

OZ5RZ Benny dBm – VSWR – Watt.

From Wikipedia, the free encyclopedia

60 dBm	1 kW = 1,000 W	2 dBm	1.6 mW
55 dBm	~300 W	1 dBm	1.3 mW
50 dBm	100 W	0 dBm	1.0 mW = 1000 μ W
40 dBm	10 W	-1 dBm	794 μ W
37 dBm	5 W	-3 dBm	501 μ W
36 dBm	4 W	-5 dBm	316 μ W
33 dBm	2 W	-10 dBm	100 μ W
30 dBm	1 W = 1000 mW	-13 dBm	50.12 μ W
29 dBm	794 mW	-20 dBm	10 μ W
28 dBm	631 mW	-30 dBm	1.0 μ W = 1000 nW
27 dBm	500 mW	-40 dBm	100 nW
26 dBm	400 mW	-50 dBm	10 nW
25 dBm	316 mW	-60 dBm	1.0 nW = 1000 pW
24 dBm	251 mW	-70 dBm	100 pW
23 dBm	200 mW	"S9" signal strength. -73 dBm	50.12 pW
22 dBm	158 mW	-80 dBm	10 pW
21 dBm	125 mW	-100 dBm	0.1 pW
20 dBm	100 mW		
19 dBm	79 mW		
18 dBm	63 mW		
17 dBm	50 mW		
15 dBm	32 mW		
10 dBm	10 mW		
7 dBm	5.0 mW		
6 dBm	4.0 mW		
5 dBm	3.2 mW		
4 dBm	2.5 mW		
3 dBm	2.0 mW		

VSWR to Return Loss and Return Loss to VSWR

Return loss (db)	VSWR	Voltage Reflection Coefficient
1	17.391	0.891
2	8.724	0.794
3	5.848	0.708
4	4.419	0.631
5	3.570	0.562
6	3.010	0.501
7	2.615	0.447
8	2.323	0.398
9	2.100	0.355
10	1.925	0.316
11	1.785	0.282
12	1.671	0.251
13	1.577	0.224
14	1.499	0.200
15	1.433	0.178
16	1.377	0.158
17	1.329	0.141
18	1.288	0.126
19	1.253	0.112
20	1.222	0.100
21	1.196	0.089
22	1.173	0.079
23	1.152	0.071
24	1.135	0.063
25	1.119	0.056
26	1.105	0.050
27	1.094	0.045
28	1.083	0.040
29	1.074	0.035
30	1.065	0.032

dB to ratio conversion table

dB	Amplitude ratio	Power ratio
-100 dB	10^{-5}	10^{-10}
-50 dB	0.00316	0.00001
-40 dB	0.010	0.0001
-30 dB	0.032	0.001
-20 dB	0.1	0.01
-10 dB	0.316	0.1
-6 dB	0.501	0.251
-3 dB	0.708	0.501
-2 dB	0.794	0.631
-1 dB	0.891	0.794
0 dB	1	1
1 dB	1.122	1.259
2 dB	1.259	1.585
3 dB	1.413	$2 \approx 1.995$
6 dB	$2 \approx 1.995$	3.981
10 dB	3.162	10
20 dB	10	100
30 dB	31.623	1000
40 dB	100	10000
50 dB	316.228	100000
100 dB	10^5	10^{10}

dB	Power ratio	Amplitude ratio
100	10.000.000.000	100000
90	1.000.000.000	31623
80	100.000.000	10000
70	10.000.000	3162
60	1.000.000	1000
50	100.000	316.2
40	10.000	100
30	1.000	31.62
20	100	10
10	10	3.162
6	3.981 \approx 4	1.995 \approx 2
3	1.995 \approx 2	1.413 \approx $\sqrt{2}$
1	1.259	1.122
0	1	1
-1	0.794	0.891
-3	0.501 \approx 1/2	0.708 \approx $\sqrt{1/2}$
-6	0.251 \approx 1/4	0.501 \approx 1/2
-10	0.1	0.3162
-20	0.01	0.1
-30	0.001	0.03162
-40	0.0001	0.01
-50	0.00001	0.003162
-60	0.000001	0.001
-70	0.0000001	0.0003162
-80	0.00000001	0.0001
-90	0.000000001	0.00003162
-100	0.0000000001	0.00001

An example scale showing power ratios x , amplitude ratios \sqrt{x} , and dB equivalents $10 \log_{10} x$.