in X band. The dimensions of the filter are shown figure 1, a 3D view without ground planes figure 2.

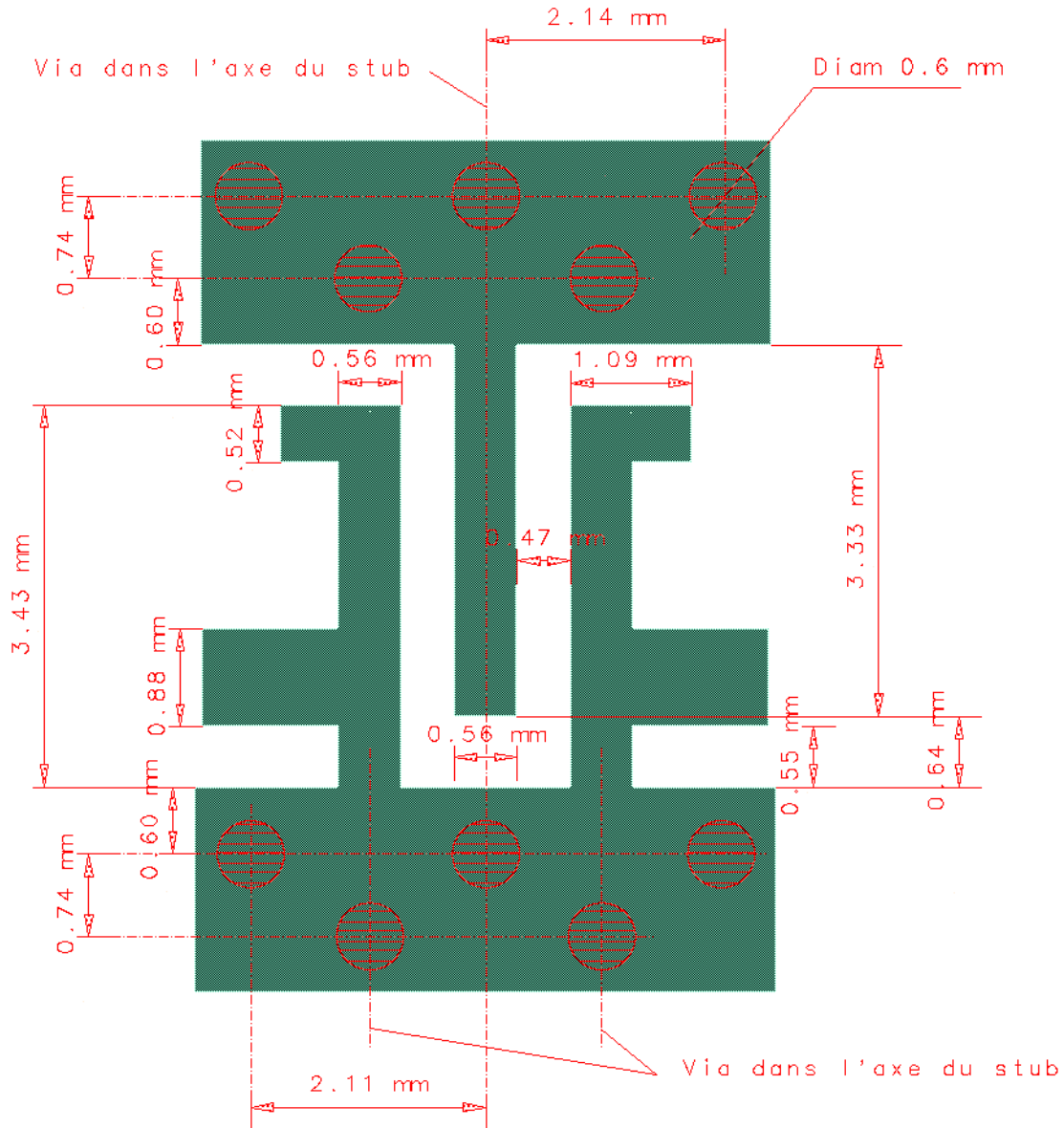


Figure 1: filter dimension

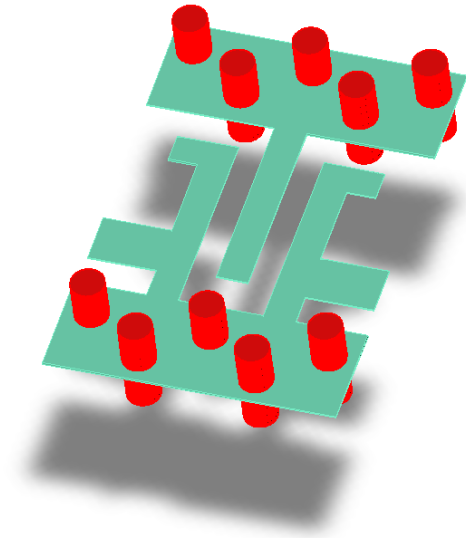


Figure 2: 3D view of the filter metallization and via holes

The stack is defined figure 3. The characteristics of the glue are considered equal to the RO4003 characteristics, the thickness metallization is equal to 30 μm .

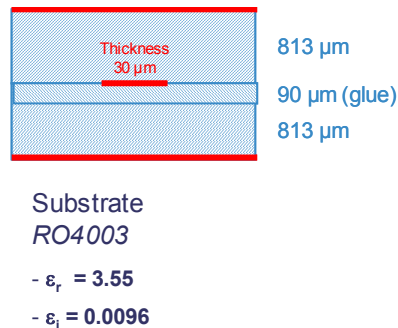


Figure 3: Filter stack

2. Simulation Parameters

The object described above shall be studied in the frequency band $f = [5, 15]$ GHz with a step frequency of at least 25 MHz. The time dependency is assumed to be $\exp(j\omega t)$.

3. Expected results

Reflection (S11) and Transmission (S12) coefficients as a function of frequency.

Ascii file formats:

The results must be provided in ASCII files with the file names:

- test7_namesoftheauthors_Smatrix.dat with 3 rows:

frequency S11(dB) S21(dB)