

Frequency Mixer

ADE-ED6529A/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	7.18	6.96	6.61
70.1	100.1	7.77	7.28	7.09
130.1	160.1	7.90	7.34	7.09
190.1	220.1	7.77	7.35	7.10
250.1	280.1	7.96	7.46	7.21
310.1	340.1	7.95	7.46	7.19
370.1	400.1	7.89	7.44	7.19
430.1	460.1	8.14	7.65	7.37
490.1	520.1	7.97	7.52	7.25
550.1	580.1	8.04	7.57	7.30
610.1	640.1	8.22	7.69	7.40
670.1	700.1	8.22	7.78	7.48
730.1	760.1	8.27	7.88	7.61
790.1	820.1	8.17	7.84	7.62
850.1	880.1	8.00	7.64	7.43
910.1	940.1	7.95	7.52	7.31
970.1	1000.1	7.92	7.43	7.21
1030.1	1060.1	8.02	7.47	7.18
1090.1	1120.1	8.06	7.47	7.14
1150.1	1180.1	8.21	7.62	7.21
1210.1	1240.1	8.42	7.93	7.50
1270.1	1300.1	8.39	7.99	7.66
1330.1	1360.1	8.38	7.99	7.71
1390.1	1420.1	8.36	7.94	7.64
1450.1	1480.1	8.38	7.88	7.51
1510.1	1540.1	8.32	7.81	7.52
1570.1	1600.1	8.28	7.78	7.55
1630.1	1660.1	8.33	7.86	7.63
1690.1	1720.1	8.48	8.04	7.82
1750.1	1780.1	8.59	8.15	7.93
1810.1	1840.1	8.78	8.31	8.09
1870.1	1900.1	9.03	8.58	8.39
1930.1	1960.1	9.23	8.76	8.54
1990.1	2020.1	9.52	9.05	8.86
2050.1	2080.1	9.92	9.42	9.25
2110.1	2140.1	10.17	9.65	9.45
2150.1	2180.1	10.51	9.99	9.82
2210.1	2240.1	11.00	10.41	10.21
2250.1	2280.1	11.25	10.73	10.57
2310.1	2340.1	11.79	11.22	11.00

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	14.35	16.00	15.31
70.1	100.1	10.35	11.57	12.41
130.1	160.1	8.18	10.48	14.99
190.1	220.1	9.38	13.46	20.45
250.1	280.1	10.15	16.97	16.87
310.1	340.1	14.04	15.42	14.87
370.1	400.1	14.70	12.91	13.27
430.1	460.1	11.33	11.55	13.22
490.1	520.1	10.53	11.07	11.64
550.1	580.1	8.14	9.40	11.02
610.1	640.1	7.21	8.77	11.30
670.1	700.1	6.76	8.05	9.59
730.1	760.1	6.53	7.48	8.70
790.1	820.1	5.97	6.83	7.74
850.1	880.1	6.93	9.22	10.88
910.1	940.1	6.80	9.86	12.10
970.1	1000.1	7.35	8.63	11.16
1030.1	1060.1	8.60	8.69	9.63
1090.1	1120.1	10.34	10.99	10.87
1150.1	1180.1	9.60	13.16	14.21
1210.1	1240.1	6.98	8.59	11.19
1270.1	1300.1	5.59	6.01	6.81
1330.1	1360.1	5.92	5.91	6.19
1390.1	1420.1	5.90	6.61	8.07
1450.1	1480.1	7.76	10.48	12.80
1510.1	1540.1	8.95	10.86	13.82
1570.1	1600.1	8.38	10.93	14.48
1630.1	1660.1	9.00	12.32	15.67
1690.1	1720.1	9.34	13.14	16.00
1750.1	1780.1	8.94	12.65	15.47
1810.1	1840.1	9.05	13.01	15.43
1870.1	1900.1	8.68	13.28	16.10
1930.1	1960.1	8.40	13.00	16.20
1990.1	2020.1	9.14	13.54	17.24
2050.1	2080.1	8.86	13.12	16.31
2110.1	2140.1	10.06	13.70	16.59
2150.1	2180.1	10.55	13.75	16.41
2210.1	2240.1	11.24	13.31	15.31
2250.1	2280.1	10.56	12.67	14.67
2310.1	2340.1	9.39	10.93	12.68

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	1.14	0.65	0.39
70.1	100.1	1.02	0.60	0.37
130.1	160.1	0.97	0.57	0.34
190.1	220.1	1.09	0.69	0.48
250.1	280.1	1.21	0.77	0.56
310.1	340.1	1.27	0.91	0.66
370.1	400.1	1.53	1.09	0.84
430.1	460.1	1.55	1.07	0.81
490.1	520.1	1.63	1.23	0.98
550.1	580.1	1.67	1.32	1.07
610.1	640.1	1.58	1.30	1.10
670.1	700.1	1.53	1.23	1.06
730.1	760.1	1.44	1.15	0.98
790.1	820.1	1.51	1.20	0.99
850.1	880.1	1.54	1.25	1.07
910.1	940.1	1.49	1.21	1.03
970.1	1000.1	1.35	1.12	0.93
1030.1	1060.1	1.25	1.10	0.92
1090.1	1120.1	1.26	1.11	1.00
1150.1	1180.1	1.24	1.07	1.02
1210.1	1240.1	1.05	0.80	0.77
1270.1	1300.1	1.17	0.76	0.62
1330.1	1360.1	1.20	0.79	0.63
1390.1	1420.1	1.39	0.93	0.72
1450.1	1480.1	1.44	0.97	0.68
1510.1	1540.1	1.51	0.93	0.56
1570.1	1600.1	1.62	0.87	0.50
1630.1	1660.1	1.56	0.75	0.41
1690.1	1720.1	1.45	0.65	0.33
1750.1	1780.1	1.50	0.66	0.35
1810.1	1840.1	1.39	0.57	0.27
1870.1	1900.1	1.42	0.58	0.27
1930.1	1960.1	1.45	0.65	0.30
1990.1	2020.1	1.23	0.56	0.25
2050.1	2080.1	1.28	0.59	0.29
2110.1	2140.1	1.17	0.60	0.31
2150.1	2180.1	1.13	0.61	0.33
2210.1	2240.1	1.08	0.64	0.40
2250.1	2280.1	1.08	0.67	0.44
2310.1	2340.1	1.03	0.76	0.60

Frequency Mixer

ADE-ED6529A/1

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1010.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2010.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
990.0	20.1	7.87	10.0	20.1	7.26	1590.0	420.1	11.12
970.0	40.1	7.78	50.0	60.1	6.80	1550.0	460.1	10.87
950.0	60.1	7.83	90.0	100.1	7.04	1510.0	500.1	10.53
930.0	80.1	7.77	130.0	140.1	6.59	1470.0	540.1	10.27
910.0	100.1	7.65	170.0	180.1	6.62	1430.0	580.1	9.92
890.0	120.1	7.64	210.0	220.1	6.48	1390.0	620.1	9.79
870.0	140.1	7.56	250.0	260.1	6.65	1350.0	660.1	9.58
850.0	160.1	7.54	290.0	300.1	6.55	1310.0	700.1	9.22
830.0	180.1	7.50	330.0	340.1	6.45	1270.0	740.1	8.97
810.0	200.1	7.40	370.0	380.1	6.42	1230.0	780.1	8.71
790.0	220.1	7.38	410.0	420.1	6.40	1190.0	820.1	8.53
770.0	240.1	7.37	450.0	460.1	6.43	1150.0	860.1	8.43
750.0	260.1	7.30	490.0	500.1	6.23	1110.0	900.1	8.35
730.0	280.1	7.31	530.0	540.1	6.32	1070.0	940.1	8.31
710.0	300.1	7.25	570.0	580.1	6.19	1030.0	980.1	8.16
690.0	320.1	7.22	610.0	620.1	6.61	990.0	1020.1	8.05
670.0	340.1	7.26	650.0	660.1	6.68	950.0	1060.1	7.97
650.0	360.1	7.22	690.0	700.1	6.45	910.0	1100.1	7.95
630.0	380.1	7.24	730.0	740.1	6.70	870.0	1140.1	7.93
610.0	400.1	7.26	770.0	780.1	6.93	830.0	1180.1	7.87
570.0	440.1	7.24	810.0	820.1	6.71	790.0	1220.1	7.87
550.0	460.1	7.29	850.0	860.1	6.79	750.0	1260.1	7.96
510.0	500.1	7.33	890.0	900.1	6.66	710.0	1300.1	7.88
490.0	520.1	7.22	930.0	940.1	6.73	670.0	1340.1	7.89
450.0	560.1	7.35	970.0	980.1	6.80	630.0	1380.1	7.96
430.0	580.1	7.18	1010.0	1020.1	6.77	590.0	1420.1	8.10
390.0	620.1	7.26	1050.0	1060.1	7.35	550.0	1460.1	8.20
370.0	640.1	7.25	1090.0	1100.1	7.51	510.0	1500.1	8.25
330.0	680.1	7.25	1130.0	1140.1	7.52	470.0	1540.1	8.34
310.0	700.1	7.38	1170.0	1180.1	7.86	430.0	1580.1	8.39
270.0	740.1	7.33	1210.0	1220.1	8.14	390.0	1620.1	8.49
250.0	760.1	7.48	1250.0	1260.1	8.57	350.0	1660.1	8.55
210.0	800.1	7.50	1290.0	1300.1	9.05	310.0	1700.1	8.62
190.0	820.1	7.46	1330.0	1340.1	9.29	270.0	1740.1	8.68
150.0	860.1	7.48	1370.0	1380.1	9.70	230.0	1780.1	8.74
130.0	880.1	7.36	1410.0	1420.1	9.85	190.0	1820.1	8.79
90.0	920.1	7.37	1450.0	1460.1	10.12	150.0	1860.1	8.86
70.0	940.1	7.36	1510.0	1520.1	10.38	110.0	1900.1	8.93
30.0	980.1	7.41	1550.0	1560.1	11.00	70.0	1940.1	9.02
10.0	1000.1	7.89	1610.0	1620.1	11.78	10.0	2000.1	9.62

REV. X2
ADE-ED6529A/1
101013
Page 2 of 5

Frequency Mixer

ADE-ED6529A/1

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
40.1	69.87	64.83	64.60	63.74	64.24	65.16
100.1	63.37	61.55	60.14	55.00	55.99	56.84
160.1	59.39	58.29	57.56	51.04	52.05	53.09
220.1	57.51	56.65	55.79	48.25	49.44	50.46
280.1	54.54	53.74	53.03	46.26	47.47	48.43
340.1	52.58	52.18	51.69	44.74	45.94	46.84
400.1	50.46	50.85	51.03	43.23	44.38	45.25
460.1	47.90	48.59	48.76	41.90	42.89	43.63
520.1	45.40	46.33	47.45	41.08	42.16	42.96
580.1	43.49	44.12	44.55	40.01	40.93	41.66
640.1	41.86	43.12	44.20	39.19	40.04	40.73
700.1	40.82	42.25	43.66	38.28	39.40	40.09
760.1	39.23	40.53	41.74	37.26	38.37	39.24
820.1	38.17	39.37	40.10	36.63	37.63	38.39
880.1	37.26	39.00	40.22	36.00	37.00	37.84
940.1	35.80	37.28	38.60	35.85	36.85	37.72
1000.1	34.88	36.19	37.37	35.76	36.87	37.52
1060.1	34.24	35.41	36.42	35.14	36.35	37.09
1120.1	33.77	34.68	35.39	34.58	35.81	36.70
1180.1	33.48	34.28	34.66	34.25	35.45	36.47
1240.1	33.80	34.68	35.26	33.96	34.87	35.62
1300.1	34.28	35.45	36.35	33.86	34.59	35.16
1360.1	34.56	35.77	36.72	33.97	34.49	34.97
1420.1	34.21	34.73	34.65	34.38	34.92	35.44
1480.1	33.10	32.49	31.69	34.53	35.07	35.50
1540.1	31.54	30.67	30.01	35.01	35.52	35.90
1600.1	30.48	29.42	28.84	35.74	36.04	36.35
1660.1	29.89	28.65	27.93	36.68	36.47	36.37
1720.1	29.35	27.85	27.01	37.48	36.57	35.97
1780.1	28.95	27.32	26.32	38.26	36.57	35.45
1840.1	28.45	26.47	25.33	38.46	35.66	34.15
1900.1	27.82	25.77	24.51	38.83	35.07	33.17
1960.1	27.18	25.40	24.10	40.27	35.41	33.04
2020.1	26.36	24.73	23.28	37.68	33.41	30.99
2080.1	25.83	24.27	23.01	36.62	32.47	30.20
2140.1	25.15	23.97	22.75	34.81	31.44	29.26
2180.1	24.76	23.86	22.61	33.93	31.12	28.89
2240.1	24.30	23.88	22.77	32.83	30.74	28.64
2280.1	23.61	23.65	22.76	31.21	30.04	28.22
2340.1	22.54	23.53	23.07	29.79	29.98	28.39

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	58.22	56.96	56.56
70.1	100.1	40.45	41.12	40.85
130.1	160.1	36.02	36.60	36.30
190.1	220.1	33.72	34.35	34.40
250.1	280.1	32.66	32.97	32.99
310.1	340.1	32.35	32.54	32.67
370.1	400.1	32.34	32.92	33.23
430.1	460.1	32.54	33.49	34.32
490.1	520.1	32.50	33.05	33.57
550.1	580.1	31.22	31.81	32.17
610.1	640.1	28.41	29.28	29.96
670.1	700.1	25.05	25.52	25.92
730.1	760.1	22.81	22.80	22.86
790.1	820.1	21.03	21.10	21.04
850.1	880.1	19.92	19.93	19.94
910.1	940.1	19.13	19.27	19.35
970.1	1000.1	18.53	18.73	18.97
1030.1	1060.1	18.10	18.46	18.72
1090.1	1120.1	17.99	18.34	18.69
1150.1	1180.1	17.83	18.09	18.38
1210.1	1240.1	17.80	18.01	18.00
1270.1	1300.1	17.66	18.06	18.13
1330.1	1360.1	17.29	17.71	17.94
1390.1	1420.1	16.52	16.88	16.94
1450.1	1480.1	15.68	15.83	15.73
1510.1	1540.1	14.73	14.61	14.38
1570.1	1600.1	13.63	13.30	12.97
1630.1	1660.1	12.40	12.04	11.76
1690.1	1720.1	11.36	10.88	10.58
1750.1	1780.1	10.69	10.02	9.63
1810.1	1840.1	9.95	9.30	8.77
1870.1	1900.1	9.28	8.52	8.04
1930.1	1960.1	8.66	7.88	7.40
1990.1	2020.1	7.92	7.13	6.71
2050.1	2080.1	7.47	6.53	6.03
2110.1	2140.1	6.90	6.04	5.63
2150.1	2180.1	6.72	5.86	5.44
2210.1	2240.1	6.49	5.64	5.23
2250.1	2280.1	6.22	5.49	5.09
2310.1	2340.1	6.17	5.23	4.89

Frequency Mixer

ADE-ED6529A/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=2000.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
10.1	40.1	1.23	1.08	1.07	40.1	1.99	2.86	3.99	10.1	1.39	1.41	1.44
70.1	100.1	1.16	1.02	1.13	100.1	1.81	2.54	3.47	50.1	1.14	1.19	1.23
130.1	160.1	1.21	1.05	1.07	160.1	1.86	2.61	3.58	90.1	1.14	1.19	1.24
190.1	220.1	1.22	1.08	1.02	220.1	1.87	2.64	3.62	130.1	1.11	1.16	1.21
250.1	280.1	1.29	1.15	1.06	280.1	1.83	2.54	3.45	170.1	1.12	1.18	1.24
310.1	340.1	1.37	1.23	1.14	340.1	1.89	2.65	3.58	210.1	1.12	1.18	1.23
370.1	400.1	1.45	1.30	1.21	400.1	1.90	2.64	3.55	250.1	1.11	1.18	1.23
430.1	460.1	1.56	1.40	1.30	460.1	1.93	2.65	3.52	270.1	1.12	1.19	1.25
490.1	520.1	1.63	1.48	1.37	520.1	2.00	2.73	3.62	310.1	1.13	1.20	1.27
550.1	580.1	1.73	1.58	1.49	580.1	2.02	2.72	3.58	330.1	1.12	1.20	1.26
610.1	640.1	1.80	1.63	1.53	640.1	2.08	2.77	3.59	370.1	1.15	1.23	1.30
670.1	700.1	1.88	1.74	1.64	700.1	2.15	2.86	3.70	390.1	1.14	1.22	1.29
730.1	760.1	1.91	1.82	1.76	760.1	2.18	2.86	3.67	430.1	1.17	1.26	1.33
790.1	820.1	1.90	1.84	1.81	820.1	2.24	2.90	3.70	450.1	1.18	1.26	1.33
850.1	880.1	1.84	1.81	1.82	880.1	2.28	2.90	3.66	490.1	1.22	1.30	1.38
910.1	940.1	1.78	1.78	1.83	940.1	2.37	2.98	3.72	510.1	1.23	1.31	1.39
970.1	1000.1	1.79	1.76	1.83	1000.1	2.47	3.09	3.82	550.1	1.26	1.35	1.42
1030.1	1060.1	1.82	1.73	1.79	1060.1	2.56	3.18	3.88	570.1	1.29	1.37	1.44
1090.1	1120.1	1.84	1.70	1.70	1120.1	2.63	3.26	3.96	610.1	1.33	1.41	1.48
1150.1	1180.1	1.90	1.74	1.65	1180.1	2.68	3.29	3.99	630.1	1.36	1.44	1.51
1210.1	1240.1	1.93	1.81	1.70	1240.1	2.75	3.37	4.08	670.1	1.42	1.49	1.55
1270.1	1300.1	1.90	1.84	1.79	1300.1	2.75	3.32	4.01	690.1	1.49	1.56	1.63
1330.1	1360.1	1.83	1.78	1.76	1360.1	2.77	3.30	3.95	730.1	1.52	1.58	1.63
1390.1	1420.1	1.75	1.69	1.69	1420.1	2.74	3.24	3.86	750.1	1.60	1.66	1.71
1450.1	1480.1	1.65	1.61	1.66	1480.1	2.70	3.16	3.77	790.1	1.66	1.71	1.75
1510.1	1540.1	1.55	1.58	1.67	1540.1	2.77	3.24	3.87	810.1	1.72	1.78	1.82
1570.1	1600.1	1.48	1.53	1.62	1600.1	2.87	3.31	3.91	850.1	1.83	1.88	1.90
1630.1	1660.1	1.42	1.49	1.58	1660.1	3.04	3.43	3.98	870.1	1.94	1.99	2.02
1690.1	1720.1	1.37	1.44	1.53	1720.1	3.25	3.58	4.11	910.1	2.04	2.08	2.11
1750.1	1780.1	1.31	1.38	1.49	1780.1	3.43	3.67	4.14	930.1	2.11	2.15	2.17
1810.1	1840.1	1.25	1.35	1.48	1840.1	3.62	3.82	4.25	970.1	2.29	2.35	2.37
1870.1	1900.1	1.19	1.30	1.43	1900.1	3.81	3.93	4.33	990.1	2.34	2.39	2.42
1930.1	1960.1	1.13	1.25	1.39	1960.1	3.95	3.99	4.30	1030.1	2.55	2.61	2.64
1990.1	2020.1	1.08	1.25	1.40	2020.1	4.15	4.15	4.45	1050.1	2.61	2.69	2.71
2050.1	2080.1	1.02	1.21	1.37	2080.1	4.33	4.23	4.46	1090.1	2.80	2.89	2.93
2110.1	2140.1	1.05	1.25	1.40	2140.1	4.46	4.32	4.51	1110.1	2.84	2.92	2.96
2150.1	2180.1	1.11	1.26	1.40	2180.1	4.55	4.37	4.52	1150.1	3.13	3.25	3.30
2210.1	2240.1	1.18	1.32	1.45	2240.1	4.67	4.43	4.54	1170.1	3.11	3.20	3.26
2250.1	2280.1	1.25	1.38	1.49	2280.1	4.70	4.44	4.53	1210.1	3.34	3.45	3.50
2310.1	2340.1	1.31	1.41	1.50	2340.1	4.79	4.48	4.53	1230.1	3.42	3.52	3.60

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	8	20	11	28	24	42	38	48	43	51
1	-	11	+0	26	24	25	27	29	35	37	35	44
2	87	67	64	62	>68	58	46	62	53	65	60	>68
3	>90	58	63	63	54	61	>68	57	61	59	62	63
4	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
5	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
6	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
7	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
8	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
9	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
10	>90	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68	>68
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1005 MHz; -14.00 dBm.
LO IN: 1035 MHz; +7.00 dBm
IF OUT: 30 MHz; -21.92 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	18	31	23	40	39	55	54	63	59	72
1	-	11	+0	30	24	29	32	35	44	50	53	64
2	67	51	54	53	66	53	42	56	51	64	64	69
3	>90	39	44	47	37	45	59	42	47	45	52	54
4	>90	68	68	75	68	74	71	70	56	68	60	74
5	>90	72	77	70	61	63	52	62	62	55	60	59
6	>90	>78	>78	>78	>78	>78	>78	>78	>78	78	68	>78
7	>90	>78	>78	>78	>78	77	71	73	65	75	75	71
8	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
9	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
10	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1005 MHz; -4.00 dBm.
LO IN: 1035 MHz; +7.00 dBm
IF OUT: 30 MHz; -11.87 dBm

- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

REV. X2
ADE-ED6529A/1
101013
Page 5 of 5