The following is my desired QextA/B,

|  |  |
| --- | --- |
| Qext |  |
| A | 13.4835 |
| B | 13.48268 |

A green rectangle on a grid

Description automatically generated

Resonator Structure to determine Qext

A graph with colored lines

Description automatically generated

Sweep Result

The feedline has an impedance of 50 , the following is the measured data. I couldn’t get 4mm because it was outside of range.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Offset | f0 | f1 | f2 | S21 dB | |S21| | Qext=QL |
| 6 | 3.402 | 3.095 | 3.749 | -14.78 | 0.18239 | 5.201835 |
| 8 | 3.447 | 3.331 | 3.571 | -10.56 | 0.296483 | 14.3625 |
| 10 | 3.249 | 3.217 | 3.286 | -5.39 | 0.53765 | 47.08696 |
| 12 | 3.221 | 3.157 | 3.28 | -7.91 | 0.402254 | 26.18699 |

Interpolated position value for QextA = 13.4385 is 7.81mm.

