

# dBm & Watt Corresponding Table

Formula:  $\text{dBm} = 10 \cdot \text{LOG}(W \cdot 1000)$

W	dBm	W	dBm	W	dBm	W	dBm	W	dBm
0.01	10	0.21	23.22219295	0.41	26.12783857	0.61	27.85329835	0.81	29.08485019
0.02	13.01029996	0.22	23.42422681	0.42	26.2324929	0.62	27.92391689	0.82	29.13813852
0.03	14.77121255	0.23	23.61727836	0.43	26.33468456	0.63	27.99340549	0.83	29.19078092
0.04	16.02059991	0.24	23.80211242	0.44	26.43452676	0.64	28.06179974	0.84	29.24279286
0.05	16.98970004	0.25	23.97940009	0.45	26.53212514	0.65	28.12913357	0.85	29.29418926
0.06	17.7815125	0.26	24.14973348	0.46	26.62757832	0.66	28.19543936	0.86	29.34498451
0.07	18.4509804	0.27	24.31363764	0.47	26.72097858	0.67	28.26074803	0.87	29.39519253
0.08	19.03089987	0.28	24.47158031	0.48	26.81241237	0.68	28.32508913	0.88	29.44482672
0.09	19.54242509	0.29	24.62397998	0.49	26.9019608	0.69	28.38849091	0.89	29.49390007
0.1	20	0.3	24.77121255	0.5	26.98970004	0.7	28.4509804	0.9	29.54242509
0.11	20.41392685	0.31	24.91361694	0.51	27.07570176	0.71	28.51258349	0.91	29.59041392
0.12	20.79181246	0.32	25.05149978	0.52	27.16003344	0.72	28.57332496	0.92	29.63787827
0.13	21.13943352	0.33	25.1851394	0.53	27.2427587	0.73	28.6332286	0.93	29.68482949
0.14	21.46128036	0.34	25.31478917	0.54	27.3239376	0.74	28.6923172	0.94	29.73127854
0.15	21.76091259	0.35	25.44068044	0.55	27.40362689	0.75	28.75061263	0.95	29.77723605
0.16	22.04119983	0.36	25.56302501	0.56	27.48188027	0.76	28.80813592	0.96	29.82271233
0.17	22.30448921	0.37	25.68201724	0.57	27.55874856	0.77	28.86490725	0.97	29.86771734
0.18	22.55272505	0.38	25.79783597	0.58	27.63427994	0.78	28.92094603	0.98	29.91226076
0.19	22.78753601	0.39	25.91064607	0.59	27.70852012	0.79	28.97627091	0.99	29.95635195
0.2	23.01029996	0.4	26.02059991	0.6	27.7815125	0.8	29.03089987	1	30

W	dBm	W	dBm	W	dBm	W	dBm	W	dBm
1	30	21	43.22219295	41	46.12783857	61	47.85329835	81	49.08485019
2	33.01029996	22	43.42422681	42	46.2324929	62	47.92391689	82	49.13813852
3	34.77121255	23	43.61727836	43	46.33468456	63	47.99340549	83	49.19078092
4	36.02059991	24	43.80211242	44	46.43452676	64	48.06179974	84	49.24279286
5	36.98970004	25	43.97940009	45	46.53212514	65	48.12913357	85	49.29418926
6	37.7815125	26	44.14973348	46	46.62757832	66	48.19543936	86	49.34498451
7	38.4509804	27	44.31363764	47	46.72097858	67	48.26074803	87	49.39519253
8	39.03089987	28	44.47158031	48	46.81241237	68	48.32508913	88	49.44482672
9	39.54242509	29	44.62397998	49	46.9019608	69	48.38849091	89	49.49390007
10	40	30	44.77121255	50	46.98970004	70	48.4509804	90	49.54242509
11	40.41392685	31	44.91361694	51	47.07570176	71	48.51258349	91	49.59041392
12	40.79181246	32	45.05149978	52	47.16003344	72	48.57332496	92	49.63787827
13	41.13943352	33	45.1851394	53	47.2427587	73	48.6332286	93	49.68482949
14	41.46128036	34	45.31478917	54	47.3239376	74	48.6923172	94	49.73127854
15	41.76091259	35	45.44068044	55	47.40362689	75	48.75061263	95	49.77723605
16	42.04119983	36	45.56302501	56	47.48188027	76	48.80813592	96	49.82271233
17	42.30448921	37	45.68201724	57	47.55874856	77	48.86490725	97	49.86771734
18	42.55272505	38	45.79783597	58	47.63427994	78	48.92094603	98	49.91226076
19	42.78753601	39	45.91064607	59	47.70852012	79	48.97627091	99	49.95635195
20	43.01029996	40	46.02059991	60	47.7815125	80	49.03089987	100	50

GSM Propagation Loss (Unit: dB)						DCS Propagation Loss (Unit: dB)					
Distance (m)	Loss (n=2)	Loss (n=2.5)	Loss (n=3)	Loss (n=3.5)	Loss (n=4)	Distance (m)	Loss (n=2)	Loss (n=2.5)	Loss (n=3)	Loss (n=3.5)	Loss (n=4)
1	31.53	31.53	31.53	31.53	31.53	1	37.51	37.51	37.51	37.51	37.51
2	37.56	39.06	40.57	42.07	43.58	2	43.53	45.03	46.54	48.04	49.55
3	41.08	43.46	45.85	48.23	50.62	3	47.05	49.43	51.82	54.20	56.59
4	43.58	46.59	49.60	52.61	55.62	4	49.55	52.56	55.57	58.58	61.59
5	45.51	49.01	52.50	56.00	59.49	5	51.48	54.98	58.47	61.97	65.46
10	51.53	56.53	61.53	66.53	71.53	10	57.51	62.51	67.51	72.51	77.51
15	55.06	60.94	66.82	72.70	78.58	15	61.03	66.91	72.79	78.67	84.55
20	57.56	64.06	70.57	77.07	83.58	20	63.53	70.03	76.54	83.04	89.55
25	59.49	66.48	73.47	80.46	87.45	25	65.46	72.45	79.44	86.43	93.42
30	61.08	68.46	75.85	83.23	90.62	30	67.05	74.43	81.82	89.20	96.59
35	62.42	70.14	77.86	85.58	93.30	35	68.39	76.11	83.83	91.55	99.27
40	63.58	71.59	79.60	87.61	95.62	40	69.55	77.56	85.57	93.58	101.59
45	64.60	72.87	81.13	89.40	97.66	45	70.57	78.84	87.10	95.37	103.63
50	65.51	74.01	82.50	91.00	99.49	50	71.48	79.98	88.47	96.97	105.46
60	67.10	75.99	84.88	93.77	102.66	60	73.07	81.96	90.85	99.74	108.63
70	68.44	77.66	86.89	96.11	105.34	70	74.41	83.63	92.86	102.08	111.31
80	69.60	79.11	88.63	98.14	107.66	80	75.57	85.08	94.60	104.11	113.63
90	70.62	80.39	90.16	99.93	109.70	90	76.59	86.36	96.13	105.90	115.68
100	71.53	81.53	91.53	101.53	111.53	100	77.51	87.51	97.51	107.51	117.51
200	77.56	89.06	100.57	112.07	123.58	200	83.53	95.03	106.54	118.04	129.55
300	81.08	93.46	105.85	118.23	130.62	300	87.05	99.43	111.82	124.20	136.59
400	83.58	96.59	109.60	122.61	135.62	400	89.55	102.56	115.57	128.58	141.59
500	85.51	99.01	112.50	126.00	139.49	500	91.48	104.98	118.47	131.97	145.46
1000	91.53	106.53	121.53	136.53	151.53	1000	97.51	112.51	127.51	142.51	157.51
2000	97.56	114.06	130.57	147.07	163.58	2000	103.53	120.03	136.54	153.04	169.55
3000	101.08	118.46	135.85	153.23	170.62	3000	107.05	124.43	141.82	159.20	176.59
4000	103.58	121.59	139.60	157.61	175.62	4000	109.55	127.56	145.57	163.58	181.59
5000	105.51	124.01	142.50	161.00	179.49	5000	111.48	129.98	148.47	166.97	185.46
10000	111.53	131.53	151.53	171.53	191.53	10000	117.51	137.51	157.51	177.51	197.51

Remark: The above propagation loss is for indoor application