

Series 861 Gain Standard Horns

Features

- ▶ Made with Precise Dimensional Tolerance Control
- ▶ Available From 12.4 GHz Through 220 GHz
- ▶ Nominal Gain of 25 dBi
- ▶ Gain Calibration is Accurate to 0.5 dB Over Full Waveguide Bandwidth



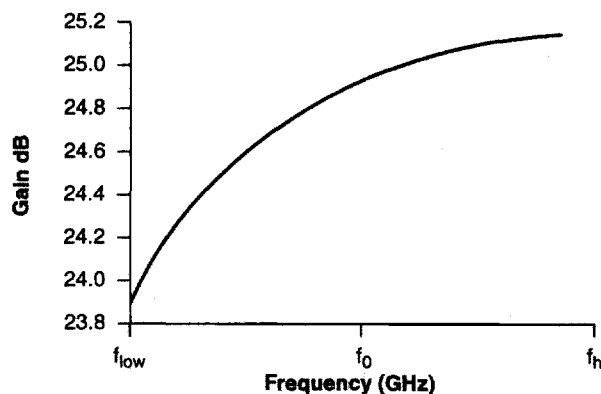
Description

The Series 861 gain standard horns are fabricated with very close tolerances to ensure the precision of every horn manufactured by Alpha. Each unit is joined to a short section of rectangular waveguide and terminated in a standard flange. A gain vs. frequency calibration curve is supplied with each horn. The calibration of each unit is accurate to within 0.5 dB over the full waveguide bandwidth.

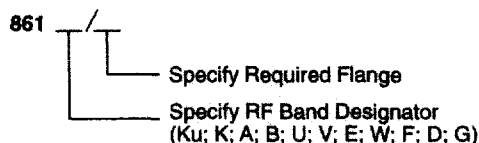
Gain standard horns can be used to determine experimentally the gain of other antennas by using the substitution method. The gain standard horn and the antenna under test are alternately connected to a well-matched detector system in order to compare their relative power levels. The power level difference is then added to the appropriate level of the calibration curve to determine the absolute gain of the antenna under test.

Gain standard horns are also useful as power monitors in radar transmitter tests, known-gain radiators in field propagation studies, and transmitting or receiving antennas in test bench applications. The completed units are silver plated and are protected from corrosion with a rhodium flash for minimum RF losses.

Gain Performance



Ordering Information



For example: Model number 861W/387 is a standard gain horn operating in W-band with a 387 type flange.

Typical Specifications

Model Number	Frequency Band (GHz)	Waveguide Dimension	Waveguide WR	Types RG-	A		B		C	
					in	mm	in	mm	in	mm
861 Ku	12.4–18.0	0.622 x 0.311	62	91	5.62	142.8	4.18	106.2	12.50	317.5
861 K	18.0–26.5	0.420 x 0.170	42	53	4.12	104.7	3.40	86.4	9.20	233.7
861A	26.5–40.0	0.280 x 0.140	28	96	2.84	72.1	2.35	59.7	6.60	167.6
861B	30.0–50.0	0.224 x 0.112	22	97	2.30	58.4	1.91	48.5	5.10	129.5
861U	40.0–60.0	0.188 x 0.094	19	–	1.81	46.0	1.38	35.1	4.05	102.9
861V	50.0–75.0	0.148 x 0.074	15	98	1.72	43.7	1.43	36.3	3.90	99.1
861E	60.0–90.0	0.122 x 0.061	12	99	1.46	37.1	1.21	30.8	3.20	81.3
861W	75.0–110.0	0.100 x 0.050	10	–	1.21	30.7	1.92	25.9	2.80	71.1
861F	90–140.0	0.080 x 0.040	6	136	1.00	25.4	0.84	21.3	2.10	53.3
861D	110.0–170.0	0.065 x 0.0325	8	138	0.83	21.1	0.70	17.8	1.73	43.9
861G	140.0–220.0	0.051 x 0.0255	5	135	0.54	13.7	0.64	16.3	1.25	31.8

Outline Drawing

