

The Effect of VSWR on Transmission Power

VSWR	VSWR [dB]	Return Loss [dB]	Trans. Loss [dB]	Volt. Refl. Coeff.	Power Trans. [%]	Power Refl. [%]	VSWR	VSWR [dB]	Return Loss [dB]	Trans. Loss [dB]	Volt. Refl. Coeff.	Power Trans. [%]	Power Refl. [%]
1.00	.0	∞	.000	.00	100.0	.0	1.64	4.3	12.3	.263	.24	94.1	5.9
1.01	.1	46.1	.000	.00	100.0	.0	1.66	4.4	12.1	.276	.25	93.8	6.2
1.02	.2	40.1	.000	.01	100.0	.0	1.68	4.5	11.9	.289	.25	93.6	6.4
1.03	.3	36.6	.001	.01	100.0	.0							
1.04	.3	34.2	.002	.02	100.0	.0	1.70	4.6	11.7	.302	.26	93.3	6.7
							1.72	4.7	11.5	.315	.26	93.0	7.0
1.05	.4	32.3	.003	.02	99.9	.1	1.74	4.8	11.4	.329	.27	92.7	7.3
1.06	.5	30.7	.004	.03	99.9	.1	1.76	4.9	11.2	.342	.28	92.4	7.6
1.07	.6	29.4	.005	.03	99.9	.1	1.78	5.0	11.0	.356	.28	92.1	7.9
1.08	.7	28.3	.006	.04	99.9	.1							
1.09	.7	27.3	.008	.04	99.8	.2	1.80	5.1	10.9	.370	.29	91.8	8.2
							1.82	5.2	10.7	.384	.29	91.5	8.5
1.10	.8	26.4	.010	.05	99.8	.2	1.84	5.3	10.6	.398	.30	91.3	8.7
1.11	.9	25.7	.012	.05	99.7	.3	1.86	5.1	10.4	.412	.30	91.0	9.0
1.12	1.0	24.9	.014	.06	99.7	.3	1.88	5.5	10.3	.426	.31	90.7	9.3
1.13	1.1	24.3	.016	.06	99.6	.4							
1.14	1.1	23.7	.019	.07	99.6	.4	1.90	5.6	10.2	.440	.31	90.4	9.6
							1.92	5.7	10.0	.454	.32	90.1	9.9
1.15	1.2	23.1	.021	.07	99.5	.5	1.94	5.8	9.9	.468	.32	89.8	10.2
1.16	1.3	22.6	.024	.07	99.5	.5	1.96	5.8	9.8	.483	.32	89.5	10.5
1.17	1.4	22.1	.027	.08	99.4	.6	1.98	5.9	9.7	.497	.33	89.2	10.8
1.18	1.4	21.7	.030	.08	99.3	.7							
1.19	1.5	21.2	.033	.09	99.2	.8	2.00	6.0	9.5	.512	.33	88.9	11.1
							2.50	8.0	7.4	.881	.43	81.6	18.4
1.20	1.6	20.8	.036	.09	99.2	.8	3.00	9.5	6.0	1.249	.50	75.0	25.0
1.21	1.7	20.4	.039	.10	99.1	.9	3.50	10.9	5.1	1.603	.56	96.1	30.9
1.22	1.7	20.1	.043	.10	99.0	1.0	4.00	12.0	4.4	1.938	.60	94.0	36.0
1.23	1.8	19.7	.046	.10	98.9	1.1							
1.24	1.9	19.4	.050	.11	98.9	1.1	4.50	13.1	3.9	2.255	.64	59.5	40.5
							5.00	14.0	3.5	2.553	.67	55.6	44.4
1.25	1.9	19.1	.054	.11	98.8	1.2	5.50	14.8	3.2	2.834	.69	52.1	47.9
1.26	2.0	18.8	.058	.12	98.7	1.3	6.00	15.6	2.9	3.100	.71	49.0	51.0
1.27	2.1	18.5	.062	.12	98.6	1.4	6.50	16.3	2.7	3.351	.73	46.2	53.8
1.28	2.1	18.2	.066	.12	98.5	1.5							
1.29	2.2	17.9	.070	.13	98.4	1.6	7.00	16.9	2.5	3.590	.75	43.7	56.2
							7.50	17.5	2.3	3.817	.76	41.5	58.5
1.30	2.3	17.7	.075	.13	98.3	1.7	8.00	18.1	2.2	4.033	.78	39.5	60.5
1.32	2.4	17.2	.083	.14	98.1	1.9	8.50	18.6	2.1	4.240	.79	37.7	62.3
1.34	2.5	16.8	.093	.15	97.9	2.1	9.00	19.1	1.9	4.437	.80	36.0	64.0
1.36	2.7	16.3	.102	.15	97.7	2.3							
1.38	2.8	15.9	.112	.16	97.5	2.5	9.50	19.6	1.8	4.626	.81	34.5	65.5
							10.00	20.0	1.7	4.807	.82	33.1	66.9
1.40	2.9	15.6	.122	.17	97.2	2.8	11.00	20.8	1.6	5.149	.83	30.6	69.4
1.42	3.0	15.2	.133	.17	97.0	3.0	12.00	21.6	1.5	5.466	.85	28.4	71.6
1.44	3.2	14.9	.144	.18	96.7	3.3	13.00	22.3	1.3	5.762	.86	2.6.5	73.5
1.46	3.3	14.6	.155	.19	96.5	3.5							
1.48	3.4	14.3	.166	.19	96.3	3.7	14.00	22.9	1.2	6.040	.87	24.9	75.1
							15.00	23.5	1.2	6.301	.88	23.4	76.6
1.50	3.5	14.0	.177	.20	96.0	4.0	16.00	24.1	1.1	6.547	.88	22.1	77.9
1.52	3.6	13.7	.189	.21	95.7	4.3	17.00	24.6	1.0	6.780	.89	21.0	79.0
1.54	3.8	13.4	.201	.21	95.5	4.5	18.00	25.1	1.0	7.002	.89	19.9	80.1
1.56	3.9	13.2	.213	.22	95.2	4.8							
1.58	4.0	13.0	.225	.22	94.9	5.1	19.00	25.6	.9	7.212	.90	19.0	81.0
							20.00	26.0	.9	7.413	.90	18.1	81.9
1.60	4.1	12.7	.238	.23	94.7	5.3	25.00	28.0	.7	8.299	.92	14.8	85.2
1.62	4.2	12.5	.250	.24	94.4	5.6	30.00	29.5	.6	9.035	.94	12.5	87.5

**Decibels - Volts-Watts Conversation Table
@ 50 Ω Impedance**

dBm	V	Po	dBm	V	Po	dBm	mV	Po	dBm	μV	Po
+53	100.0	200W	0	.225	1.0mW	-49	0.80		-97	3.2	
+50	70.7	100W	-1	.200	.80mW	-50	0.71	.01μW	-98	2.9	
+49	64.0	80W	-2	.180	.64mW	-51	0.64		-99	2.51	
+48	58.0	60W	-3	.160	.50mW	-52	0.57		-100	2.25	.1pw
+47	50.0	50W	-4	.141	.40mW	-53	0.50		-101	2.0	
+46	44.5	40W	-5	.125	.32mW	-54	0.45		-102	1.8	
+45	40.0	32W	-6	.115	.25mW	-55	0.40		-103	1.6	
+44	32.5	25W	-7	.100	.20mW	-56	0.351		-104	1.41	
+43	32.0	20W	-8	.090	.16mW	-57	0.32		-105	1.27	
+42	28.0	16W	-9	.080	.125mW	-58	0.286		-106	1.18	
+41	26.2	12.5W	-10	.071	.10mW	-59	0.251				
+40	22.5	10W	-11	.064		-60	0.225	.001μW			
+39	20.0	8W	-12	.058		-61	0.200		dBm	nV	
+38	18.0	6.4W	-13	.050		-62	0.180		-107	1000	
+37	16.0	5W	-14	.045		-63	0.160		-108	900	
+36	14.1	4W	-15	.040		-64	0.141		-109	800	
+35	12.5	3.2W	-16	.0355					-110	710	.01pW
+34	11.5	2.5W							-111	640	
+33	10.0	2W							-112	580	
+32	9.0	1.6W							-113	500	
+31	8.0	1.25W	-17	31.5		-66	115		-114	450	
+30	7.10	1.0W	-18	28.5		-67	100		-115	400	
+29	6.40	800mW	-19	25.1		-68	90		-116	355	
+28	5.80	640mW	-20	22.5	.01mW	-69	80		-117	825	
+27	5.00	500mW	-21	20.0		-70	71	.1nW	-118	285	
+26	4.45	400mW	-22	17.9		-71	65		-119	251	
+25	4.00	320mW	-23	15.9		-72	58		-120	225	.001pW
+24	3.55	200mW	-24	14.1		-73	50		-121	200	
+23	3.20	250mW	-25	12.8		-74	45		-122	180	
+22	2.80	160mW	-26	11.5		-75	40		-123	160	
+21	2.52	125mW	-27	10.0		-76	35		-124	141	
+20	2.25	100mW	-28	8.9		-77	32		-125	128	
+19	2.00	80mW	-29	8.0		-78	29		-126	117	
+18	1.80	64mW	-30	7.1	.001mW	-79	25		-127	100	
+17	1.60	50mW	-31	6.25		-80	22.5	.01nW	-128	90	
+16	1.41	40mW	-32	5.8		-81	20.0		-129	80	.1fW
+15	1.25	32mW	-33	5.0		-82	18.0		-130	71	
+14	1.15	25mW	-34	4.5		-83	16.0		-131	61	
+13	1.00	20mW	-35	4.0		-84	14.1		-132	58	
+12	.90	16mW	-36	3.5		-85	12.9		-133	50	
+11	.80	12.5mW	-37	3.2		-86	11.5		-134	45	
+10	.71	10mW	-38	2.85		-87	10.0		-135	40	
+9	.64	8mW	-39	2.5		-88	9.0		-136	35	
+8	.58	6.4mW	-40	2.25	.1μW	-89	8.0		-137	33	
+7	.500	5mW	-41	2.0		-90	7.1	.001nW	-138	29	
+6	.445	4mW	-42	1.8		-91	6.1		-139	25	
+5	.400	3.2mW	-43	1.6		-92	5.75		-140	23	.1fW
+4	.355	2.5mW	-44	1.4		-93	5.0				
+3	.320	2.0mW	-45	1.25		-94	4.5				
+2	.280	1.6mW	-46	1.18		-95	4.0				
+1	.252	1.25mW	-47	1.00		-96	3.51				
			-48	0.90							