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Microwave Engineering – Filter Project

3.6 GHz, Ripple BW = 0.24 GHz, Fourth Order, Hair Pin Structure, S11 in the ripple bandwidth: < -15 dB

Friday - 11/17/2023

The following is the design Chebyshev table,

A screenshot of a computer screen

Description automatically generated

Low pass prototype



A graph with a line

Description automatically generated

Saturday 11/18/2023

Goal: bandwidth prototype and begin filter T-line transformation.

A graph with blue lines

Description automatically generatedA graph of a graph

Description automatically generated

11/22/2023 Wednesday

measurements

A graph with lines and dots

Description automatically generated with medium confidence

A graph with red and green lines

Description automatically generated

A graph with lines and dots

Description automatically generated

A graph with lines and points

Description automatically generated

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Offset (mm) |  |  |  |  |  |  |  |
| 20.0000 | 3.913 | -13 | 3.883 | -103 | 3.945 | 77 | 63.1129 |
| 21.6173 | 4.067 | 1.53 | 4.213 | -88.47 | 3.911 | 91.53 | 13.46689 |
| 21.6812 | 4.068 | 2.4 | 4.219 | -87.6 | 3.906 | 92.4 | 12.99681 |
| 21.7313 | 4.065 | 2.74 | 4.22 | -87.26 | 3.902 | 92.74 | 12.78302 |
| 21.7540 | 4.068 | 3.56 | 4.223 | -86.44 | 3.901 | 93.56 | 12.63354 |
| 21.8500 | 4.068 | 3.58 | 4.228 | -86.42 | 3.896 | 93.58 | 12.25301 |
| 22.0000 | 4.054 | 8.18 | 4.225 | -81.82 | 3.87 | 98.18 | 11.41972 |
| 24.0000 | 3.949 | 36.26 | 4.241 | -53.74 | 3.64 | 126.26 | 6.570715 |
| 26.0000 | 3.831 | 50.39 | 4.223 | -39.61 | 3.439 | 140.39 | 4.88648 |
| 28.0000 | 3.81 | 46.11 | 4.266 | -43.89 | 3.355 | 136.11 | 4.182217 |

A graph of a line

Description automatically generated

Interpolated Offset for Qext = 13.4835 is 21.6162 mm; offset from top = 2.396009 mm

A green square object with blue lines

Description automatically generated

