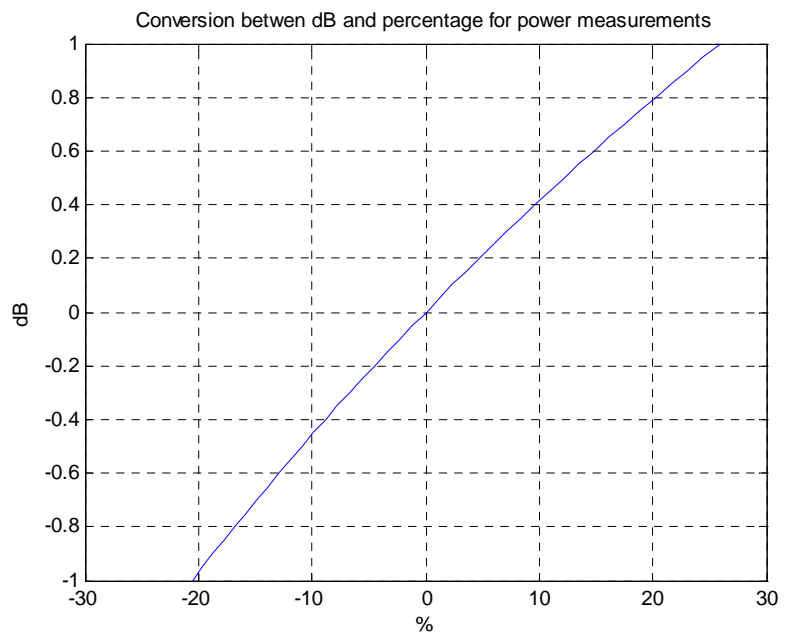


Converting Between Decibels and Percentage for Power Measurements

The percentage difference is given by the two formulae (from a MATLAB script):

```
power_ratio = 10.^(dB/10);
per_cent = (power_ratio - 1)*100;
```

The conversion has been plotted as a graph below and the data has also been shown as a table in 0.05 dB steps.



The reverse conversion from per-cent to dB is also easily handled.

```
power_ratio=(100+per_cent)/100;
```

```
dB=10*log10(power_ratio);
```

The results are also presented as tables below:



Measurably better value

Thurlby Thandar Instruments Ltd.
Glebe Road, Huntingdon, Cambridgeshire
PE29 7DR England (United Kingdom)
Tel: +44 (0)1480 412451
Fax: +44 (0)1480 450409
Email: info@tti-test.com
Web: www.tti-test.com

dB	%
-1.00	-20.56
-0.95	-19.64
-0.90	-18.71
-0.85	-17.77
-0.80	-16.82
-0.75	-15.86
-0.70	-14.88
-0.65	-13.90
-0.60	-12.90
-0.55	-11.89
-0.50	-10.87
-0.45	-9.84
-0.40	-8.79
-0.35	-7.74
-0.30	-6.67
-0.25	-5.59
-0.20	-4.50
-0.15	-3.39
-0.10	-2.27
-0.05	-1.14
0	0
0.05	1.15
0.10	2.32
0.15	3.51
0.20	4.71
0.25	5.92
0.30	7.15
0.35	8.39
0.40	9.64
0.45	10.91
0.50	12.20
0.55	13.50
0.60	14.81
0.65	16.14
0.70	17.48
0.75	18.85
0.80	20.22
0.85	21.61
0.90	23.02
0.95	24.45
1.00	25.89



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%	dB
-20	-0.96
-19	-0.91
-18	-0.86
-17	-0.80
-16	-0.75
-15	-0.70
-14	-0.65
-13	-0.60
-12	-0.55
-11	-0.50
-10	-0.45
9	-0.40
8	-0.36
7	-0.31
6	-0.26
5	-0.22
4	-0.17
3	-0.13
2	-0.08
1	-0.04
0	0
1	0.04
2	0.08
3	0.12
4	0.17
5	0.21
6	0.25
7	0.29
8	0.33
9	0.37
10	0.41
11	0.45
12	0.49
13	0.53
14	0.56
15	0.60
16	0.64
17	0.68
18	0.71
19	0.75
20	0.79
21	0.82
22	0.86
23	0.89
24	0.93
25	0.96



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