

Selected Waveguide Designations for cm- and mm-Wave Bands:

EJW / 11-01-97

Recommended Frequency [GHz]	TE ₁₀ Cutoff ⁽⁰⁾ [GHz]	Internal Dimensions [inches (mm)]	U.S. (EIA)	(IEC)	U.K. (RCSC)	Aerowave {Baytron} ⁽¹⁾	Alpha {TRG} ⁽¹⁾	Custom μ-wave ^(1,2)	HP ⁽¹⁾	Maury μ-wave ⁽¹⁾	MDL ⁽¹⁾	Millitech {Hughes} ^(1,3,4)
18.0—26.5	14.05	0.420 x 0.170 (10.7 x 4.32)	WR-42	R-220	WG-20	K	K	--	K	K	K	K
22.0—33.0	17.36	0.340 x 0.170 (8.64 x 4.32)	WR-34	R-260	WG-21							
26.5—40.0	21.08	0.280 x 0.140 (7.11 x 3.56)	WR-28	R-320	WG-22	Ka	(A)	--	(R)	(U)	Ka	Ka
33.0—50.0	26.35	0.224 x 0.112 (5.69 x 2.84)	WR-22	R-400	WG-23	(B)	(B)	--	Q	(J)	Q	Q
40.0—60.0	31.39	0.188 x 0.094 (4.78 x 2.39)	WR-19	R-500	WG-24	(Q)	U	--	U	(T)	--	U
50.0—75.0	39.87	0.148 x 0.074 (3.76 x 1.88)	WR-15	R-620	WG-25	V	V	--	V	V	V	V
60.0—90.0	48.37	0.122 x 0.061 (3.10 x 1.55)	WR-12	R-740	WG-26	E	E	--		(Y)	--	E
75.0—110.0	59.01	0.100 x 0.050 (2.54 x 1.27)	WR-10	R-900	WG-27	(R)	W	--	W	(Z)	--	W
90.0—140.0	73.77	0.0800 x 0.0400 (2.03 x 1.02)	WR-08	R-1200	WG-28	(N)	F	--			--	F
110.0—170.0	90.79	0.0650 x 0.0325 (1.65 x 0.826)	WR-6/7	R-1400	WG-29	(T)	D	--			--	D
140.0—220.0	115.7	0.0510 x 0.0255 (1.30 x 0.648)	WR-05	R-1800	WG-30	G	G	--			--	G
170.0—260.0	137.2	0.0430 x 0.0215 (1.09 x 0.546)	WR-04	R-2200	WG-31	(Y)	(H)	--			--	--
220.0—325.0	173.6	0.0340 x 0.0170 (0.864 x 0.432)	WR-03	R-2600	WG-32	(D)	(J)	--			--	--
325.0—400.0	210.8	0.0280 x 0.0140 (0.711 x 0.356)	WR-2.8									--
400.0—500.0	268.2	0.0220 x 0.0110 (0.559 x 0.279)	WR-2.2									--

Notes: 0) Cutoff frequency, $f_c(\text{TE}_{10}) = c / 2a_0$, computed for square-cornered guide with broad-wall dimension as specified in table ($c=2.9979 \times 10^{10}$ cm/sec, 25.4 mm = 1 inch).

1) Letters in parentheses, '(X)', denote alternative band designations; '--' indicates the use of the EIA, 'WG-XX,' labeling convention.

2) Other manufacturers employing EIA scheme:

DBS (→WR-10)

Dorado (→WR-06)

Flann (→WR-6.5)

MEC (→WR-10)

MRI (→WR-10)

etc...

3) Other manufacturers employing K,Ka,Q,U,V,E,W,F,D,G scheme:

Lockheed—Martin

Pacific Millimeter (→D)

Spacek Labs (→W)

TRW

QuinStar (→G)

etc...

4) For comparison with radar letter-band nomenclature, see e.g., ITT, "Reference Date for Radio Engineers," Sixth Edition, Howard W. Sams & Co., 1975, pp. 1-1, 1-3.