# How to use

S-parameter is measured by using Network Analyzer, Agilent ENA E5071 B.

| S-parameter Frequency Range (MHz) | Number of Points | Sweep Type | Ref. |
|---|---|---|---|
| 0.3 ~ 8,500 | 201 | Log | E5071B |

Z-R-X Simulation is calculated by S21 Transmission Series Conversion Mode. And only 2-terminal product (Ferrite Beads、Inductors) is suitable.

## WARNING :

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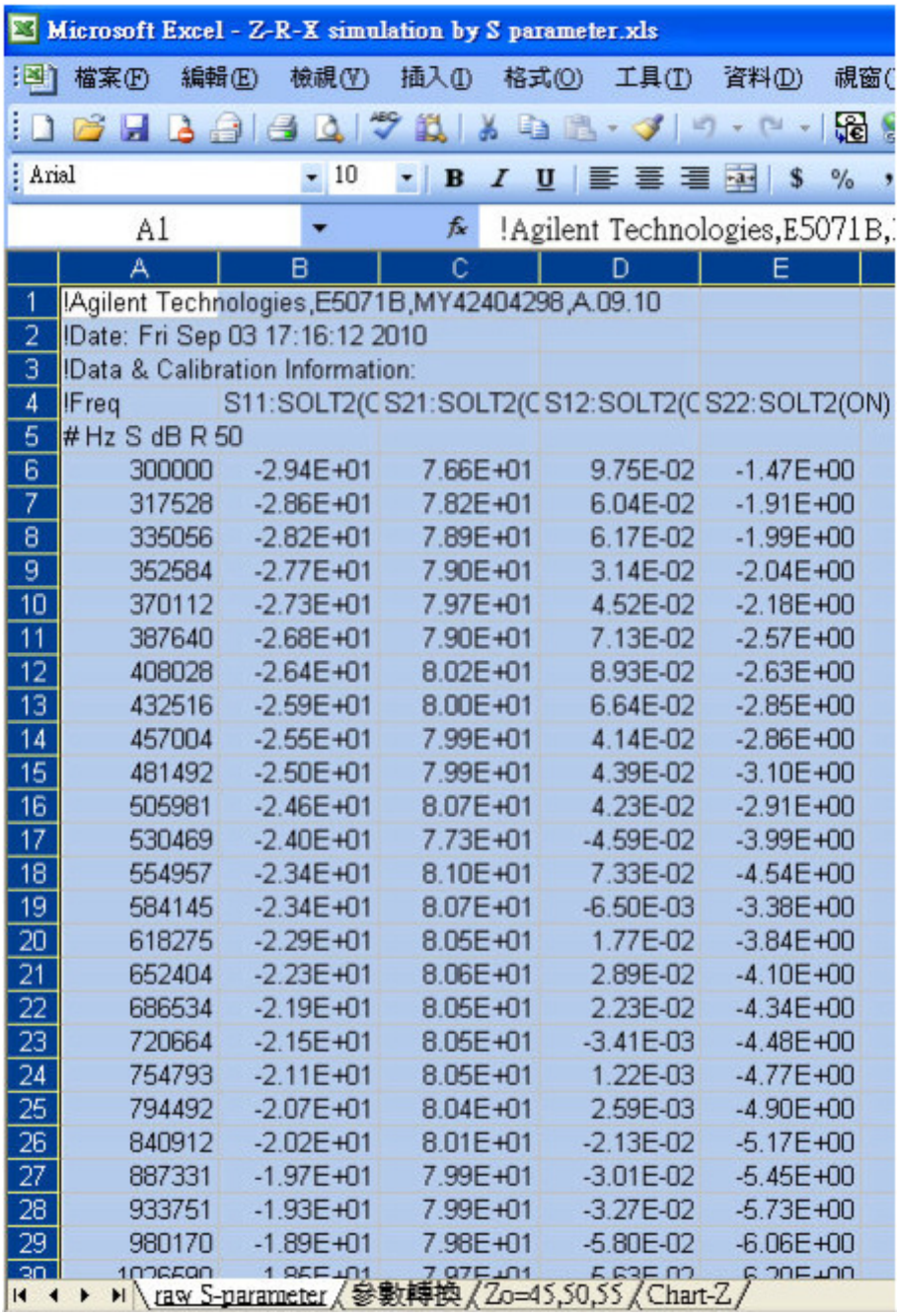
I. Download：Z-R-X simulation by E5071B.xls

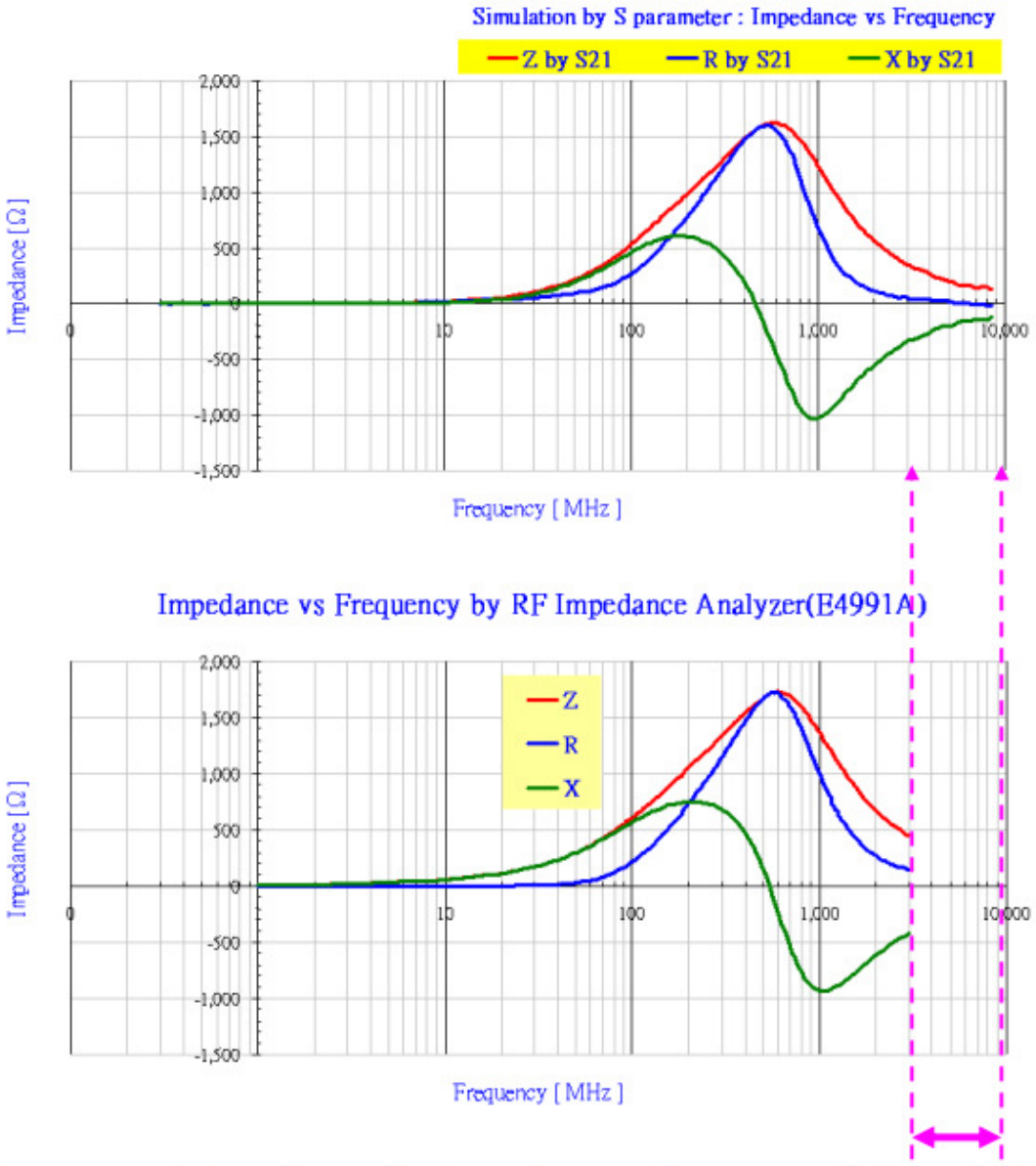
II. Open it as following：




| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | !Agilent Technologies,E5071B,MY42404298,A.09.10 | | | | |
| 2 | !Date: Fri Sep 03 17:16:12 2010 | | | | |
| 3 | !Data & Calibration Information: | | | | |
| 4 | !Freq | S11:SOLT2(C | S21:SOLT2(C | S12:SOLT2(C | S22:SOLT2(ON) |
| 5 | # Hz S dB R 50 | | | | |
| 6 | 300000 | -2.94E+01 | 7.66E+01 | 9.75E-02 | -1.47E+00 |
| 7 | 317528 | -2.86E+01 | 7.82E+01 | 6.04E-02 | -1.91E+00 |
| 8 | 335056 | -2.82E+01 | 7.89E+01 | 6.17E-02 | -1.99E+00 |
| 9 | 352584 | -2.77E+01 | 7.90E+01 | 3.14E-02 | -2.04E+00 |
| 10 | 370112 | -2.73E+01 | 7.97E+01 | 4.52E-02 | -2.18E+00 |
| 11 | 387640 | -2.68E+01 | 7.90E+01 | 7.13E-02 | -2.57E+00 |
| 12 | 408028 | -2.64E+01 | 8.02E+01 | 8.93E-02 | -2.63E+00 |
| 13 | 432516 | -2.59E+01 | 8.00E+01 | 6.64E-02 | -2.85E+00 |
| 14 | 457004 | -2.55E+01 | 7.99E+01 | 4.14E-02 | -2.86E+00 |
| 15 | 481492 | -2.50E+01 | 7.99E+01 | 4.39E-02 | -3.10E+00 |
| 16 | 505981 | -2.46E+01 | 8.07E+01 | 4.23E-02 | -2.91E+00 |
| 17 | 530469 | -2.40E+01 | 7.73E+01 | -4.59E-02 | -3.99E+00 |
| 18 | 554957 | -2.34E+01 | 8.10E+01 | 7.33E-02 | -4.54E+00 |
| 19 | 584145 | -2.34E+01 | 8.07E+01 | -6.50E-03 | -3.38E+00 |
| 20 | 618275 | -2.29E+01 | 8.05E+01 | 1.77E-02 | -3.84E+00 |
| 21 | 652404 | -2.23E+01 | 8.06E+01 | 2.89E-02 | -4.10E+00 |
| 22 | 686534 | -2.19E+01 | 8.05E+01 | 2.23E-02 | -4.34E+00 |
| 23 | 720664 | -2.15E+01 | 8.05E+01 | -3.41E-03 | -4.48E+00 |
| 24 | 754793 | -2.11E+01 | 8.05E+01 | 1.22E-03 | -4.77E+00 |
| 25 | 794492 | -2.07E+01 | 8.04E+01 | 2.59E-03 | -4.90E+00 |
| 26 | 840912 | -2.02E+01 | 8.01E+01 | -2.13E-02 | -5.17E+00 |
| 27 | 887331 | -1.97E+01 | 7.99E+01 | -3.01E-02 | -5.45E+00 |
| 28 | 933751 | -1.93E+01 | 7.99E+01 | -3.27E-02 | -5.73E+00 |
| 29 | 980170 | -1.89E+01 | 7.98E+01 | -5.80E-02 | -6.06E+00 |

III. Open the selected S2P file formatted as step II, and copy it to cover the worksheet ”raw S-parameter” in step II.

IV. The worksheet ”chart-Z” is the result of Z-R-X Simulation.
<< Example for MGB1005G601 >>




The purpose is to estimate the impedance at frequency 3GHz ~ 8.5GHz.

V. Z conversion is calculated with Zo fixed to 50 ohm.
Practically, Zo is not always 50 ohm precisely in most circuit design, and its Z value will be a little different.
Please keep in mind when designing.
Please refer to the worksheet "Zo=45,50,55" for the tolerance of Z value
<< Example for MGB1005G601 >>