

# dBm - volts - watts conversion

(50-ohm system)

<b>dBm</b>	<b>V</b>	<b>P<sub>o</sub></b>	<b>dBm</b>	<b>V</b>	<b>P<sub>o</sub></b>	<b>dBm</b>	<b>mV</b>	<b>P<sub>o</sub></b>	<b>dBm</b>	<b>μV</b>	<b>P<sub>o</sub></b>
+53	100.0	200W	0	.225	1.0 mW	-49	0.80		-98	2.9	
+50	70.7	100W	-1	.200	.80 mW	-50	0.71	.01 μW	-99	2.51	
+49	64.0	80W	-2	.180	.64 mW	-51	0.64		-100	2.25	.1 pW
+48	58.0	64W	-3	.160	.50 mW	-52	0.57		-101	2.0	
+47	50.0	50W	-4	.141	.40 mW	-53	0.50		-102	1.8	
+46	44.5	40W	-5	.125	.32 mW	-54	0.45		-103	1.6	
+45	40.0	32W	-6	.115	.25 mW	-55	0.40		-104	1.41	
+44	32.5	25W	-7	.100	.20 mW	-56	0.351		-105	1.27	
+43	32.0	20W	-8	.090	.16 mW	-57	0.32		-106	1.18	
+42	28.0	16W	-9	.080	.125 mW	-58	0.286				
+41	26.2	12.5W	-10	.071	.10 mW	-59	0.251		<b>dBm</b>	<b>nV</b>	
+40	22.5	10W	-11	.064		-60	0.225	.001 μW	-107	1000	
+39	20.0	8W	-12	.058		-61	0.200		-108	900	
+38	18.0	6.4W	-13	.050		-62	0.180		-109	800	
+37	16.0	5W	-14	.045		-63	0.160		-110	710	.01 pW
+36	14.1	4W	-15	.040		-64	0.141		-109	640	
+35	12.5	3.2W	-16	.0355					-112	580	
+34	11.5	2.5W				<b>dBm</b>	<b>μV</b>		-113	500	
+33	10.0	2W	<b>dBm</b>	<b>mV</b>		-65	128		-114	450	
+32	9.0	1.6W	-17	31.5		-66	115		-115	400	
+31	8.0	1.25W	-18	28.5		-67	100		-116	355	
+30	7.10	1.0W	-19	25.1		-68	90		-117	825	
+29	6.40	800 mW	-20	22.5	.01 mW	-69	80		-118	285	
+28	5.80	640 mW	-21	20.0		-70	71	.1nW	-119	251	
+27	5.00	500 mW	-22	17.9		-71	65		-120	225	.001 pW
+26	4.45	400 mW	-23	15.9		-72	58		-121	200	
+25	4.00	320 mW	-24	14.1		-73	50		-122	180	
+24	3.55	250 mW	-25	12.8		-74	45		-123	160	
+23	3.20	200 mW	-26	11.5		-75	40		-124	141	
+22	2.80	160 mW	-27	10.0		-76	35		-125	128	
+21	2.52	125 mW	-28	8.9		-77	32		-126	117	
+20	2.25	100 mW	-29	8.0		-78	29		-127	100	
+19	2.00	80 mW	-30	7.1	.001mW	-79	25		-128	90	
+18	1.80	64 mW	-31	6.25		-80	22.5	.01 nW	-129	80	
+17	1.60	50 mW	-32	5.8		-81	20.0		-130	71	.1fW
+16	1.41	40 mW	-33	5.0		-82	18.0		-131	61	
+15	1.25	32 mW	-34	4.5		-83	16.0		-132	58	
+14	1.15	25 mW	-35	4.0		-84	11.1		-133	50	
+13	1.00	20 mW	-36	3.5		-85	12.9		-134	45	
+12	.90	16 mW	-37	3.2		-86	11.5		-135	40	
+11	.80	12.5 mW	-38	2.85		-87	10.0		-136	35	
+10	.71	10 mW	-39	2.5		-88	9.0		-137	33	
+9	.64	8 mW	-40	2.25	.1μW	-89	8.0		-138	29	
+8	.58	6.4 mW	-41	2.0		-90	7.1	.001 nW	-139	25	
+7	.500	5 mW	-42	1.8		-91	6.1		-140	23	.01fW
+6	.445	4 mW	-43	1.6		-92	5.75				
+5	.400	3.2 mW	-44	1.4		-93	5.0				
+4	.355	2.5 mW	-45	1.25		-94	4.5				
+3	.320	2.0 mW	-46	1.18		-95	4.0				
+2	.280	1.6 mW	-47	1.00		-96	3.51				
+1	.252	1.25 mW	-48	0.90		-97	3.2				

030609



# return loss Vs. VSWR

table of return loss vs. voltage standing wave ratio

RETURN LOSS (dB)	VSWR	RETURN LOSS (dB)	VSWR	RETURN LOSS (dB)	VSWR	RETURN LOSS (dB)	VSWR	RETURN LOSS (dB)	VSWR
46.064	1.01	13.842	1.51	9.485	2.01	7.327	2.51	5.999	3.01
40.086	1.02	13.708	1.52	9.428	2.02	7.294	2.52	5.970	3.02
36.607	1.03	13.577	1.53	9.372	2.03	7.262	2.53	5.956	3.03
34.151	1.04	13.449	1.54	9.317	2.04	7.230	2.54	5.935	3.04
32.256	1.05	13.324	1.55	9.262	2.05	7.198	2.55	5.914	3.05
30.714	1.06	13.201	1.56	9.208	2.06	7.167	2.56	5.893	3.06
29.417	1.07	13.081	1.57	9.155	2.07	7.135	2.57	5.872	3.07
28.299	1.08	12.964	1.58	9.103	2.08	7.105	2.58	5.852	3.08
27.318	1.09	12.849	1.59	9.051	2.09	7.074	2.59	5.832	3.09
26.444	1.10	12.736	1.60	8.999	2.10	7.044	2.60	5.811	3.10
25.658	1.11	12.625	1.61	8.949	2.11	7.014	2.61	5.791	3.11
24.943	1.12	12.518	1.62	8.899	2.12	6.984	2.62	5.771	3.12
24.289	1.13	12.412	1.63	8.849	2.13	6.954	2.63	5.751	3.13
23.686	1.14	12.308	1.64	8.800	2.14	6.925	2.64	5.732	3.14
23.127	1.15	12.207	1.65	8.752	2.15	6.896	2.65	5.712	3.15
22.607	1.16	12.107	1.66	8.705	2.16	6.867	2.66	5.693	3.16
22.120	1.17	12.009	1.67	8.657	2.17	6.839	2.67	5.674	3.17
21.664	1.18	11.913	1.68	8.611	2.18	6.811	2.68	5.654	3.18
21.234	1.19	11.818	1.69	8.565	2.19	6.783	2.69	5.635	3.19
20.828	1.20	11.725	1.70	8.519	2.20	6.755	2.70	5.617	3.20
20.443	1.21	11.634	1.71	8.474	2.21	6.728	2.71	5.598	3.21
20.079	1.22	11.545	1.72	8.430	2.22	6.700	2.72	5.579	3.22
19.732	1.23	11.457	1.73	8.386	2.23	6.673	2.73	5.561	3.23
19.401	1.24	11.370	1.74	8.342	2.24	6.646	2.74	5.542	3.24
19.085	1.25	11.285	1.75	8.299	2.25	6.620	2.75	5.524	3.25
18.783	1.26	11.202	1.76	8.257	2.26	6.594	2.76	5.506	3.26
18.493	1.27	11.120	1.77	8.215	2.27	6.567	2.77	5.488	3.27
18.216	1.28	11.039	1.78	8.173	2.28	6.541	2.78	5.470	3.28
17.949	1.29	10.960	1.79	8.138	2.29	6.516	2.79	5.452	3.29
17.690	1.30	10.881	1.80	8.091	2.30	6.490	2.80	5.435	3.30
17.445	1.31	10.804	1.81	8.051	2.31	6.465	2.81	5.417	3.31
17.207	1.32	10.729	1.82	8.011	2.32	6.440	2.82	5.400	3.32
16.977	1.33	10.654	1.83	7.972	2.33	6.415	2.83	5.383	3.33
16.755	1.34	10.581	1.84	7.933	2.34	6.390	2.84	5.365	3.34
16.540	1.35	10.509	1.85	7.894	2.35	6.366	2.85	5.348	3.35
16.332	1.36	10.437	1.86	7.856	2.36	6.341	2.86	5.331	3.36
16.131	1.37	10.367	1.87	7.818	2.37	6.317	2.87	5.315	3.37
15.936	1.38	10.298	1.88	7.781	2.38	6.293	2.88	5.298	3.38
15.747	1.39	10.230	1.89	7.744	2.39	6.270	2.89	5.281	3.39
15.563	1.40	10.163	1.90	7.707	2.40	6.246	2.90	5.265	3.40
15.385	1.41	10.097	1.91	7.671	2.41	6.223	2.91	5.248	3.41
15.211	1.42	10.032	1.92	7.635	2.42	6.200	2.92	5.232	3.42
15.043	1.43	9.968	1.93	7.599	2.43	6.177	2.93	5.216	3.43
14.879	1.44	9.904	1.94	7.564	2.44	6.154	2.94	5.200	3.44
14.719	1.45	9.842	1.95	7.529	2.45	6.131	2.95	5.184	3.45
14.564	1.46	9.780	1.96	7.494	2.46	6.109	2.96	5.168	3.46
14.412	1.47	9.720	1.97	7.460	2.47	6.086	2.97	5.152	3.47
14.264	1.48	9.660	1.98	7.426	2.48	6.064	2.98	5.137	3.48
14.120	1.49	9.601	1.99	7.393	2.49	6.042	2.99	5.121	3.49
13.979	1.50	9.542	2.00	7.360	2.50	6.021	3.00	5.105	3.50

020710