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**Illustration of the isolating effect of a resistive pad placed between a generator and a mis-matched load  
The return loss is improved (i.e., increased) by twice the value of the matched attenuation of the pad**

50 ohm T - pad resistor values

| atten.<br>db | R1<br>ohms | R2<br>ohms | R3<br>ohms |
|--------------|------------|------------|------------|
| 3            | 8.55       | 8.55       | 141.9      |
| 6            | 16.61      | 16.61      | 66.93      |
| 9            | 23.81      | 23.81      | 40.59      |
| 12           | 29.92      | 29.92      | 26.81      |

| Load parameters            |                        |             | Input parameters |              |                   |             |              |                   |             |              |                   |             |              |                   |
|----------------------------|------------------------|-------------|------------------|--------------|-------------------|-------------|--------------|-------------------|-------------|--------------|-------------------|-------------|--------------|-------------------|
| Load<br>resistance<br>ohms | Ret loss<br>load<br>db | SWR<br>load | 3db pad          |              |                   | 6db pad     |              |                   | 9db pad     |              |                   | 12db pad    |              |                   |
|                            |                        |             | Rin<br>ohms      | SWR<br>input | Ret loss<br>input | Rin<br>ohms | SWR<br>input | Ret loss<br>input | Rin<br>ohms | SWR<br>input | Ret loss<br>input | Rin<br>ohms | SWR<br>input | Ret loss<br>input |
| 2                          | 0.70                   | 25.00       | 18.37            | 2.72         | 6.70              | 31.17       | 1.60         | 12.69             | 39.59       | 1.26         | 18.69             | 44.49       | 1.12         | 24.69             |
| 5                          | 1.74                   | 10.00       | 20.92            | 2.39         | 7.74              | 32.95       | 1.52         | 13.74             | 40.66       | 1.23         | 19.74             | 45.09       | 1.11         | 25.73             |
| 10                         | 3.52                   | 5.00        | 24.96            | 2.00         | 9.52              | 35.65       | 1.40         | 15.52             | 42.26       | 1.18         | 21.52             | 45.96       | 1.09         | 27.51             |
| 20                         | 7.36                   | 2.50        | 32.32            | 1.55         | 13.36             | 40.28       | 1.24         | 19.35             | 44.88       | 1.11         | 25.36             | 47.36       | 1.06         | 31.34             |
| 50                         | (inf.)                 | 1.00        | 50.00            | 1.00         | --                | 49.99       | 1.00         | --                | 50.00       | 1.00         | --                | 50.00       | 1.00         | --                |
| 100                        | 9.54                   | 2.00        | 70.05            | 1.40         | 15.54             | 59.13       | 1.18         | 21.55             | 54.38       | 1.09         | 27.55             | 52.14       | 1.04         | 33.56             |
| 200                        | 4.44                   | 4.00        | 92.99            | 1.86         | 10.44             | 67.74       | 1.35         | 16.44             | 58.17       | 1.16         | 22.44             | 53.93       | 1.08         | 28.45             |
| 500                        | 1.74                   | 10.00       | 119.49           | 2.39         | 7.74              | 75.86       | 1.52         | 13.74             | 61.48       | 1.23         | 19.74             | 55.44       | 1.11         | 25.75             |
| 1000                       | 0.87                   | 20.00       | 132.95           | 2.66         | 6.87              | 79.41       | 1.59         | 12.87             | 62.85       | 1.26         | 18.87             | 56.05       | 1.12         | 24.88             |

NOTES:

- 1) In the chart above, Rin is the resistance seen looking into the input port of the resistive pad with the designated load in place at the output.
- 2) These calculations were done for symmetrical T-pads with a characteristic impedance of 50 ohms. The results for PI-pads would be identical.