AT MICROWAVE · FREQUENCY MULTIPLIERS · WAVEGUIDE AND COAXIAL

Frequency Multipliers up to 400 GHz

Active and passive frequency multipliers from AT Microwave: 84 waveguide multipliers from WR-22 to WR-2.8 with factors from ×2 to ×24 plus 55 coaxial multipliers and comb generators up to 110 GHz. 139 models in total.





The range at a glance

Waveguide full-band

48 models · WR-22 to WR-2.8 · ×4 to ×24

Cover the complete waveguide band, up to 400 GHz.

Waveguide narrow-band

19 models · WR-15 to WR-03

Optimized for a sub-range of the band.

Waveguide passive

17 models · ×2, ×3 · up to WR-03

No external supply needed.

Coaxial active

45 models · ×2, ×3, ×4, ×6 · 6 – 67 GHz

With integrated gain and DC supply, for weak input signals.

Coaxial passive

8 models · ×2, ×3 · 10 – 110 GHz

No external supply needed, output frequency up to 110 GHz.

Comb generators

2 models · 0.03 – 40 GHz

Generate a broad spectrum of harmonics from one input signal.

Customized solutions always possible

Other frequency ranges, factors, output power levels or connectors? Customized solutions are always possible. Talk to us.

Your partner in Europe

bq-microwave is the official distributor of AT Microwave within Europe. Consulting, quotation and order processing from one source.

Waveguide multipliers by waveguide band

NUMBER OF MODELS AND FACTORS PER BAND

Waveguide	Band (GHz)	Full-band	Narrow-band	Passive
Q · WR-22	33–50	**2** ×4		
U · WR-19	40–60	**5** ×4		
V · WR-15	50–75	**5** ×4, ×6	**3** ×4, ×6	**2** ×2
E · WR-12	60–90	**3** ×6	**7** ×4, ×6	**4** ×2, ×3
W · WR-10	75–110	**13** ×4, ×6, ×8, ×9	**4** ×4, ×8	**4** ×2, ×3
F · WR-08	90–140	**6** ×4, ×8, ×12	**1** ×8	**1** ×2
D · WR-06	110–170	**7** ×6, ×8, ×9, ×12	**3** ×6, ×12	**4** ×2, ×3
G · WR-05	140–220	**2** ×12, ×18		
H · WR-04	170–260	**1** ×18		**1** ×3
J · WR-03	220–330	**3** ×9, ×18, ×24	**1** ×24	**1** ×3
WR-2.8	260–400	**1** ×24		

Output frequency according to the model designation (AT naming scheme), the datasheet is binding.

Typical applications

- FMCW and millimeter-wave radar
- SATCOM and 5G/6G test platforms
- RF test and measurement, spectrum analysis
- Frequency synthesizers with PLL and VCO
- Defense and electronic warfare

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Waveguide full-band

48 MODELS · WR-22 TO WR-2.8 · ×4 TO ×24







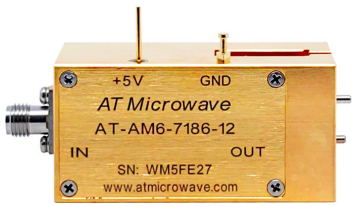
Full-band multipliers cover the complete waveguide band, from 33 to 400 GHz output frequency. Many new models for WR-08 to WR-2.8.

Model	Band	Waveguide	Factor	Output (GHz)	
AT-AM4-3350-15L	Q	WR-22	×4	33–50	
AT-AM4-3350-23L	Q	WR-22	×4	33–50	
AT-AM4-4060E-15L	U	WR-19	×4	40–60	
AT-AM4-4060E-10L	U	WR-19	×4	40–60	
AT-AM4-4060-18L	U	WR-19	×4	40–60	
AT-AM4-4060-18	U	WR-19	×4	40–60	
AT-AM4-3660E-23L	U	WR-19	×4	36–60	
AT-AM4-4577-22L	V	WR-15	×4	45–77	
AT-AM4-4580E-10L	V	WR-15	×4	45–80	
AT-AM6-4580E-10L	V	WR-15	×6	45–80	
AT-AM4-5075E-15L	V	WR-15	×4	50–75	
AT-AM6-5075E-15L	V	WR-15	×6	50–75	
AT-AM6-5590-20L	E	WR-12	×6	55–90	new
AT-AM6-6090E-12L	E	WR-12	×6	60–90	
AT-AM6-6090E-17L	E	WR-12	×6	60–90	
AT-AM6-67110E-10L	W	WR-10	×6	67–110	
AT-AM6-70110-20L	W	WR-10	×6	70–110	
AT-AM8-70110E-10L	W	WR-10	×8	70–110	
AT-AM9-70110E-10L	W	WR-10	×9	70–110	
AT-AM4-75110-20	W	WR-10	×4	75–110	
AT-AM4-75110-13	W	WR-10	×4	75–110	
AT-AM4-75110-23	W	WR-10	×4	75–110	
AT-AM6-75110E-13L	W	WR-10	×6	75–110	
AT-AM6-75110-23L	W	WR-10	×6	75–110	
AT-AM8-75110E-13L2	W	WR-10	×8	75–110	
AT-AM8-75110-20L	W	WR-10	×8	75–110	
AT-AM8-75110-13L	W	WR-10	×8	75–110	

Model	Band	Waveguide	Factor	Output (GHz)	
AT-AM8-75110-23L	W	WR-10	×8	75–110	
AT-AM4-85140E-10	F	WR-08	×4	85–140	new
AT-AM8-85140E-10L	F	WR-08	×8	85–140	new
AT-AM8-85140-18L	F	WR-08	×8	85–140	new
AT-AM12-85140EL	F	WR-08	×12	85–140	new
AT-AM12-85140E-10L	F	WR-08	×12	85–140	new
AT-AM8-90140EL	F	WR-08	×8	90–140	
AT-AM6-110170L	D	WR-06	×6	110–170	
AT-AM8-110180L	D	WR-06	×8	110–180	
AT-AM6-110170-13L	D	WR-06	×6	110–170	
AT-AM12-140220DP	G	WR-05	×12	140–220	new
AT-AM9-110170-10L	D	WR-06	×9	110–170	
AT-AM12-110170EL	D	WR-06	×12	110–170	
AT-AM12-110170-13P	D	WR-06	×12	110–170	
AT-AM12-110170-18L	D	WR-06	×12	110–170	
AT-AM18-140220DP	G	WR-05	×18	140–220	new
AT-AM18-170260DP	H	WR-04	×18	170–260	new
AT-AM18-220330DP	J	WR-03	×18	220–330	new
AT-AM9-220330DP	J	WR-03	×9	220–330	new
AT-AM24-220330DP	J	WR-03	×24	220–330	new
AT-AM24-260400DN	–	WR-2.8	×24	260–400	new

Waveguide narrow-band

19 MODELS · WR-15 TO WR-03





Narrow-band multipliers are optimized for a sub-range of the waveguide band, for example 71–86 GHz in the E band.

Model	Band	Waveguide	Factor	Output (GHz)	
AT-AM4-4570E-18L	V	WR-15	×4	45–70	new
AT-AM6-5766-13	V	WR-15	×6	57–66	
AT-AM6-5766-23	V	WR-15	×6	57–66	
AT-AM6-5585E-10L	E	WR-12	×6	55–85	
AT-AM6-6086-27	E	WR-12	×6	60–86	
AT-AM6-7078-28	E	WR-12	×6	70–78	
AT-AM6-7186-12	E	WR-12	×6	71–86	

Model	Band	Waveguide	Factor	Output (GHz)	
AT-AM6-7186-26	E	WR-12	×6	71–86	
AT-AM6-7588-26	E	WR-12	×6	75–88	
AT-AM4-8595-15	W	WR-12	×4	85–95	
AT-AM8-86106-10	W	WR-10	×8	86–106	
AT-AM8-88104-18	W	WR-10	×8	88–104	
AT-AM8-9098-20	W	WR-10	×8	90–98	
AT-AM4-96116-18	W	WR-10	×4	96–116	new

Model	Band	Waveguide	Factor	Output (GHz)	
AT-AM8-96120-10	F	WR-08	×8	96–120	new
AT-AM6-110150-10	D	WR-06	×6	110–150	
AT-AM12-110150-12L	D	WR-06	×12	110–150	
AT-AM12-110155-08L	D	WR-06	×12	110–155	
AT-AM24-340	J	WR-03	×24	340	

Waveguide passive

17 MODELS · ×2, ×3 · WR-15 TO WR-03

Passive waveguide multipliers work without external supply, as doublers or triplers up to 330 GHz.



Model	Band	Waveguide	Factor	Output (GHz)	
AT-PM2-4080M	V	WR-15	×2	40–80	
AT-PM2-5075M	V	WR-15	×2	50–75	
AT-PM2-5590C	E	WR-12	×2	55–90	
AT-PM2-6090C	E	WR-12	×2	60–90	
AT-PM2-70110C	W	WR-10	×2	70–110	
AT-PM2-75110C	W	WR-10	×2	75–110	
AT-PM2-90140C	F	WR-08	×2	90–140	
AT-PM2-110170	D	WR-06	×2	110–170	
AT-PM2-110180	D	WR-06	×2	110–180	
AT-PM3-5590M	E	WR-12	×3	55–90	
AT-PM3-6090M	E	WR-12	×3	60–90	
AT-PM3-67110T	W	WR-10	×3	67–110	
AT-PM3-75110M	W	WR-10	×3	75–110	
AT-PM3-110170-VF	D	WR-06	×3	110–170	
AT-PM3-110170-19	D	WR-06	×3	110–170	
AT-PM3-170260	H	WR-04	×3	170–260	new
AT-PM3-220330	J	WR-03	×3	220–330	new

Output frequency according to the model designation (AT naming scheme), the datasheet is binding.

Coaxial multipliers at a glance

OUTPUT FREQUENCY PER PRODUCT GROUP

Product group	Coverage	Models	Output
Active ×2		19	6–67 GHz
Active ×3		6	9–50 GHz
Active ×4		17	16–65 GHz
Active ×6		3	57–66 GHz
Passive ×2, ×3		8	10–110 GHz
Comb generator		2	0.03–40 GHz

Active doublers (×2)

19 MODELS · OUTPUT 6 – 67 GHZ



Model	Output from (GHz)	Output to (GHz)	
AT-AM2-0618-15L	6	18	
AT-AM2-0618-20L	6	18	
AT-AM2-0826-13L	8	26	
AT-AM2-1830N-15L	18	30	new
AT-AM2-1830-28L	18	30	
AT-AM2-1840-12	18	40	
AT-AM2-1840-12L	18	40	
AT-AM2-1844-18	18	44	
AT-AM2-1844-18L	18	44	
AT-AM2-1844-28L	18	44	
AT-AM2-1850-15	18	50	
AT-AM2-1850-15L	18	50	new
AT-AM2-1850-28L	18	50	
AT-AM2-2050-22	20	50	
AT-AM2-2050-22L	20	50	
AT-AM2-2244N-15L	22	44	new
AT-AM2-2244-28L	22	44	
AT-AM2-3765-18VL	37	65	
AT-AM2-3765-18V	35	67	

Active triplers (×3)

6 MODELS · OUTPUT 9 – 50 GHZ



Model	Output from (GHz)	Output to (GHz)
AT-AM3-0918-15L	9	18
AT-AM3-0918-23L	9	18
AT-AM3-2040-13L	20	40
AT-AM3-2044-18L	20	44
AT-AM3-3050-15L	30	50
AT-AM3-3050-20L	30	50

Active quadruplers (×4)

17 MODELS · OUTPUT 16 – 65 GHZ



Model	Output from (GHz)	Output to (GHz)
AT-AM4-0618-13L	16	44
AT-AM4-0618-20L	16	44
AT-AM4-1840-12L	18	40
AT-AM4-1840-12	18	40
AT-AM4-1844-18L	18	44
AT-AM4-1844-28L	18	44
AT-AM4-1844-18	18	44
AT-AM4-1850-28L	18	50
AT-AM4-1850-15L	18	50
AT-AM4-1850-15	18	50
AT-AM4-2050-22L	20	50
AT-AM4-2050-22	20	50
AT-AM4-4060-18VL	40	60
AT-AM4-3765-18VL	37	65
AT-AM4-4060-18V	40	60
AT-AM4-3765-18V	37	65
AT-AM4-4060-10V	40	60

Active sextuplers (×6)

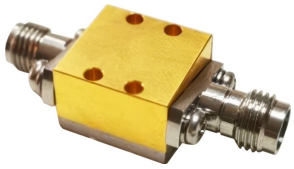
3 MODELS · OUTPUT 57 – 66 GHZ



Model	Output from (GHz)	Output to (GHz)
AT-AM6-5766-13VL	57	66
AT-AM6-5766-23VL	57	66
AT-AM6-5766-26VL	57	66

Passive multipliers

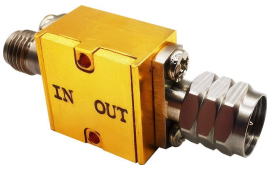
8 MODELS · OUTPUT 10 – 110 GHZ



Model	Factor	Output from (GHz)	Output to (GHz)
AT-PM2-1030B	×2	10	30
AT-PM2-1844B	×2	18	44
AT-PM2-1852B	×2	18	52
AT-PM2-3567A	×2	35	67
AT-PM3-3052C	×3	30	52
AT-PM3-55110M	×3	55	110
AT-PM2-3580A	×2	35	80
AT-PM2-4090N	×2	40	90

Comb generators

2 MODELS · 0.03 – 40 GHZ



Model	Factor	Output from (GHz)	Output to (GHz)
AT-FCG-40S	N	0.03	40
AT-OCG-30S	N	0.03	30

All data as specified by the manufacturer AT Microwave. Detailed datasheets with input frequency, output power and connectors are available from bq-microwave.

Your contact for AT Microwave

Looking for the right multiplier or a special version? We are happy to advise you and clarify details directly with AT Microwave.

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