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Power vs. Voltage

This table shows the relationship between **Power** in [dBm] or [Watts] and **Voltage** in RMS, peak, peak-to-peak for **sinusoidal signals in 50-Ohm systems**.

[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-180	0.100E-20	0.224 nV	0.316 nV	0.632 nV
-179	0.126E-20	0.251 nV	0.355 nV	0.710 nV
-178	0.158E-20	0.282 nV	0.398 nV	0.796 nV
-177	0.200E-20	0.316 nV	0.447 nV	0.893 nV
-176	0.251E-20	0.354 nV	0.501 nV	1.002 nV
-175	0.316E-20	0.398 nV	0.562 nV	1.125 nV
-174	0.398E-20	0.446 nV	0.631 nV	1.262 nV
-173	0.501E-20	0.501 nV	0.708 nV	1.416 nV
-172	0.631E-20	0.562 nV	0.794 nV	1.588 nV
-171	0.794E-20	0.630 nV	0.891 nV	1.782 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-170	0.100E-19	0.707 nV	1.000 nV	2.000 nV
-169	0.126E-19	0.793 nV	1.122 nV	2.244 nV
-168	0.158E-19	0.890 nV	1.259 nV	2.517 nV
-167	0.200E-19	0.999 nV	1.412 nV	2.825 nV
-166	0.251E-19	1.121 nV	1.585 nV	3.169 nV
-165	0.316E-19	1.257 nV	1.778 nV	3.556 nV
-164	0.398E-19	1.411 nV	1.995 nV	3.990 nV
-163	0.501E-19	1.583 nV	2.238 nV	4.477 nV
-162	0.631E-19	1.776 nV	2.512 nV	5.023 nV
-161	0.794E-19	1.993 nV	2.818 nV	5.636 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-160	0.100E-18	2.236 nV	3.162 nV	6.324 nV

Table: Power vs. dBm and Volts

-159	0.126E-18	2.509 nV	3.548 nV	7.095 nV
-158	0.158E-18	2.815 nV	3.980 nV	7.961 nV
-157	0.200E-18	3.159 nV	4.466 nV	8.932 nV
-156	0.251E-18	3.544 nV	5.011 nV	10.022 nV
-155	0.316E-18	3.976 nV	5.623 nV	11.245 nV
-154	0.398E-18	4.462 nV	6.309 nV	12.617 nV
-153	0.501E-18	5.006 nV	7.078 nV	14.157 nV
-152	0.631E-18	5.617 nV	7.942 nV	15.884 nV
-151	0.794E-18	6.302 nV	8.911 nV	17.822 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-150	0.100E-17	7.071 nV	9.998 nV	19.997 nV
-149	0.126E-17	7.934 nV	11.218 nV	22.437 nV
-148	0.158E-17	8.902 nV	12.587 nV	25.175 nV
-147	0.200E-17	9.988 nV	14.123 nV	28.246 nV
-146	0.251E-17	11.207 nV	15.847 nV	31.693 nV
-145	0.316E-17	12.574 nV	17.780 nV	35.560 nV
-144	0.398E-17	14.109 nV	19.950 nV	39.899 nV
-143	0.501E-17	15.830 nV	22.384 nV	44.768 nV
-142	0.631E-17	17.762 nV	25.115 nV	50.230 nV
-141	0.794E-17	19.929 nV	28.180 nV	56.359 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-140	0.100E-16	22.361 nV	31.618 nV	63.236 nV
-139	0.126E-16	25.089 nV	35.476 nV	70.952 nV
-138	0.158E-16	28.150 nV	39.805 nV	79.609 nV
-137	0.200E-16	31.585 nV	44.662 nV	89.323 nV
-136	0.251E-16	35.439 nV	50.111 nV	100.222 nV
-135	0.316E-16	39.764 nV	56.226 nV	112.451 nV
-134	0.398E-16	44.615 nV	63.086 nV	126.172 nV
-133	0.501E-16	50.059 nV	70.784 nV	141.568 nV
-132	0.631E-16	56.167 nV	79.421 nV	158.842 nV
-131	0.794E-16	63.021 nV	89.112 nV	178.223 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-130	0.100E-15	70.711 nV	99.985 nV	199.970 nV

Table: Power vs. dBm and Volts

-129	0.126E-15	79.339 nV	112.185 nV	224.370 nV
-128	0.158E-15	89.019 nV	125.874 nV	251.747 nV
-127	0.200E-15	99.882 nV	141.232 nV	282.465 nV
-126	0.251E-15	112.069 nV	158.465 nV	316.931 nV
-125	0.316E-15	125.743 nV	177.801 nV	355.602 nV
-124	0.398E-15	141.086 nV	199.496 nV	398.992 nV
-123	0.501E-15	158.301 nV	223.838 nV	447.677 nV
-122	0.631E-15	177.617 nV	251.151 nV	502.302 nV
-121	0.794E-15	199.290 nV	281.796 nV	563.591 nV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-120	0.100E-14	223.607 nV	316.180 nV	632.360 nV
-119	0.126E-14	250.891 nV	354.760 nV	709.519 nV
-118	0.158E-14	281.504 nV	398.047 nV	796.094 nV
-117	0.200E-14	315.853 nV	446.616 nV	893.232 nV
-116	0.251E-14	0.354 μ V	0.501 μ V	1.002 μ V
-115	0.316E-14	0.398 μ V	0.562 μ V	1.125 μ V
-114	0.398E-14	0.446 μ V	0.631 μ V	1.262 μ V
-113	0.501E-14	0.501 μ V	0.708 μ V	1.416 μ V
-112	0.631E-14	0.562 μ V	0.794 μ V	1.588 μ V
-111	0.794E-14	0.630 μ V	0.891 μ V	1.782 μ V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-110	0.100E-13	0.707 μ V	1.000 μ V	2.000 μ V
-109	0.126E-13	0.793 μ V	1.122 μ V	2.244 μ V
-108	0.158E-13	0.890 μ V	1.259 μ V	2.517 μ V
-107	0.200E-13	0.999 μ V	1.412 μ V	2.825 μ V
-106	0.251E-13	1.121 μ V	1.585 μ V	3.169 μ V
-105	0.316E-13	1.257 μ V	1.778 μ V	3.556 μ V
-104	0.398E-13	1.411 μ V	1.995 μ V	3.990 μ V
-103	0.501E-13	1.583 μ V	2.238 μ V	4.477 μ V
-102	0.631E-13	1.776 μ V	2.512 μ V	5.023 μ V
-101	0.794E-13	1.993 μ V	2.818 μ V	5.636 μ V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-100	0.100E-12	2.236 μ V	3.162 μ V	6.324 μ V

Table: Power vs. dBm and Volts

-99	0.126E-12	2.509 μ V	3.548 μ V	7.095 μ V
-98	0.158E-12	2.815 μ V	3.980 μ V	7.961 μ V
-97	0.200E-12	3.159 μ V	4.466 μ V	8.932 μ V
-96	0.251E-12	3.544 μ V	5.011 μ V	10.022 μ V
-95	0.316E-12	3.976 μ V	5.623 μ V	11.245 μ V
-94	0.398E-12	4.462 μ V	6.309 μ V	12.617 μ V
-93	0.501E-12	5.006 μ V	7.078 μ V	14.157 μ V
-92	0.631E-12	5.617 μ V	7.942 μ V	15.884 μ V
-91	0.794E-12	6.302 μ V	8.911 μ V	17.822 μ V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-90	0.100E-11	7.071 μ V	9.998 μ V	19.997 μ V
-89	0.126E-11	7.934 μ V	11.218 μ V	22.437 μ V
-88	0.158E-11	8.902 μ V	12.587 μ V	25.175 μ V
-87	0.200E-11	9.988 μ V	14.123 μ V	28.246 μ V
-86	0.251E-11	11.207 μ V	15.847 μ V	31.693 μ V
-85	0.316E-11	12.574 μ V	17.780 μ V	35.560 μ V
-84	0.398E-11	14.109 μ V	19.950 μ V	39.899 μ V
-83	0.501E-11	15.830 μ V	22.384 μ V	44.768 μ V
-82	0.631E-11	17.762 μ V	25.115 μ V	50.230 μ V
-81	0.794E-11	19.929 μ V	28.180 μ V	56.359 μ V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-80	0.100E-10	22.361 μ V	31.618 μ V	63.236 μ V
-79	0.126E-10	25.089 μ V	35.476 μ V	70.952 μ V
-78	0.158E-10	28.150 μ V	39.805 μ V	79.609 μ V
-77	0.200E-10	31.585 μ V	44.662 μ V	89.323 μ V
-76	0.251E-10	35.439 μ V	50.111 μ V	100.222 μ V
-75	0.316E-10	39.764 μ V	56.226 μ V	112.451 μ V
-74	0.398E-10	44.615 μ V	63.086 μ V	126.172 μ V
-73	0.501E-10	50.059 μ V	70.784 μ V	141.568 μ V
-72	0.631E-10	56.167 μ V	79.421 μ V	158.842 μ V
-71	0.794E-10	63.021 μ V	89.112 μ V	178.223 μ V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-70	0.100E-09	70.711 μ V	99.985 μ V	199.970 μ V

Table: Power vs. dBm and Volts

-69	0.126E-09	79.339 μ V	112.185 μ V	224.370 μ V	
-68	0.158E-09	89.019 μ V	125.874 μ V	251.747 μ V	
-67	0.200E-09	99.881 μ V	141.232 μ V	282.465 μ V	
-66	0.251E-09	112.069 μ V	158.465 μ V	316.931 μ V	
-65	0.316E-09	125.743 μ V	177.801 μ V	355.602 μ V	
-64	0.398E-09	141.086 μ V	199.496 μ V	398.992 μ V	
-63	0.501E-09	158.301 μ V	223.838 μ V	447.677 μ V	
-62	0.631E-09	177.617 μ V	251.151 μ V	502.301 μ V	
-61	0.794E-09	199.290 μ V	281.796 μ V	563.592 μ V	
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp	
-60	0.100E-08	223.607 μ V	316.180 μ V	632.360 μ V	
-59	0.126E-08	250.891 μ V	354.760 μ V	709.520 μ V	
-58	0.158E-08	281.504 μ V	398.047 μ V	796.094 μ V	
-57	0.200E-08	315.853 μ V	446.616 μ V	893.232 μ V	
-56	0.251E-08	0.354 mV	0.501 mV	1.002 mV	
-55	0.316E-08	0.398 mV	0.562 mV	1.125 mV	
-54	0.398E-08	0.446 mV	0.631 mV	1.262 mV	
-53	0.501E-08	0.501 mV	0.708 mV	1.416 mV	
-52	0.631E-08	0.562 mV	0.794 mV	1.588 mV	
-51	0.794E-08	0.630 mV	0.891 mV	1.782 mV	
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp	
-50	0.100E-07	0.707 mV	1.000 mV	2.000 mV	
-49	0.126E-07	0.793 mV	1.122 mV	2.244 mV	
-48	0.158E-07	0.890 mV	1.259 mV	2.517 mV	
-47	0.200E-07	0.999 mV	1.412 mV	2.825 mV	
-46	0.251E-07	1.121 mV	1.585 mV	3.169 mV	
-45	0.316E-07	1.257 mV	1.778 mV	3.556 mV	
-44	0.398E-07	1.411 mV	1.995 mV	3.990 mV	
-43	0.501E-07	1.583 mV	2.238 mV	4.477 mV	
-42	0.631E-07	1.776 mV	2.512 mV	5.023 mV	
-41	0.794E-07	1.993 mV	2.818 mV	5.636 mV	
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp	
-40	0.100E-06	2.236 mV	3.162 mV	6.324 mV	

Table: Power vs. dBm and Volts

-39	0.126E-06	2.509 mV	3.548 mV	7.095 mV
-38	0.158E-06	2.815 mV	3.980 mV	7.961 mV
-37	0.200E-06	3.159 mV	4.466 mV	8.932 mV
-36	0.251E-06	3.544 mV	5.011 mV	10.022 mV
-35	0.316E-06	3.976 mV	5.623 mV	11.245 mV
-34	0.398E-06	4.462 mV	6.309 mV	12.617 mV
-33	0.501E-06	5.006 mV	7.078 mV	14.157 mV
-32	0.631E-06	5.617 mV	7.942 mV	15.884 mV
-31	0.794E-06	6.302 mV	8.911 mV	17.822 mV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-30	0.100E-05	7.071 mV	9.998 mV	19.997 mV
-29	0.126E-05	7.934 mV	11.218 mV	22.437 mV
-28	0.158E-05	8.902 mV	12.587 mV	25.175 mV
-27	0.200E-05	9.988 mV	14.123 mV	28.246 mV
-26	0.251E-05	11.207 mV	15.847 mV	31.693 mV
-25	0.316E-05	12.574 mV	17.780 mV	35.560 mV
-24	0.398E-05	14.109 mV	19.950 mV	39.899 mV
-23	0.501E-05	15.830 mV	22.384 mV	44.768 mV
-22	0.631E-05	17.762 mV	25.115 mV	50.230 mV
-21	0.794E-05	19.929 mV	28.180 mV	56.359 mV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-20	0.100E-04	22.361 mV	31.618 mV	63.236 mV
-19	0.126E-04	25.089 mV	35.476 mV	70.952 mV
-18	0.158E-04	28.150 mV	39.805 mV	79.609 mV
-17	0.200E-04	31.585 mV	44.662 mV	89.323 mV
-16	0.251E-04	35.439 mV	50.111 mV	100.222 mV
-15	0.316E-04	39.764 mV	56.226 mV	112.451 mV
-14	0.398E-04	44.615 mV	63.086 mV	126.172 mV
-13	0.501E-04	50.059 mV	70.784 mV	141.568 mV
-12	0.631E-04	56.167 mV	79.421 mV	158.842 mV
-11	0.794E-04	63.021 mV	89.112 mV	178.223 mV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
-10	0.100E-03	70.711 mV	99.985 mV	199.970 mV

Table: Power vs. dBm and Volts

-9	0.126E-03	79.339 mV	112.185 mV	224.370 mV
-8	0.158E-03	89.019 mV	125.874 mV	251.747 mV
-7	0.200E-03	99.881 mV	141.232 mV	282.465 mV
-6	0.251E-03	112.069 mV	158.465 mV	316.931 mV
-5	0.316E-03	125.743 mV	177.801 mV	355.602 mV
-4	0.398E-03	141.086 mV	199.496 mV	398.992 mV
-3	0.501E-03	158.301 mV	223.838 mV	447.677 mV
-2	0.631E-03	177.617 mV	251.151 mV	502.301 mV
-1	0.794E-03	199.290 mV	281.796 mV	563.591 mV
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
0	0.100E-02	223.607 mV	316.180 mV	632.360 mV
1	0.126E-02	250.891 mV	354.760 mV	709.520 mV
2	0.158E-02	281.504 mV	398.047 mV	796.094 mV
3	0.200E-02	315.853 mV	446.616 mV	893.232 mV
4	0.251E-02	0.354 V	0.501 V	1.002 V
5	0.316E-02	0.398 V	0.562 V	1.125 V
6	0.398E-02	0.446 V	0.631 V	1.262 V
7	0.501E-02	0.501 V	0.708 V	1.416 V
8	0.631E-02	0.562 V	0.794 V	1.588 V
9	0.794E-02	0.630 V	0.891 V	1.782 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
10	0.100E-01	0.707 V	1.000 V	2.000 V
11	0.126E-01	0.793 V	1.122 V	2.244 V
12	0.158E-01	0.890 V	1.259 V	2.517 V
13	0.200E-01	0.999 V	1.412 V	2.825 V
14	0.251E-01	1.121 V	1.585 V	3.169 V
15	0.316E-01	1.257 V	1.778 V	3.556 V
16	0.398E-01	1.411 V	1.995 V	3.990 V
17	0.501E-01	1.583 V	2.238 V	4.477 V
18	0.631E-01	1.776 V	2.512 V	5.023 V
19	0.794E-01	1.993 V	2.818 V	5.636 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
20	0.100E+00	2.236 V	3.162 V	6.324 V

Table: Power vs. dBm and Volts

21	0.126E+00	2.509 V	3.548 V	7.095 V
22	0.158E+00	2.815 V	3.980 V	7.961 V
23	0.200E+00	3.159 V	4.466 V	8.932 V
24	0.251E+00	3.544 V	5.011 V	10.022 V
25	0.316E+00	3.976 V	5.623 V	11.245 V
26	0.398E+00	4.462 V	6.309 V	12.617 V
27	0.501E+00	5.006 V	7.078 V	14.157 V
28	0.631E+00	5.617 V	7.942 V	15.884 V
29	0.794E+00	6.302 V	8.911 V	17.822 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
30	0.100E+01	7.071 V	9.998 V	19.997 V
31	0.126E+01	7.934 V	11.218 V	22.437 V
32	0.158E+01	8.902 V	12.587 V	25.175 V
33	0.200E+01	9.988 V	14.123 V	28.246 V
34	0.251E+01	11.207 V	15.847 V	31.693 V
35	0.316E+01	12.574 V	17.780 V	35.560 V
36	0.398E+01	14.109 V	19.950 V	39.899 V
37	0.501E+01	15.830 V	22.384 V	44.768 V
38	0.631E+01	17.762 V	25.115 V	50.230 V
39	0.794E+01	19.929 V	28.180 V	56.359 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
40	0.100E+02	22.361 V	31.618 V	63.236 V
41	0.126E+02	25.089 V	35.476 V	70.952 V
42	0.158E+02	28.150 V	39.805 V	79.609 V
43	0.200E+02	31.585 V	44.662 V	89.323 V
44	0.251E+02	35.439 V	50.111 V	100.222 V
45	0.316E+02	39.764 V	56.226 V	112.451 V
46	0.398E+02	44.615 V	63.086 V	126.172 V
47	0.501E+02	50.059 V	70.784 V	141.568 V
48	0.631E+02	56.168 V	79.421 V	158.842 V
49	0.794E+02	63.021 V	89.112 V	178.223 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
50	0.100E+03	70.711 V	99.985 V	199.970 V

51	0.126E+03	79.339 V	112.185 V	224.370 V
52	0.158E+03	89.020 V	125.874 V	251.747 V
53	0.200E+03	99.882 V	141.232 V	282.465 V
54	0.251E+03	112.069 V	158.465 V	316.931 V
55	0.316E+03	125.743 V	177.801 V	355.602 V
56	0.398E+03	141.086 V	199.496 V	398.992 V
57	0.501E+03	158.302 V	223.838 V	447.677 V
58	0.631E+03	177.617 V	251.151 V	502.302 V
59	0.794E+03	199.290 V	281.796 V	563.592 V
[dBm]	[Watts]	[Volts]rms	[Volts]p	[Volts]pp
60	0.100E+04	223.607 V	316.180 V	632.360 V

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