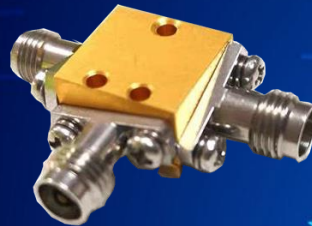


上海鳌太电子科技有限公司

Shanghai AT Microwave Limited



AT Microwave

Your preferred Microwave & mmWave modules Supplier

Products Selection Guide

目录

1. Amplifier 2	6.3 Bench-top Active Multiplier..... 16
1.1 Waveguide Low Noise Amplifier 2	6.4 Bench-top Rx Modules 16
1.2 Waveguide Power Amplifier 4	7. Power Divider 功分器 17
1.3 Coaxial LNA 6	8. Hybrid Modules..... 21
1.4 Coaxial Power Amplifier 7	9. Directional Coupler 23
2. Mixer Modules 8	10. Adapter 26
2.2 Waveguide Balance Mixer 9	10.1 In-Series Adapter..... 26
3. IQ Mixer 9	10.2 Between Series Adapter..... 26
3.2 Waveguide IQ Mixer 9	10.3 90 Degree Right-Angle Adapter 27
4. Frequency Multiplier/Divider..... 10	10.4 Flange Adapter..... 27
4.1 Active Waveguide Multiplier..... 10	10.5 Waveguide to Coaxial Adapter 27
4.2 Active Coaxial Multiplier..... 12	11. Cable Assembly 28
4.3 Passive Multiplier 12	12. Filter 28
4.4 Comb Generator 13	13. Equalizer 29
4.5 Frequency Divider 13	14. Analog Phase Shifter..... 30
5. Tx/Rx Modules 14	15. Limiter 30
6. Bench-Top Test Equipment..... 15	16. DC Block 30
6.1 Bench-top Low Noise Amplifier..... 15	Solutions..... 31
6.2 Bench-top Power Amplifier 15	



1. Amplifier

1.1 Waveguide Low Noise Amplifier

Part Number	Type	Low Fre /GHz	High Fre /GHz	Gain	NF	Connector
AT-LNA-4060-1805	Full U Band	40	60	18	5	WR-19
AT-LNA-4060-3505	Full U Band	40	60	35	5	WR-19
AT-LNA-5075-1805	Full V Band	50	75	18	5	WR-15
AT-LNA-5075-3505	Full V Band	50	75	35	5	WR-15
AT-LNA-5570-1845	V Band	55	70	18	4.5	WR-15
AT-LNA-5570-3545	V Band	55	70	35	4.5	WR-15
AT-LNA-7080-1605	E1 Band	70	80	16	5	WR-12
AT-LNA-7080-3205	E1 Band	70	80	32	5	WR-12
AT-LNA-7590-2004	E Band	75	90	20	4	WR-12
AT-LNA-75100-1555	W Band	75	100	15	5.5	WR-10
AT-LNA-75100-3055	W Band	75	100	30	5.5	WR-10
AT-LNA-75100-2004	W Band	75	100	20	4	WR-10
AT-LNA-75110-2004	Full W Band	75	110	20	4	WR-10

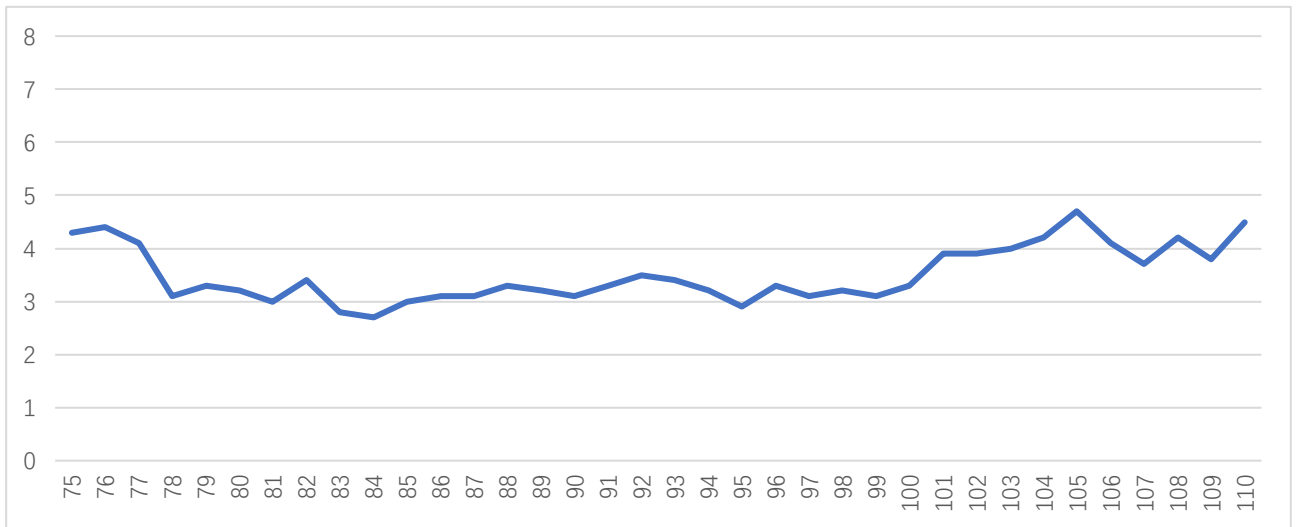
AT-LNA-75110-2004: 75-110GHz Low Noise Amplifier

Advantages

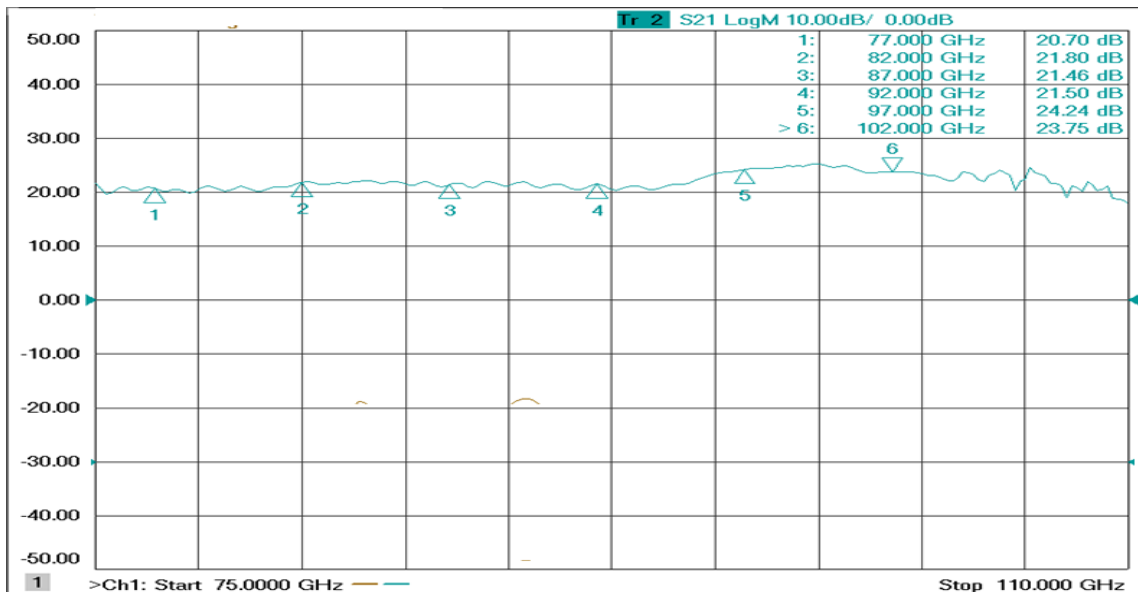
- ✓ Frequency: 75-110GHz
- ✓ High Gain: 20dB
- ✓ NF: 4dB
- ✓ Single Supply

Application

- ✓ W band Imaging
- ✓ FOD (Foreigner Objects Debris)
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System



NF VS Frequency



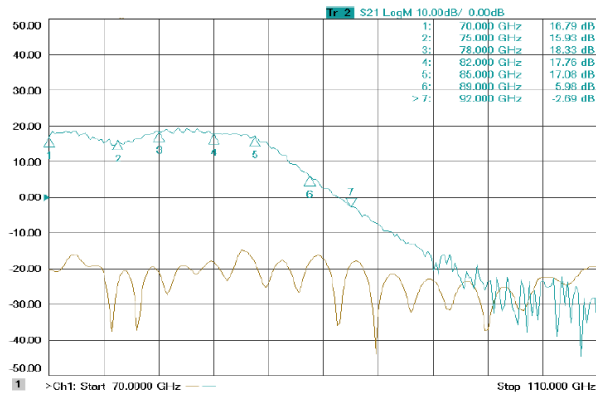
GAIN VS FREQUENCY



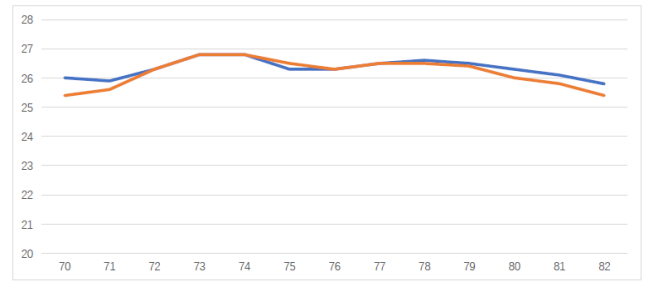
1.2 Waveguide Power Amplifier

Part Number	Type	Low Fre /GHz	High Fre /GHz	Gain /dB	P1 /dBm	Psat /dBm	Connector
AT-PA-4060-1820	Full U Band	40	60	18	18	20	WR-19
AT-PA-4060-3520	Full U Band	40	60	35	18	20	WR-19
AT-PA-5075-1820	Full V Band	50	75	18	18	20	WR-15
AT-PA-5075-3520	Full V Band	50	75	35	18	20	WR-15
AT-PA-5565-1623	V Band	55	65	16	22	23	WR-15
AT-PA-5565-1026	V Band	55	65	10	25	26	WR-15
AT-PA-5565-2526	V Band	55	65	25	25	26	WR-15
AT-PA-6571-2026	V Band	65	71	20	25	26	WR-15
AT-PA-6090-1313	Full E Band	60	90	13	10	13	WR-12
AT-PA-6090-2513	Full E Band	60	90	25	10	13	WR-12
AT-PA-5580-1315	E Band	55	80	13	13	15	WR-12
AT-PA-5580-2515	E Band	55	80	25	13	15	WR-12
AT-PA-6978-1825	E1 Band	69	78	18	24	25	WR-12
AT-PA-6978-2725	E1 Band	69	78	27	24	25	WR-12
AT-PA-7181-1626	E1 Band	71	81	16	25	26	WR-12
AT-PA-7176-3326	E1 Band	71	81	33	25	26	WR-12
AT-PA-7186-2017	E Band	71	86	20	15	17	WR-12
AT-PA-7586-1825	E2 Band	75	86	18	24	25	WR-12
AT-PA-7586-2725	E2 Band	75	86	27	24	25	WR-12
AT-PA-7588-1527	E2 Band	75	88	15	26	27	WR-12
AT-PA-8186-3327	E2 Band	81	86	33	26	27	WR-12
AT-PA-85100-1620	W Band	85	100	16	16	20	WR-10
AT-PA-85100-1226	W Band	85	100	12	24	26	WR-10
AT-PA-88104-1320	W Band	88	104	13	18	20	WR-10

AT-PA-88104-2820	W Band	88	104	28	18	20	WR-10
AT-PA-9098-2726	W Band	90	98	27	25	26	WR-10
AT-PA-9296-3030	W Band	92	96	30	TBD	30	WR-10
AT-PA-9296-3033	W Band	92	96	30	TBD	33	WR-10
AT-PA-75110-1310	Full W Band	75	110	13	8	10	WR-12
AT-PA-75110-2510	Full W Band	75	110	25	8	10	WR-12

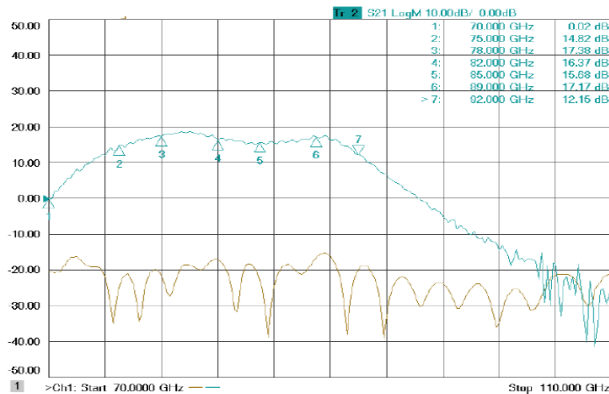


Gain Vs Frequency

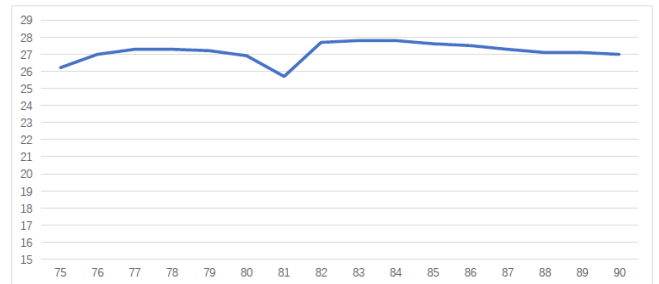


Pout Vs Frequency

AT-PA-7181-1626



Gain Vs Frequency



Pout Vs Frequency

AT-PA-7590-1527



1.3 Coaxial LNA

Part Number	Low Freq.	High Freq.	Gain	NF	P1dB	Current	Vd	Connector
	(GHz)	(GHz)	(dB)	(dB)	(dBm)	(mA)	(V)	
AT-LNA-0020-1603	0.01	20	16	3	15	100	12	SMA
AT-LNA-0003-2801	0.1	3.5	28	1	18	100	8	SMA
AT-LNA-0018-1302	0.1	18	13	2	15	50	8	SMA
AT-LNA-0102-2201	1	2	22	1	0	80	8	SMA
AT-LNA-0112-2702	1	12	27	2	9	100	8	SMA
AT-LNA-0118-2325	1	18	23	2.5	10	150	8	SMA
AT-LNA-0204-2501	2	4	25	1	10	50	8	SMA
AT-LNA-0220-3025	2	20	30	2.5	10	100	8	SMA
AT-LNA-0408-2415	4	8	24	1.5	10	50	8	SMA
AT-LNA-0618-2002	6	18	20	2	10	50	8	SMA
AT-LNA-0812-2015	8	12	20	1.5	10	50	8	SMA
AT-LNA-0818-2702L	8	18	27	2	10	100	8	SMA
AT-LNA-1832-2503	18	32	25	3	10	200	8	2.92mm
AT-LNA-1840-3335Y	18	40	30	3.5	13	200	8	2.92mm
AT-LNA-2640-1825	26.5	40	18	2.5	+1	50	8	2.92mm
AT-LNA-0250-2505	2	50	25	5	10	400	8	2.4mm



1.4 Coaxial Power Amplifier

Part Number	Low Freq.	High Freq.	Gain	P1dB	Psat	Current	Vd	Connector
	(GHz)	(GHz)	(dB)	(dBm)	(dBm)	(mA)	(V)	
AT-PA-0120-1028	1	20	10	27	28	350	12	SMA
AT-PA-0120-2028	1	20	20	27	28	500	12	SMA
AT-PA-0206-2520	2	6	25	18	20	300	8	SMA
AT-PA-0218-1127	2	18	11	26	27	350	12	SMA
AT-PA-0218-2527	2	18	25	26	27	450	12	SMA
AT-PA-0230-2020M	2	30	20	18	20	200	8	2.92mm
AT-PA-0230-3520M	2	30	35	18	20	200	8	2.92mm
AT-PA-0618-1525	6	18	15	24	25	300	8	SMA
AT-PA-0618-3025	6	18	30	24	25	400	8	SMA
AT-PA-2040-3023Y	20	40	30	22	23	560	8	2.92mm
AT-PA-2050-2320	20	50	23	20	22	500	8	2.4mm
AT-PA-2247-1823	22	47	18	22	23	500	8	2.4mm



1.5 Broadband Amplifier

Part Number	Low Freq.	High Freq.	Gain	P1dB	Psat	Current	Vd	Connector
	(GHz)	(GHz)	(dB)	(dBm)	(dBm)	(mA)	(V)	
AT-BB-0006-1328	0.01	6	13	27	28	500	15	SMA
AT-BB-0006-2428	0.01	6	24	27	28	800	15	SMA
AT-BB-0020-1421	0.01	20	14	20	21	200	8	SMA
AT-BB-0030-1526	0.01	30	15	24	26	300	12	2.92mm
AT-BB-0030-2724	0.01	30	27	22	24	400	8	2.92mm
AT-BB-0043-2720	0.01	43	27	18	20	400	8	2.4mm
AT-BB-0050-2720	0.01	50	27	18	20	400	8	2.4mm
AT-BB-0067-1815	0.01	67	18	13	15	300	8	1.85mm

2. Mixer Modules

2.2 Waveguide Balance Mixer

Part Number	RF Low(GHz)	RF (GHz)	LO Low(GHz)	LO (GHz)	IF Low /GHz	IF High (GHz)	LO (dBm)	Loss [dB]	Connector
AT-MIX-4060MH	40	60	40	60	DC	26.5	+18	10	WR-19
AT-MIX-4060ML	40	60	40	60	DC	26.5	+13	10	WR-19
AT-MIX-5075H	50	75	50	75	DC	26.5	+13	10	WR-15
AT-MIX-6090L	60	90	60	90	DC	21	+13	10	WR-12
AT-MIX-7090G	70	90	70	90	DC	12	+7	10	WR-12
AT-MIX-75100G	75	100	75	100	DC	12	+7	10	WR-10
AT-MIX-75110L	75	110	75	110	DC	12	+13	12	WR-10

3. IQ Mixer

3.2 Waveguide IQ Mixer

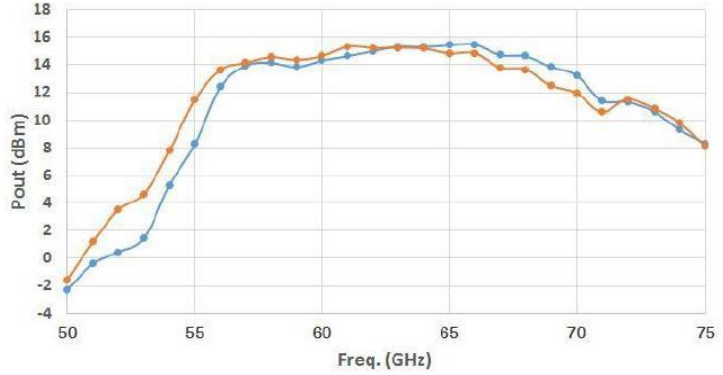
Part Number	RF Low /GHz	RF High /GHz	IF Low /MHz	IF High /MHz	Conversion Loss [dB]	Image Rejection [dB]	Connector
AT-IQM-4060ML	40	60	DC	20000	10	35	WR-19
AT-IQM-5065ML	50	65	DC	20000	10	35	WR-15
AT-IQM-5766G	57	66	DC	12000	9	25	WR-15
AT-IQM-7090G	70	90	DC	12000	13	25	WR-12
AT-IQM-75100G	75	100	DC	12000	13	25	WR-10
AT-IQHM-140170	140/70	170/85	DC	6000	13	15	WR-06



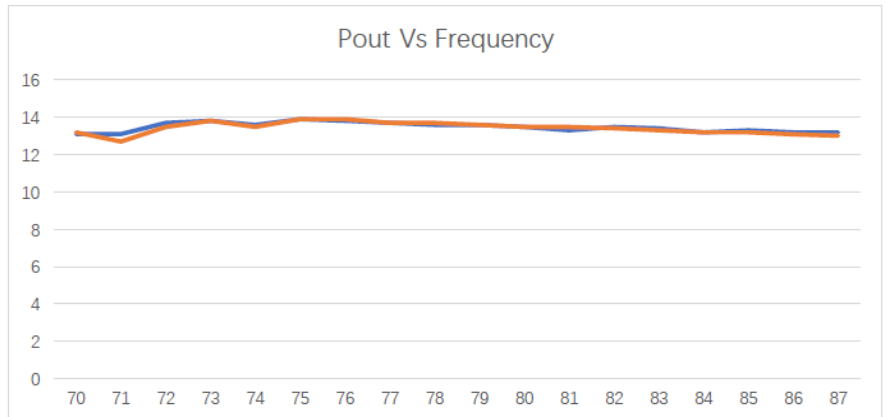
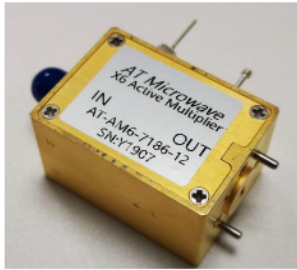
4. Frequency Multiplier/Divider

4.1 Active Waveguide Multiplier

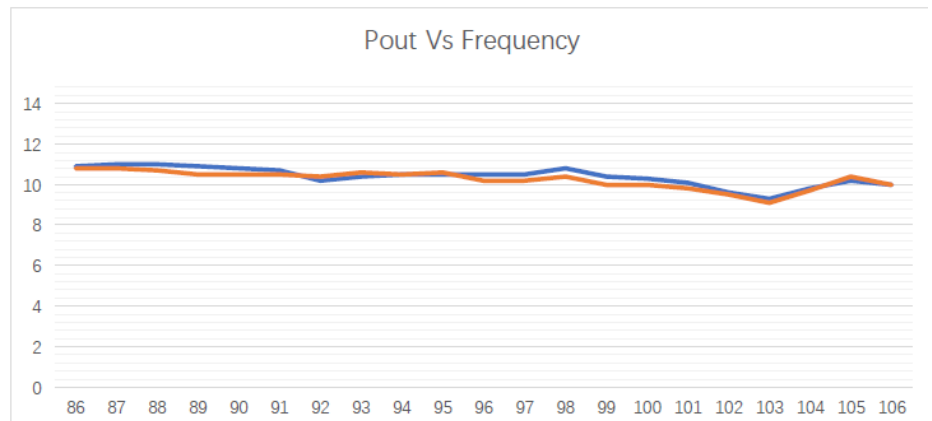
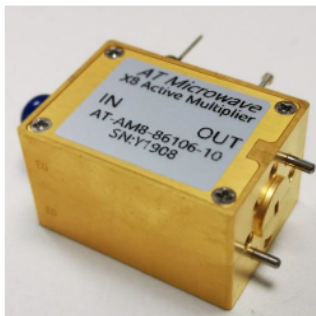
Part Number	Type	Output Low(GHz)	Output High (GHz)	Input Low (GHz)	Input High (GHz)	Output /dBm	Connector
AT-AM4-4060-20	Full U Band X4	40	60	10	15	+20	WR-19
AT-AM4-5075-18	Full V Band X4	50	75	12.5	15	+18	WR-15
AT-AM6-6090-12	Full E Band X6	60	90	10	15	+12	WR-12
AT-AM6-75110-08	Full W Band X6	75	110	12.5	18.33	+8	WR-10
AT-AM6-5766-13	V X6	57	66	9.5	11	+13	WR-15
AT-AM6-5766-23	V HP X6	57	66	9.5	11	+23	WR-15
AT-AM6-7186-12	E X6	71	86	11.8	14.4	+12	WR-12
AT-AM6-7178-25	E1 HP X6	71	78	11.8	13	+25	WR-12
AT-AM6-7181-26	E1 HP X6	71	81	11.8	13.5	+26	WR-12
AT-AM6-7586-25	E2 HP X6	75	86	12.5	14.4	+25	WR-12
AT-AM6-7586-27	E2 HP X6	75	86	12.5	14.4	+27	WR-12
AT-AM4-8595-00	W X4	85	95	21.25	23.75	0	WR-10
AT-AM4-8595-15	W X4	85	95	21.25	23.75	+15	WR-10
AT-AM8-86106-10	W X8	86	106	10.7	13.3	+10	WR-10
AT-AM8-9098-20	W HP X8	90	98	11.25	12.25	+20	WR-10
AT-AM8-88104-20	W HP X8	88	104	11	13	+20	WR-10
AT-AM8-9098-26	W HP X8	90	98	11.25	12.25	+26	WR-10



AT-AM6-5766-13



AT-AM6-7186-12



AT-AM8-86106-10

4.2 Active Coaxial Multiplier

Part Number	Type	Fre Low /GHz	Freq High /GHz	Fout Low/GHz	Fout High/GHz	Dirve /dBm	Pout	Connector
AT-AM2-1030-16	Active X2	5	15	10	30	+5	+16	2.92mm
AT-AM2-2040-15	Active X2	10	20	20	40	+5	+15	2.92mm
AT-AM2-2040-20	Active X2	10	20	20	40	+5	+20	2.92mm
AT-AM4-2040-20	Active X4	5	10	20	40	+13	+20	2.92mm
AT-AM2-2050-20	Active X2	10	25	20	50	+5	+20	2.4mm
AT-AM4-2050-20	Active X4	5	12.5	20	50	+13	+20	2.4mm
AT-AM4-4067-10	Active X4	10	16.75	40	67	+13	+10	1.85mm

4.3 Passive Multiplier

Part Number	Type	Fre Low /GHz	Freq High /GHz	Fout Low/GHz	Fout High/GHz	Dirve /dBm	CL /DB	Connector
AT-PM2-1026HS	Passive X2	5	13.25	10	26.5	14	12	SMA
AT-PM2-1030HS	Passive X2	5	15	10	30	14	12	2.92mm
AT-PM2-1640LS	Passive X2	8	20	16	40	13	15	2.92mm
AT-PM2-1648LS	Passive X2	8	24	16	48	13	15	2.4mm
AT-PM2-2050LS	Passive X2	10	25	20	50	7	11	2.4mm
AT-PM2-2050HS	Passive X2	10	25	20	50	13	10	2.4mm
AT-PM2-2060LS	Passive X2	10	30	20	60	7	11	1.85mm
AT-PM2-2060HS	Passive X2	10	30	20	60	13	10	1.85mm
AT-PM2-3567LS	Passive X2	17.5	33.5	35	67	10	12	1.85mm

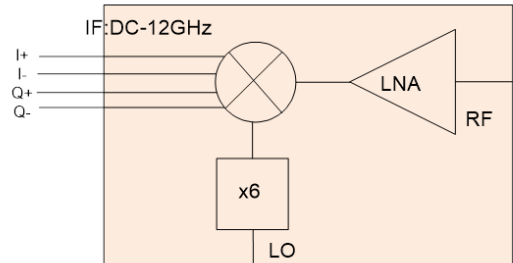
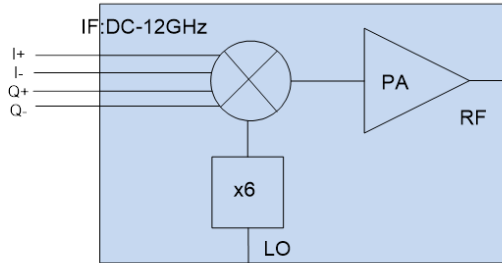
4.4 Comb Generator

Part Number	Type	Input Low (GHz)	Input High (GHz)	Output Low (GHz)	Output High (GHz)	Driver /dBm	Connector
AT-COMB-0R705-0R726	Comb Generator	0.7	5	0.7	26.5	20	SMA
AT-COMB-0R705-0R740	Comb Generator	0.7	5	0.7	40	20	2.92mm
AT-COMB-0315-0326	Comb Generator	3	15	3	26.5	20	SMA
AT-COMB-0315-0340	Comb Generator	3	15	3	40	20	2.92mm
AT-COMB-0315-0350	Comb Generator	3	15	3	50	20	2.4mm
AT-COMB-0315-0367	Comb Generator	3	15	3	67	20	1.85mm

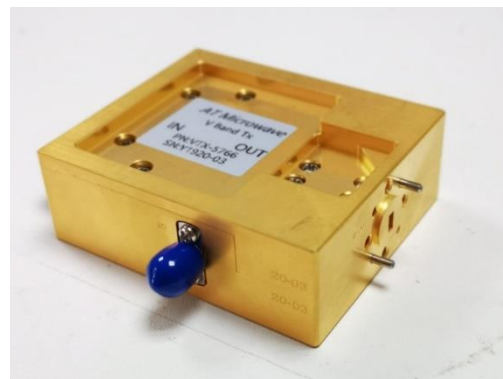
4.5 Frequency Divider

Part Number	Type	Input Low (GHz)	Input High (GHz)	Input Power (dBm)	Output Power (dBm)	100kHz SSB Phase Noise (dBc/Hz)	Connector
AT-FD2-26	Divide-by-2	0.5	26.5	-15 to +8	-3	-152	SMA
AT-FD4-26	Divide-by-4	0.5	26.5	-15 to +8	-3	-152	SMA
AT-FD8-26	Divide-by-8	0.5	26.5	-15 to +8	-3	-152	SMA

5. Tx/Rx Modules



Part Number	Type	Output Low/GHz	Output High/GHz	Gain /dB	Pout /dBm	NF /dB	Connector
AT-VTX-5766	V Tx	57	66	15	+17	-	WR-15
AT-VRX-5766	V Rx	57	66	15	-	5	WR-15
AT-ETX-7176	E1 TX	71	76	15	+20	-	WR-12
AT-ERX-7176	E1 Rx	71	76	12	-	6	WR-12
AT-ERX-7176HG	E1 Rx	71	76	18	-	6	WR-12
AT-ETX-8186	E1 Tx	81	86	15	+20	-	WR-12
AT-ERX-8186	E2 Rx	81	86	12	-	6	WR-12
AT-ERX-8186HG	E2 Rx	81	86	18	-	6	WR-12
AT-WTX-9296SIF	W Tx	92	96	15	18	-	WR-10
AT-WTX-9296IQ	W Tx	92	96	15	18	-	WR-10
AT-WRX-9296SIF	W Rx	92	96	23	-	4	WR-10
AT-WRX-9296IQ	W Rx	92	96	23	-	4	WR-10



6. Bench-Top Test Equipment

6.1 Bench-top Low Noise Amplifier

Part Number	Type	Low Fre /GHz	High Fre /GHz	Gain	NF	Connector
AT-BTLNA-4060-3505	Full U Band	40	60	35	5	WR-19
AT-BTLNA-5075-3505	Full V Band	50	75	35	5	WR-15
AT-BTLNA-5570-3545	V Band	55	70	35	4.5	WR-15
AT-BTLNA-7080-3205	E1 Band	70	80	32	5	WR-12
AT-BTLNA-7590-3504	E Band	75	90	20	4	WR-12
AT-BTLNA-75110-3504	Full W Band	75	110	35	4	WR-10

6.2 Bench-top Power Amplifier

Part Number	Type	Low Fre /GHz	High Fre /GHz	Gain /dB	P1 /dBm	Psat /dBm	Connector
AT-BTPA-4060-3520	Full U Band	40	60	35	18	20	WR-19
AT-BTPA-5075-3520	Full V Band	50	75	35	18	20	WR-15
AT-BTPA-5565-2526	V Band	55	65	25	25	26	WR-15
AT-BTPA-6090-2513	Full E Band	60	90	25	10	13	WR-12
AT-BTPA-7176-3326	E1 Band	71	81	33	25	26	WR-12
AT-BTPA-8186-3327	E2 Band	81	86	33	26	27	WR-12
AT-BTPA-88104-2820	W Band	88	104	28	18	20	WR-10
AT-BTPA-9098-2726	W Band	90	98	27	25	26	WR-10
AT-BTPA-9296-3030	W Band	92	96	30	TBD	30	WR-10

6.3 Bench-top Active Multiplier

Part Number	Type	Output Low(GHz)	Output High (GHz)	Input Low (GHz)	Input High (GHz)	Output /dBm	Connector
AT-BTAM4-4060-20	Full U Band X4	40	60	10	15	+20	WR-19
AT-BTAM4-5075-18	Full V Band X4	50	75	12.5	15	+18	WR-15
AT-BTAM6-6090-12	Full E Band X6	60	90	10	15	+12	WR-12
AT-BTAM6-75110-08	Full W Band X6	75	110	12.5	18.33	+8	WR-10
AT-BTAM6-5766-13	V X6	57	66	9.5	11	+13	WR-15
AT-BTAM6-7186-12	E X6	71	86	11.8	14.4	+12	WR-12
AT-BTAM6-7586-25	E2 HP X6	75	86	12.5	14.4	+25	WR-12
AT-BTAM8-86106-10	W X8	86	106	10.7	13.3	+10	WR-10
AT-BTAM8-9098-20	W HP X8	90	98	11.25	12.25	+20	WR-10

6.4 Bench-top TxRx

Part Number	Type	Output Low/GHz	Output High/GHz	Gain /dB	NF /dB	Connector
AT-BTRX-4060-2505	U Band	40	60	25	5	WR-19
AT-BTRX-5075-2505	V Band	50	60	25	5	WR-15
AT-BTRX-6090-1506	E Band	60	90	15	6	WR-12
AT-BTRX-75110-2005	W Band	75	110	20	5	WR-10

7. Power Divider 功分器

7.1 Wilkinson 1:2 Ways



Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD2-0R506	2	0.5	6	0.6	±0.2	±3	16	SMA
AT-PD2-0R518	2	0.5	18	1.7	±0.3	±3	18	SMA
AT-PD2-0R72R7	2	0.7	2.7	0.6	±0.4	±4	20	SMA
AT-PD2-0118	2	1	18	1.2	±0.2	±3	18	SMA
AT-PD2-0126	2	1	26.5	1.6	±0.3	±4	17	SMA
AT-PD2-0140	2	1	40	3	±0.4	±6	18	2.92mm
AT-PD2-0218	2	2	18	1	±0.3	±3	18	SMA
AT-PD2-0618	2	6	18	0.8	±0.2	±3	18	SMA
AT-PD2-0626	2	6	26.5	1.2	±0.3	±4	17	SMA
AT-PD2-0640	2	6	40	1.5	±0.3	±4	18	2.92mm
AT-PD2-1840	2	18	40	1.5	±0.3	±4	18	2.92mm

7.2 Wilkinson 1:3 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD3-0R518	3	0.5	18	2.1	±0.5	±5	18	SMA
AT-PD3-0118	3	1	18	1.5	±0.6	±5	17	SMA
AT-PD3-0218	3	2	18	1.4	±0.5	±5	18	SMA
AT-PD3-0618	3	6	18	1.2	±0.5	±6	18	SMA
AT-PD3-1826	3	18	26.5	1.4	±0.5	±5	18	SMA
AT-PD3-1840	3	18	40	2.1	±0.7	±8	16	2.92mm

7.3 Wilkinson 1:4 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD4-0R318	4	0.3	18	6.9	±0.4	±4	16	SMA
AT-PD4-0R518	4	0.5	18	4	±0.4	±5	16	SMA
AT-PD4-0R526	4	0.5	26.5	5.2	±0.4	±6	16	SMA
AT-PD4-0R540	4	0.5	40	7.5	±0.5	±7	15	2.92mm
AT-PD4-0R72R7	4	0.7	2.7	1.2	±0.4	±5	20	SMA
AT-PD4-0118	4	1	18	2.5	±0.4	±5	17	SMA
AT-PD4-0126	4	1	26.5	3.2	±0.5	±6	16	SMA
AT-PD4-0140	4	1	40	5.2	±0.5	±7	15	2.92mm
AT-PD4-0218	4		18	1.9	±0.3	±5	18	SMA
AT-PD4-0226	4	2	26.5	2.7	±0.4	±5	17	SMA
AT-PD4-0240	4	2	40	3.8	±0.5	±6	16	2.92mm
AT-PD4-0618	4	6	18	1.2	±0.3	±4	18	SMA
AT-PD4-0626	4	6	26.5	1.9	±0.4	±4	16	SMA
AT-PD4-0540	4	5	40	2.9	±0.4	±6	16	2.92mm
AT-PD4-1826	4	18	26.5	1.5	±0.4	±5	18	SMA
AT-PD4-1840	4	18	40	2.4	±0.5	±5	18	2.92mm

7.4 Wilkinson 1:5 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD5-0626	5	6	26.5	1.6	±0.8	±8	16	SMA
AT-PD5-0218	5	18	26.5	1.6	±0.8	±8	18	SMA

7.5 Wilkinson 1:6 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD6-0R818	6	0.8	18	4	±0.8	±8	16	SMA
AT-PD6-0218	6	2	18	2.4	±0.7	±6	18	SMA
AT-PD6-0618	6	6	18	1.4	±0.5	±6	18	SMA
AT-PD6-1826	6	18	26.5	1.6	±0.5	±6	18	SMA
AT-PD6-1840	6	18	40	2.2	±0.5	±6	17	2.92mm

7.6 Wilkinson 1:8 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD8-0R518	8	0.5	18	7	±0.4	±5	16	SMA
AT-PD8-0R526	8	0.5	26.5	8	±0.5	±7	15	SMA
AT-PD8-0R540	8	0.5	40	11	±0.8	±9	15	2.92mm
AT-PD8-0118	8	1	18	4.4	±0.6	±6	16	SMA
AT-PD8-0126	8	1	26.5	5.8	±0.6	±7	16	SMA
AT-PD8-0140	8	1	40	7	±0.6	±9	15	2.92mm
AT-PD8-0218	8	2	40	3.2	±0.4	±5	16	SMA
AT-PD8-0226	8	2	26.5	3.9	±0.5	±6	16	SMA
AT-PD8-0240	8	2	40	5.5	±0.6	±7	15	2.92mm
AT-PD8-0618	8	6	18	2.6	±0.5	±5	16	SMA
AT-PD8-0626	8	6	26.5	2.9	±0.6	±6	16	SMA
AT-PD8-0640	8	6	40	3.6	±0.8	±8	14	2.92mm
AT-PD8-1826	8	18	26.5	2.2	±0.5	±6	17	SMA
AT-PD8-1840	8	18	40	3.2	±0.6	±6	18	2.92mm

7.7 Wilkinson 1:16 Ways

Part Number	Ways	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD16-0618	16	6	18	3.5	±0.4	±6	17	SMA
AT-PD16-0626	16	6	26.5	4.4	±0.7	±8	16	SMA
AT-PD16-0640	16	6	40	5.5	±0.8	±9	16	2.92mm
AT-PD16-1826	16	18	26.5	4.2	±0.6	±6	16	SMA
AT-PD16-1840	16	18	40	5	±0.6	±6	17	2.92mm



7.8 Resistive Power Divider

Part Number	Type	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/dB	Phase Balance/C	Isolation /dB	Connector
AT-PD-0026	Resistor	DC	26.5	1.5	0.3	4	10	SMA
AT-PD-0040	Resistor	DC	40	2	0.4	5	10	2.92mm

8. Hybrid Modules



8.1 90 Degree Hybrid

Part Number	Degree	Low /GHz	High /GHz	Insertion Loss/dB	Amplitude Balance/DB	Phase Balance/C	Isolation /dB	Connector
AT-H90-0R813	90	0.8	13	1.5	±0.7	±6	20	SMA
AT-H90-0104	90	1	4	0.9	±0.4	±4	18	SMA
AT-H90-0118	90	1	18	2	±0.8	±8	17	SMA
AT-H90-0208	90	2	8	0.8	±0.5	±5	20	SMA
AT-H90-0218	90	2	18	1.6	±0.7	±8	17	SMA
AT-H90-0226	90	2	26.5	2	±0.7	±8	16	SMA
AT-H90-0618	90	6	18	1.1	±0.5	±4	17	SMA
AT-H90-0626	90	6	26.5	1.8	±0.7	±8	15	SMA
AT-H90-0440	90	4	40	2	±1.2	±10	14	2.92mm
AT-H90-1840	90	18	40	2	±0.8	±9	14	2.92mm

8.2 MMIC Based 90 Degree Hybrid

Part Number	Degree	Low Fre /GHz	High Fre /GHz	Amplitude Balance/DB	Phase Balance/C	Isolation /dB	Connector
AT-MH90-0209	90	2	9	+/-0.5	+/-3	17	SMA
AT-MH90-0218	90	2	18	+/-1	+/-3	17	SMA
AT-MH90-2R58R5	90	2.5	8.5	+/-0.4	+/-3	23	SMA
AT-MH90-3R510	90	3.5	9	+/-0.4	+/-1.5	25	SMA
AT-MH90-0418	90	4	18	+/-0.4	+/-0.5	11	SMA
AT-MH90-0517	90	5	17	+/-0.5	+/-6	23	SMA
AT-MH90-0920	90	9	20	+/-0.6	+/-2	21	SMA
AT-MH90-1434	90	14	34	+/-0.7	+/-4.5	17	2.92mm
AT-MH90-1842	90	18	42	+/-1.5	+/-4	15	2.92mm

8.3 180 Degree Hybrid

Part Number	Degree	Low Fre /GHz	High Fre /GHz	Insertion Loss/dB	Amplitude Balance/DB	Phase Balance/C	Isolation /dB	Connector
AT-H180-0R706	180	0.76	6	2.3	±0.8	±8	20	SMA
AT-H180-0R712	180	0.76	12.4	3.3	±0.8	±10	17	SMA
AT-H180-0112	180	1	12.4	2.4	±0.8	±9	17	SMA
AT-H180-0118	180	1	18	2.9	±1.0	±12	15	SMA
AT-H180-0212	180	2	12.4	1.8	±0.5	±8	17	SMA
AT-H180-0218	180	2	18	2	±0.7	±9	16	SMA
AT-H180-0618	180	6	18	1.5	±0.6	±8	16	SMA
AT-H180-0626	180	6	26.5	1.8	±0.7	±10	15	SMA
AT-H180-0640	180	6	40	3	±1.2	±12	13	SMA
AT-H180-1040	180	10	40	3.5	±1.2	±12	15	2.92mm
AT-H180-1840	180	18	40	2.9	±1.2	±12	15	2.92mm
AT-H180-2640	180	26.5	40	3	±1	±8	17	2.92mm

9. Directional Coupler



9.1 10dB Coupler

Part Number	Coupler /dB	Low Fre GHz	High Fre GHz	VSWR	Insertion Loss/dB	Direction /dB	Connector
AT-C10-0R518	10	0.5	18	1.4	1.8	15	SMA
AT-C10-0R526	10	0.5	26.5	1.5	2.2	14	SMA
AT-C10-0R540	10	0.5	40	1.7	2.9	11	2.92mm
AT-C10-0118	10	1	18	1.4	1.4	15	SMA
AT-C10-0126	10	1	26.5	1.6	1.8	13	SMA
AT-C10-0140	10	1	40	1.7	3	10	2.92mm
AT-C10-0218	10	2	18	1.4	1.3	15	SMA
AT-C10-0226	10	2	26.5	1.5	1.5	13	SMA
AT-C10-0240	10	2	40	1.7	2.1	10	2.92mm
AT-C10-0618	10	6	18	1.4	1	15	SMA
AT-C10-0626	10	6	26.5	1.4	1.3	13	SMA
AT-C10-0640	10	6	40	1.6	1.6	10	2.92mm
AT-C10-1826	10	18	26.5	1.4	1.2	14	SMA
AT-C10-1840	10	18	40	1.7	1.5	12	2.92mm

9.2 13dB Coupler

Part Number	Coupler /dB	Low Fre GHz	High Fre GHz	VSWR	Insertion Loss/dB	Direction /dB	Connector
AT-C13-0R526	13	0.5	26.5	1.5	2.2	14	SMA
AT-C13-0126	13	1	26.5	1.5	2	13	SMA
AT-C13-0140	13	1	40	1.6	2.5	10	2.92mm
AT-C13-0240	13	2	40	1.7	2.1	10	2.92mm
AT-C13-0618	13	6	18	1.4	1	14	SMA
AT-C13-1840	13	18	40	1.7	1.2	10	2.92mm



Part Number	Coupler /dB	Low Fre GHz	High Fre GHz	VSWR	Insertion Loss/dB	Direction /dB	Connector
AT-C16-0R518	16	0.5	18	1.4	1.5	15	SMA
AT-C16-0R526	16	0.5	26.5	1.5	1.7	14	SMA
AT-C16-0R540	16	0.5	40	1.7	2.6	11	2.92mm
AT-C16-0126	16	1	26.5	1.6	1.3	12	SMA
AT-C16-0140	16	1	40	1.7	2.1	10	2.92mm
AT-C16-0218	16	2	18	1.4	0.8	16	SMA
AT-C16-0226	16	2	26.5	1.5	1	13	SMA
AT-C16-0240	16	2	40	1.7	1.6	10	2.92mm
AT-C16-1840	16	18	40	1.6	1.2	11	2.92mm

9.3 20dB Coupler

Part Number	Coupler /dB	Low Fre GHz	High Fre GHz	VSWR	Insertion Loss/dB	Direction /dB	Connector
AT-C20-0R518	20	0.5	18	1.4	1	15	SMA
AT-C20-0R526	20	0.5	26.5	1.4	1.7	14	SMA
AT-C20-0118	20	1	18	1.4	1	15	SMA
AT-C20-0126	20	1	26.5	1.5	1.2	14	SMA
AT-C20-0218	20	2	18	1.3	0.7	16	SMA
AT-C20-0226	20	2	26.5	1.5	1	14	SMA
AT-C20-0240	20	2	40	1.7	1.5	10	2.92mm
AT-C20-0618	20	6	18	1.4	0.6	15	SMA
AT-C20-0626	20	6	26.5	1.4	0.7	15	SMA
AT-C20-0640	20	6	40	1.6	1.3	10	2.92mm
AT-C20-1826	20	18	26.5	1.4	0.8	14	SMA
AT-C20-1840	20	18	40	1.6	1.2	10	2.92mm



9.4 30dB Coupler

Part Number	Coupler /dB	Low Fre GHz	High Fre GHz	VSWR	Insertion Loss/dB	Direction /dB	Connector
AT-C30-0R526	30	0.5	26.5	1.5	1.9	13	SMA
AT-C30-0118	30	1	18	1.4	0.8	14	SMA
AT-C30-0126	30	1	26.5	1.4	1.1	13	SMA
AT-C30-0218	30	2	18	1.4	0.7	15	SMA
AT-C30-0226	30	2	26.5	1.5	1	13	SMA
AT-C30-0618	30	6	18	1.4	0.5	15	SMA
AT-C30-0626	30	6	26.5	1.5	0.8	13	SMA
AT-C30-1826	30	18	26.5	1.4	0.7	14	SMA
AT-C30-1840	30	18	40	1.7	1	10	2.92mm

10.Adapter

10.1 In-Series Adapter

Part Number	Type	Low Fre GHz	High Fre GHz	Connector #1	Connector #2	Insertion Loss /dB	VSWR
AT-AP-10X10X	In-Series	DC	110	1.0mm	1.0mm	0.8	1.35
AT-AP-18X18X	In-Series	DC	67	1.85mm	1.85mm	0.5	1.25
AT-AP-24X24X	In-Series	DC	50	2.4mm	2.4mm	0.5	1.25
AT-AP-29X29X	In-Series	DC	40	2.92mm	2.92mm	0.35	1.2
AT-AP-35X35X	In-Series	DC	32	3.5mm	3.5mm	0.2	1.2
AT-AP-SXSX	In-Series	DC	26.5	SMA	SMA	0.2	1.15
AT-AP-NXNX	In-Series	DC	18	N	N	0.2	1.15
AT-AP-BXBX	In-Series	DC	2	BNC	BNC	0.2	1.15

10.2 Between Series Adapter

Part Number	Type	Low Fre GHz	High Fre GHz	Connector #1	Connector #2	Insertion Loss /dB	VSWR
AT-AP-10X18X	Between-Series	DC	67	1.0mm	1.85mm	0.8	1.35
AT-AP-18X24X	Between-Series	DC	50	1.85mm	2.4mm	0.4	1.3
AT-AP-18X29X	Between-Series	DC	40	1.85mm	2.92mm	0.35	1.25
AT-AP-18X35X	Between-Series	DC	32	1.85mm	3.5mm	0.3	1.2
AT-AP-18XSX	Between-Series	DC	26.5	1.85mm	SMA	0.2	1.2
AT-AP-24X29X	Between-Series	DC	40	2.4mm	2.92mm	0.2	1.2
AT-AP-24X35X	Between-Series	DC	32	2.4mm	3.5mm	0.2	1.2
AT-AP-24XSX	Between-Series	DC	26.5	2.4mm	SMA	0.2	1.2
AT-AP-29X35X	Between-Series	DC	32	2.9mm	3.5mm	0.2	1.2
AT-AP-29XSX	Between-Series	DC	26.5	2.9mm	SMA	0.2	1.2
AT-AP-35XSX	Between-Series	DC	26.5	3.5mm	SMA	0.2	1.2
AT-AP-NXSX	Between-Series	DC	18	N	SMA	0.15	1.15

10.3 90 Degree Right-Angle Adapter

Part Number	Type	Low Fre GHz	High Fre GHz	Connector #1	Connector #2	Insertion Loss /dB	VSWR
AT-AP-29X29X-RA	Right-Angle	DC	40	2.92mm	2.92mm	0.5	1.2
AT-AP-35X35X-RA	Right-Angle	DC	32	3.5mm	3.5mm	0.2	1.2
AT-AP-SXSX-RA	Right-Angle	DC	26.5	SMA	SMA	0.2	1.15
AT-AP-NXNX-RA	Right-Angle	DC	18	N	N	0.2	1.15

10.4 Flange Adapter

Part Number	Type	Low Fre GHz	High Fre GHz	Connector #1	Connector #2	Insertion Loss /dB	VSWR
AT-AP-24F24F-FL	Flange	DC	50	2.4mm	2.4mm	0.8	1.2
AT-AP-KFKF-FL	Flange	DC	40	2.92mm	2.92mm	0.5	1.2
AT-AP-SFSF-FL	Flange	DC	26.5	SMA	SMA	0.2	1.15

10.5 Waveguide to Coaxial Adapter

Part Number	Type	Low Fre GHz	High Fre GHz	Connector #1	Connector #2	IL /dB	VSWR
AT-WC-101X-E	End Launch	75	110	WR-10	1.0 mm	1.0	1.4
AT-WC-121X-E	End Launch	60	90	WR-12	1.0 mm	0.8	1.35
AT-WC-151X-E	End Launch	50	75	WR-15	1.0 mm	0.7	1.3
AT-WC-15VX-E	End Launch	50	67	WR-15	1.85 mm	0.7	1.3
AT-WC-191X-E	End Launch	40	60	WR-19	1.0 mm	0.5	1.3
AT-WC-19VX-E	End Launch	40	60	WR-19	1.85 mm	0.5	1.3
AT-WC-2224X-E	Right Angle	33	50	WR22	2.4mm	0.5	1.35
AT-WC-22KX-E	Right Angle	33	40	WR22	2.92mm	0.5	1.25
AT-WC-2824X-E	Right Angle	26.5	40	WR28	2.4mm	0.5	1.25
AT-WC-28KX-E	Right Angle	26.5	40	WR28	2.92mm	0.5	1.25

X=M, Male Connector; X=F, Female Connector.

11. Cable Assembly

Part Number	Frequency /GHz	Insertion Loss /Db	VSWR	Diameter /mm	Connector
AF110 Series	DC-110	12.5	1.45	4.5	1.0mm
PS67 Series	DC-67	5	1.4	10	1.85mm

12. Filter

12.1 Band Pass Filter

Part Number	Type	Center Frequency/GHz	Frequency Low 1dB Cut off/GHz	Freq High 1Db Cut off/GHz	Connector
AT-BPF-1100	BPF	11	9.5	12.5	SMA
AT-BPF-1600	BPF	16	12.6	18.6	SMA
AT-BPF-2025	BPF	20.25	16.75	24.4	SMA
AT-BPF-2400	BPF	24	21	27	SMA
AT-BPF-2500	BPF	25	18	32	2.92mm
AT-BPF-2625	BPF	26.25	21.5	30	2.92mm
AT-BPF-3175	BPF	31.75	26.6	36.7	2.92mm
AT-BPF-3300	BPF	33	26	40	2.92mm
AT-BPF-3325	BPF	33.25	32	34.3	2.92mm
AT-BPF-3450	BPF	35	24	45	2.4mm
AT-BPF-3475	BPF	34.75	29.5	40	2.92mm
AT-BPF-5350	BPF	53.5	40	67	1.85mm
AT-BPF-XXXX		Customized			

12.2 Tunable BPF

Part Number	Type	Center Freq/GHz	Bandwidth 3Db	Insertion Loss/dB	Harmonic Rejection	RL/dB	Connector
AT-TBPF-0408	Tunable	4-8	43%	3.7-5	45	-15	SMA
AT-TBPF-0510	Tunable	5-10	43%	4-6	45	-15	SMA
AT-TBPF-0816	Tunable	8-16	24%	6.6-9.1	40	-15	SMA
AT-TBPF-1020	Tunable	10.-20	24%	7-9	40	-15	SMA

12.3 Diplexer

Part Number	Type	Pass Band Low /GHz	High Pass Band /GHz	Isolation /dB	Connector
AT-DPX-2330	Diplexer	DC-23	30-60	36	SMA/1.85mm
AT-DPX-2734	Diplexer	DC-27	34-60	38	SMA/1.85mm

13.Equalizer

Part Number	Type	Freq Low /GHz	Freq High /GHz	Loss at DC /Db	Loss at High/dB	Connector
AT-EQ03-26	Equalizer	DC	26.5	-3	-1.5	SMA
AT-EQ06-26	Equalizer	DC	26.5	-6	-1.5	SMA
AT-EQ10-26	Equalizer	DC	26.5	-10	-1.5	SMA
AT-EQ06-40	Equalizer	DC	40	-6	-2.5	2.92mm
AT-EQ10-40	Equalizer	DC	40	-10	-2.5	2.92mm
AT-EQ10-50	Equalizer	DC	50	-10	-3.0	2.4mm
AT-TEQ0409-0207	Tunable	2	7	-4 to -9	0.8	SMA

14. Analog Phase Shifter

14.1 180 Degree

Part Number	Type	Freq Low /GHz	Freq High /GHz	Phase /Degree	Control Vt /V	Connector
AT-APS-0207-180	180 Degree	2	7	180	0-14	SMA
AT-APS-0313-180	180 Degree	3	13	180	0-13	SMA
AT-APS-0518-180	180 Degree	5	18	180	0-13	SMA

14.2 360 Degree

Part Number	Type	Freq Low /GHz	Freq High /GHz	Phase /Degree	Control Vt /V	Connector
AT-APS-0102-360	360 Degree	1	2	360	0-14	SMA
AT-APS-0204-360	360 Degree	1.8	3.8	360	0-14	SMA
AT-APS-0306-360	360 Degree	3	6	360	0-14	SMA
AT-APS-0812-360	360 Degree	8	12	360	0-14	SMA
AT-APS-1218-360	360 Degree	12	18	360	0-14	SMA
AT-APS-1826-360	360 Degree	18	26.5	360	0-16	SMA
AT-APS-2431-360	360 Degree	24.5	31	360	0-14	2.92mm

15. Limiter

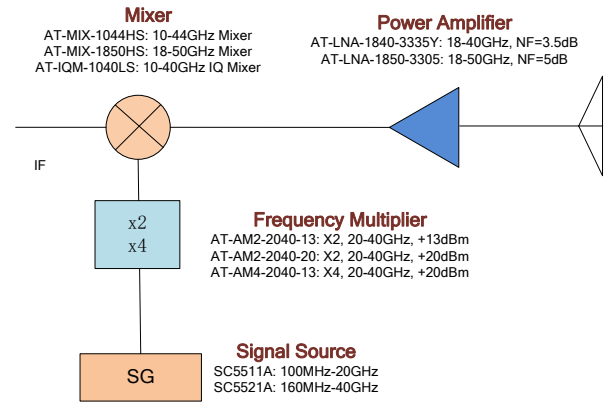
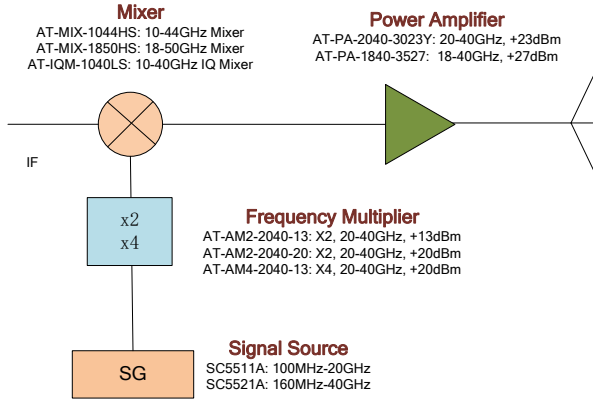
Part Number	Type	Freq Low /GHz	Freq High /GHz	Insertion Loss/Db	P1 /dBm	Leakage /dBm	Connector
AT-LM40	Limiter	DC	40	1	+15	+18	2.92mm

16. DC Block

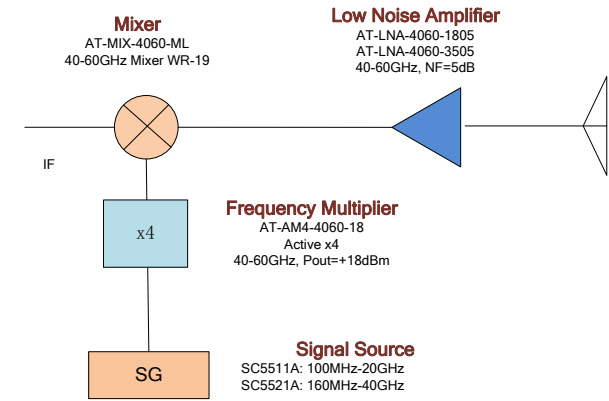
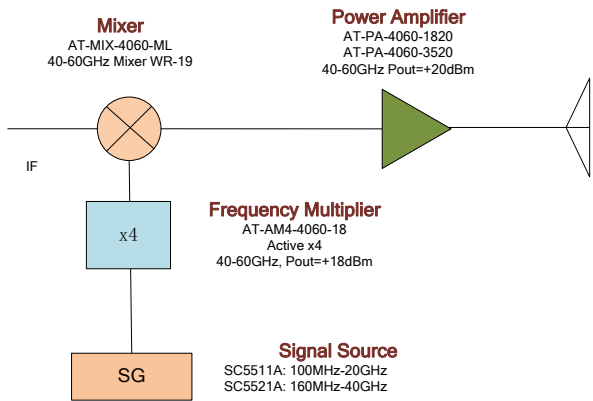
Part Number	Type	Freq Low /MHz	Freq High /GHz	Insertion Loss/Db	Voltage /V	Connector
AT-DC-29X29X	DC Block	0.05	40	1	16	2.92mm
AT-DC-24X24X	DC Block	0.05	50	1	16	2.4mm

Solutions

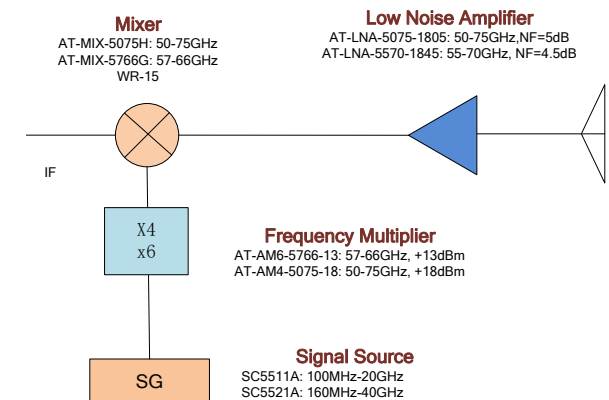
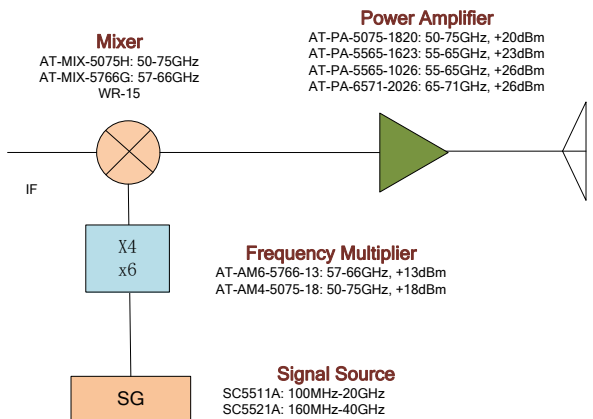
18-40GHz Solution for 5G



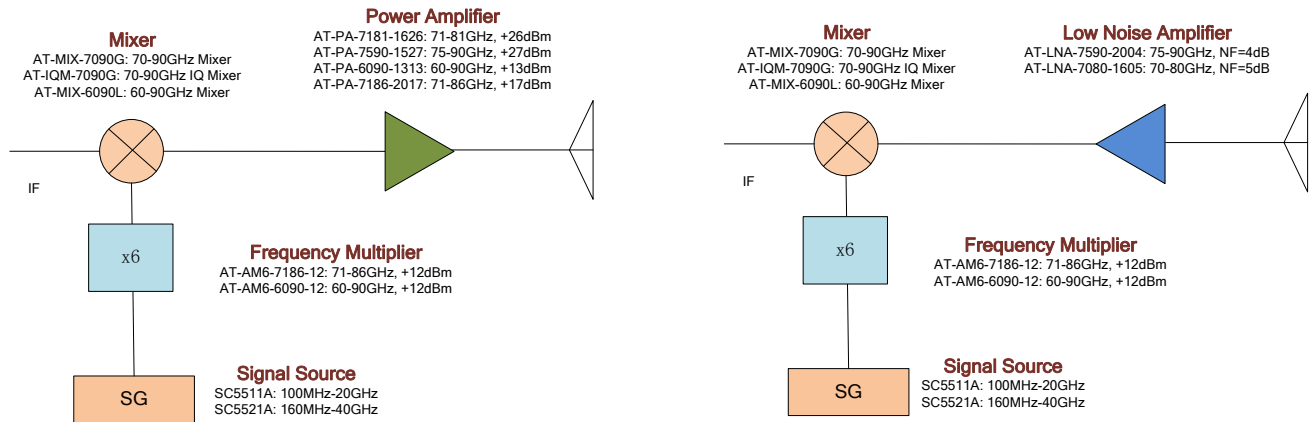
40-60GHz Solution



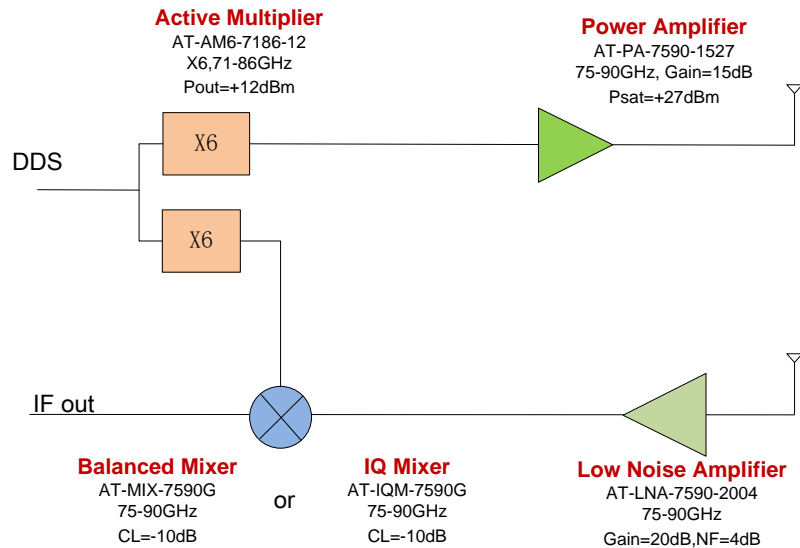
50-75GHz Solution



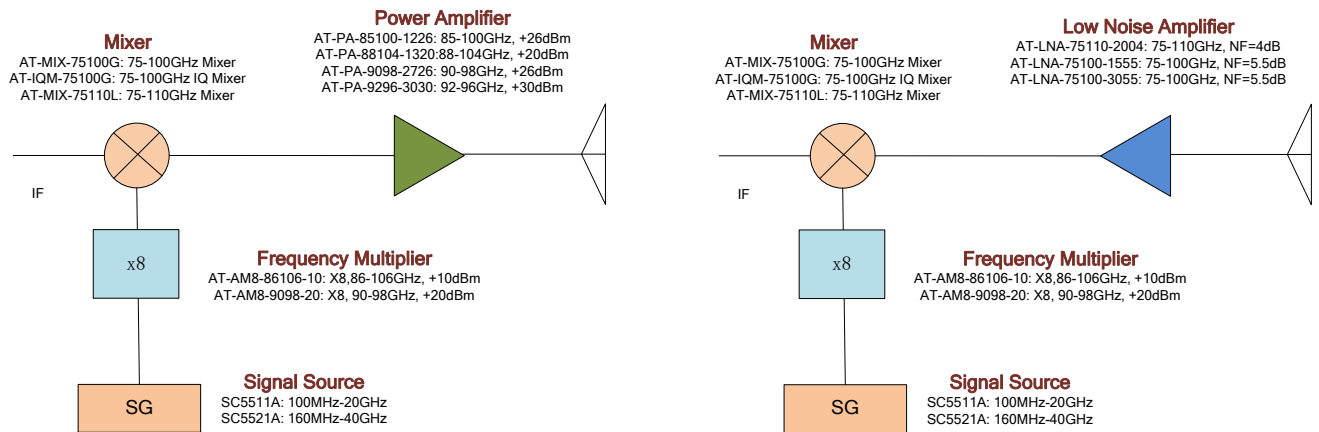
60-90GHz Solution



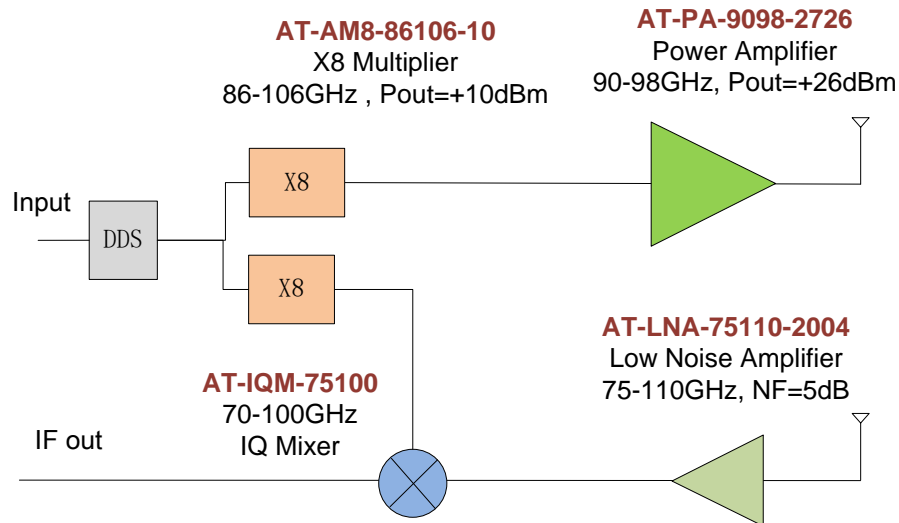
77-81GHz Automotive Solution



75-110GHz Solution



W Band FOD Solution



THz Chain Solution

