

VSWR ~to~ Return Loss -=-Conversion Table=-=

VSWR	RL(dB)	VSWR	RL(dB)	VSWR	RL(dB)	VSWR	RL(dB)	VSWR	RL(dB)
1.000	∞	1.31	17.45	1.71	11.63	3.10	5.81	7.10	2.46
1.001	66.02	1.32	17.21	1.72	11.54	3.20	5.62	7.20	2.43
1.002	60.01	1.33	16.98	1.73	11.46	3.30	5.43	7.30	2.39
1.003	56.49	1.34	16.75	1.74	11.37	3.40	5.26	7.40	2.36
1.004	54.00	1.35	16.54	1.75	11.29	3.50	5.11	7.50	2.33
1.005	52.06	1.36	16.33	1.76	11.20	3.60	4.96	7.60	2.30
1.006	50.48	1.37	16.13	1.77	11.12	3.70	4.81	7.70	2.27
1.007	49.15	1.38	15.94	1.78	11.04	3.80	4.68	7.80	2.24
1.008	47.99	1.39	15.75	1.79	10.96	3.90	4.56	7.90	2.21
1.009	46.97	1.40	15.56	1.80	10.88	4.00	4.44	8.00	2.18
1.010	46.06	1.41	15.38	1.81	10.80	4.10	4.32	8.10	2.16
1.02	40.09	1.42	15.21	1.82	10.73	4.20	4.22	8.20	2.13
1.03	36.61	1.43	15.04	1.83	10.65	4.30	4.12	8.30	2.10
1.04	34.15	1.44	14.88	1.84	10.58	4.40	4.02	8.40	2.08
1.05	32.26	1.45	14.72	1.85	10.51	4.50	3.93	8.50	2.05
1.06	30.71	1.46	14.56	1.86	10.44	4.60	3.84	8.60	2.03
1.07	29.42	1.47	14.41	1.87	10.37	4.70	3.75	8.70	2.01
1.08	28.30	1.48	14.26	1.88	10.30	4.80	3.67	8.80	1.98
1.09	27.32	1.49	14.12	1.89	10.23	4.90	3.60	8.90	1.96
1.10	26.44	1.50	13.98	1.90	10.16	5.00	3.52	9.00	1.94
1.11	25.66	1.51	13.84	1.91	10.10	5.10	3.45	9.10	1.92
1.12	24.94	1.52	13.71	1.92	10.03	5.20	3.38	9.20	1.90
1.13	24.29	1.53	13.58	1.93	9.97	5.30	3.32	9.30	1.88
1.14	23.69	1.54	13.45	1.94	9.90	5.40	3.25	9.40	1.86
1.15	23.13	1.55	13.32	1.95	9.84	5.50	3.19	9.50	1.84
1.16	22.61	1.56	13.20	1.96	9.78	5.60	3.14	9.60	1.82
1.17	22.12	1.57	13.08	1.97	9.72	5.70	3.08	9.70	1.80
1.18	21.66	1.58	12.96	1.98	9.66	5.80	3.03	9.80	1.78
1.19	21.23	1.59	12.85	1.99	9.60	5.90	2.97	9.90	1.76
1.20	20.83	1.60	12.74	2.00	9.54	6.00	2.92	10.00	1.74
1.21	20.44	1.61	12.63	2.10	9.00	6.10	2.87	15.00	1.16
1.22	20.08	1.62	12.52	2.20	8.52	6.20	2.83	20.00	0.87
1.23	19.73	1.63	12.41	2.30	8.09	6.30	2.78	30.00	0.58
1.24	19.40	1.64	12.31	2.40	7.71	6.40	2.74	40.00	0.43
1.25	19.08	1.65	12.21	2.50	7.36	6.50	2.69	50.00	0.35
1.26	18.78	1.66	12.11	2.60	7.04	6.60	2.65	60.00	0.29
1.27	18.49	1.67	12.01	2.70	6.76	6.70	2.61	70.00	0.25
1.28	18.22	1.68	11.91	2.80	6.49	6.80	2.57	80.00	0.22
1.29	17.95	1.69	11.82	2.90	6.25	6.90	2.54	90.00	0.19
1.30	17.69	1.70	11.73	3.00	6.02	7.00	2.50	100.00	0.17

== Formulas ==

Return Loss

$$RL(dB) = -20 * \log \left(\frac{VSWR - 1}{VSWR + 1} \right)$$

$$RL(dB) = -20 * \log |\Gamma|$$

Voltage Standing Wave Ratio

$$VSWR(: 1) = \frac{10^{\frac{RLdB}{20}} + 1}{10^{\frac{RLdB}{20}} - 1}$$

$$VSWR(: 1) = \frac{1 + |\Gamma|}{1 - |\Gamma|}$$

Reflection Coefficient

$$|\Gamma| = 10^{-\frac{RLdB}{20}}$$

$$|\Gamma| = \left| \frac{VSWR - 1}{VSWR + 1} \right|$$