Frequency Mixer HJK-ED9291/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=75MHz (dB) @LO (dBm)		
		+10	+13	+16
1100.1	1175.1	13.63	10.54	8.59
1130.1	1205.1	13.11	10.22	8.42
1160.1	1235.1	12.55	9.74	8.19
1190.1	1265.1	11.76	9.27	7.87
1220.1	1295.1	11.56	9.10	7.82
1250.1	1325.1	11.06	8.85	7.67
1280.1	1355.1	10.28	8.35	7.39
1310.1	1385.1	10.06	8.23	7.37
1340.1	1415.1	9.72	8.12	7.33
1370.1	1445.1	9.04	7.71	7.06
1400.1	1475.1	8.75	7.63	6.97
1430.1	1505.1	8.60	7.61	7.04
1460.1	1535.1	8.01	7.25	6.81
1490.1	1565.1	7.89	7.21	6.80
1520.1	1595.1	7.91	7.31	6.96
1550.1	1625.1	7.61	7.15	6.90
1580.1	1655.1	7.53	7.15	6.95
1610.1	1685.1	7.72	7.41	7.26
1640.1	1715.1	7.69	7.46	7.36
1670.1	1745.1	7.58	7.31	7.18
1700.1	1775.1	7.73	7.42	7.25
1730.1	1805.1	7.76	7.45	7.28
1760.1	1835.1	7.63	7.27	7.09
1790.1	1865.1	7.84	7.43	7.22
1820.1	1895.1	8.08	7.64	7.43
1850.1	1925.1	8.03	7.55	7.34
1870.1	1945.1	8.08	7.55	7.30
1900.1	1975.1	8.41	7.86	7.61
1920.1	1995.1	8.57	8.01	7.77
1950.1	2025.1	8.46	7.94	7.67
1970.1	2045.1	8.58	8.04	7.76
2000.1	2075.1	8.96	8.44	8.19
2020.1	2095.1	9.07	8.60	8.37
2050.1	2125.1	9.10	8.61	8.38
2070.1	2145.1	9.27	8.75	8.54
2100.1	2175.1	9.75	9.32	9.17
2120.1	2195.1	10.00	9.65	9.56
2150.1	2225.1	10.17	9.85	9.81
2170.1	2245.1	10.37	10.07	10.06
2200.1	2275.1	11.08	10.95	11.07

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+10	+13	+16
1100.1	1175.1	12.75	21.06	19.53
1130.1	1205.1	13.57	22.51	20.11
1160.1	1235.1	14.56	23.83	20.70
1190.1	1265.1	15.97	22.71	21.42
1220.1	1295.1	16.97	22.20	21.95
1250.1	1325.1	18.39	21.59	22.28
1280.1	1355.1	20.70	21.67	23.07
1310.1	1385.1	23.20	22.38	23.91
1340.1	1415.1	29.10	22.83	24.50
1370.1	1445.1	27.82	23.66	25.31
1400.1	1475.1	24.60	24.37	26.21
1430.1	1505.1	24.91	25.52	27.38
1460.1	1535.1	24.51	25.86	27.66
1490.1	1565.1	25.08	26.61	28.21
1520.1	1595.1	25.78	26.89	28.47
1550.1	1625.1	24.44	26.54	29.16
1580.1	1655.1	24.71	27.20	30.65
1610.1	1685.1	25.46	28.17	31.67
1640.1	1715.1	26.27	29.04	32.40
1670.1	1745.1	26.85	29.21	33.11
1700.1	1775.1	27.31	29.21	33.29
1730.1	1805.1	26.90	28.67	32.37
1760.1	1835.1	26.46	28.22	31.75
1790.1	1865.1	26.40	28.05	31.32
1820.1	1895.1	25.48	27.71	31.08
1850.1	1925.1	24.72	27.56	31.35
1870.1	1945.1	24.69	27.54	31.26
1900.1	1975.1	23.94	27.19	30.84
1920.1	1995.1	23.45	26.83	30.83
1950.1	2025.1	23.21	26.04	30.55
1970.1	2045.1	23.39	25.73	30.26
2000.1	2075.1	22.94	24.67	28.85
2020.1	2095.1	22.01	23.81	28.08
2050.1	2125.1	21.16	22.89	26.76
2070.1	2145.1	20.91	22.66	25.84
2100.1	2175.1	20.20	21.67	24.31
2120.1	2195.1	20.29	21.54	23.99
2150.1	2225.1	20.49	21.80	24.00
2170.1	2245.1	20.72	21.69	23.90
2200.1	2275.1	22.00	22.25	24.53

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+16dBm (dB) @LO (dBm)		
		+10	+13	+16
1100.1	1175.1	-0.72	0.34	0.89
1130.1	1205.1	-0.27	0.66	1.02
1160.1	1235.1	0.29	0.97	1.09
1190.1	1265.1	0.82	1.27	1.19
1220.1	1295.1	0.90	1.28	1.13
1250.1	1325.1	1.03	1.25	1.04
1280.1	1355.1	1.30	1.32	1.02
1310.1	1385.1	1.16	1.13	0.89
1340.1	1415.1	1.14	1.04	0.80
1370.1	1445.1	1.19	0.95	0.71
1400.1	1475.1	0.98	0.77	0.57
1430.1	1505.1	0.84	0.70	0.49
1460.1	1535.1	0.95	0.74	0.46
1490.1	1565.1	0.84	0.65	0.39
1520.1	1595.1	0.76	0.58	0.34
1550.1	1625.1	0.81	0.56	0.31
1580.1	1655.1	0.74	0.49	0.27
1610.1	1685.1	0.68	0.42	0.23
1640.1	1715.1	0.72	0.42	0.22
1670.1	1745.1	0.65	0.38	0.19
1700.1	1775.1	0.57	0.34	0.17
1730.1	1805.1	0.60	0.38	0.19
1760.1	1835.1	0.66	0.41	0.22
1790.1	1865.1	0.70	0.45	0.25
1820.1	1895.1	0.88	0.56	0.31
1850.1	1925.1	1.08	0.63	0.34
1870.1	1945.1	1.12	0.66	0.34
1900.1	1975.1	1.29	0.77	0.42
1920.1	1995.1	1.36	0.80	0.43
1950.1	2025.1	1.46	0.88	0.45
1970.1	2045.1	1.51	0.88	0.44
2000.1	2075.1	1.61	0.96	0.50
2020.1	2095.1	1.71	1.02	0.51
2050.1	2125.1	1.81	1.07	0.55
2070.1	2145.1	1.86	1.04	0.58
2100.1	2175.1	1.99	1.14	0.66
2120.1	2195.1	2.08	1.17	0.70
2150.1	2225.1	2.12	1.18	0.70
2170.1	2245.1	2.19	1.23	0.71
2200.1	2275.1	2.23	1.18	0.67

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1600MHz (dB) @LO (dBm) +13
500.0	1100.0	11.61
481.9	1118.1	11.29
463.7	1136.3	11.08
445.6	1154.4	10.80
427.4	1172.6	10.58
409.3	1190.7	10.31
391.1	1208.9	10.02
373.0	1227.0	9.85
336.7	1263.3	9.33
318.5	1281.5	9.11
282.2	1317.8	8.80
264.1	1335.9	8.62
227.8	1372.2	8.23
209.6	1390.4	8.09
173.3	1426.7	7.94
155.2	1444.8	7.85
118.9	1481.1	7.62
100.7	1499.3	7.67
64.4	1535.6	7.50
46.3	1553.7	7.53
10.0	1590.0	8.01
10.0	1610.0	8.00
53.7	1653.7	7.26
75.6	1675.6	7.39
119.3	1719.3	7.24
141.1	1741.1	7.33
184.8	1784.8	7.37
206.7	1806.7	7.43
250.4	1850.4	7.61
272.2	1872.2	7.89
315.9	1915.9	8.18
337.8	1937.8	8.31
381.5	1981.5	8.61
403.3	2003.3	8.84
447.0	2047.0	9.03
468.9	2068.9	9.28
512.6	2112.6	9.73
534.4	2134.4	9.91
578.1	2178.1	10.43
600.0	2200.0	10.56

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1289.9MHz (dB) @LO (dBm) +13
10.1	1300.0	9.44
30.1	1320.0	8.97
50.1	1340.0	8.66
70.1	1360.0	8.40
90.1	1380.0	8.25
110.1	1400.0	8.03
130.1	1420.0	7.98
150.1	1440.0	7.78
170.1	1460.0	7.59
190.1	1480.0	7.57
210.1	1500.0	7.39
230.1	1520.0	7.33
250.1	1540.0	7.22
270.1	1560.0	7.27
290.1	1580.0	7.22
310.1	1600.0	7.15
330.1	1620.0	7.12
360.1	1650.0	7.22
380.1	1670.0	7.24
410.1	1700.0	7.31
430.1	1720.0	7.41
460.1	1750.0	7.44
480.1	1770.0	7.52
510.1	1800.0	7.79
530.1	1820.0	7.87
560.1	1850.0	8.01
580.1	1870.0	8.09
610.1	1900.0	8.25
630.1	1920.0	8.23
660.1	1950.0	8.36
680.1	1970.0	8.39
710.1	2000.0	8.56
730.1	2020.0	8.65
760.1	2050.0	8.83
780.1	2070.0	9.00
810.1	2100.0	9.24
830.1	2120.0	9.40
860.1	2150.0	9.58
880.1	2170.0	9.78
910.1	2200.0	10.25

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1910.1MHz (dB) @LO (dBm) +13
810.1	1100.0	11.84
790.1	1120.0	11.68
770.1	1140.0	11.46
750.1	1160.0	11.25
730.1	1180.0	10.96
710.1	1200.0	10.76
690.1	1220.0	10.53
670.1	1240.0	10.26
650.1	1260.0	10.05
630.1	1280.0	9.79
610.1	1300.0	9.62
590.1	1320.0	9.31
570.1	1340.0	9.16
550.1	1360.0	8.80
530.1	1380.0	8.72
510.1	1400.0	8.56
490.1	1420.0	8.35
470.1	1440.0	8.19
450.1	1460.0	8.12
430.1	1480.0	8.15
410.1	1500.0	8.06
390.1	1520.0	8.04
370.1	1540.0	7.97
350.1	1560.0	8.00
330.1	1580.0	7.91
310.1	1600.0	7.93
290.1	1620.0	7.95
270.1	1640.0	7.95
250.1	1660.0	7.84
230.1	1680.0	7.85
210.1	1700.0	7.82
190.1	1720.0	7.86
170.1	1740.0	7.72
150.1	1760.0	7.75
130.1	1780.0	7.72
110.1	1800.0	7.59
90.1	1820.0	7.72
60.1	1850.0	7.60
40.1	1870.0	7.75
10.1	1900.0	8.23

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+10	+13	+16	+10	+13	+16
1175.1	42.98	44.29	44.88	36.47	37.61	38.63
1205.1	43.39	43.68	43.48	36.31	37.29	38.21
1235.1	42.06	41.95	41.62	36.26	37.18	38.09
1265.1	40.98	40.56	40.20	36.23	37.06	38.01
1295.1	40.31	39.89	39.62	36.06	36.88	37.94
1325.1	39.40	38.99	38.53	35.93	36.74	37.77
1355.1	38.39	37.66	37.01	35.83	36.63	37.65
1385.1	37.24	36.20	35.27	35.44	36.20	37.12
1415.1	36.27	34.88	33.83	34.98	35.45	36.19
1445.1	35.00	33.64	32.62	34.32	34.59	35.05
1475.1	33.66	32.07	31.06	33.33	33.26	33.47
1505.1	32.08	30.43	29.25	31.89	31.44	31.47
1535.1	29.73	28.29	26.86	29.93	29.49	29.06
1565.1	28.36	26.98	25.62	28.34	27.76	27.20
1595.1	27.17	25.92	24.67	26.81	26.13	25.49
1625.1	25.98	25.07	23.99	25.41	24.87	24.27
1655.1	25.22	24.44	23.48	25.02	24.61	24.08
1685.1	24.11	23.50	22.63	25.16	25.01	24.64
1715.1	24.01	23.59	22.98	26.04	26.16	25.94
1745.1	24.39	24.35	24.07	27.65	28.16	28.07
1775.1	24.97	25.27	25.33	29.84	30.92	31.18
1805.1	25.53	26.19	26.55	32.41	34.60	35.47
1835.1	26.41	27.39	28.03	35.33	39.61	41.49
1865.1	27.40	28.69	29.63	38.72	47.80	47.22
1895.1	28.15	29.60	30.85	42.22	55.57	42.78
1925.1	29.38	31.26	32.86	47.78	43.22	38.24
1945.1	29.62	31.61	33.31	47.68	39.56	36.17
1975.1	30.05	32.33	34.19	42.79	36.40	33.72
1995.1	30.49	33.04	35.17	39.66	34.67	32.46
2025.1	31.23	34.10	36.44	35.45	32.52	30.52
2045.1	31.29	34.30	36.68	33.95	31.57	29.79
2075.1	31.43	34.72	37.28	31.51	29.83	28.41
2095.1	31.53	34.93	37.54	30.07	28.72	27.55
2125.1	31.92	35.26	37.66	28.04	27.09	26.24
2145.1	31.64	34.78	36.92	27.10	26.19	25.51
2175.1	31.19	33.85	35.62	25.77	24.71	24.32
2195.1	30.85	33.12	34.51	24.96	23.95	23.57
2225.1	30.53	32.30	33.38	23.79	22.92	22.70
2245.1	29.91	31.49	32.40	23.23	22.40	22.13
2275.1	29.30	30.79	31.72	22.57	21.88	21.69

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+10	+13	+16
1100.1	1175.1	32.53	31.38	29.38
1130.1	1205.1	33.58	32.51	29.69
1160.1	1235.1	34.48	32.89	29.95
1190.1	1265.1	35.65	33.52	30.73
1220.1	1295.1	36.42	33.55	30.84
1250.1	1325.1	36.10	33.31	31.02
1280.1	1355.1	34.93	32.87	31.35
1310.1	1385.1	33.52	32.00	31.06
1340.1	1415.1	32.09	31.31	30.88
1370.1	1445.1	30.75	30.64	30.75
1400.1	1475.1	29.57	29.93	30.48
1430.1	1505.1	28.55	29.28	30.30
1460.1	1535.1	27.60	28.65	30.03
1490.1	1565.1	26.89	28.29	30.08
1520.1	1595.1	26.51	28.32	30.71
1550.1	1625.1	26.83	29.30	32.49
1580.1	1655.1	27.86	30.92	33.93
1610.1	1685.1	28.66	31.03	32.30
1640.1	1715.1	28.52	30.39	31.97
1670.1	1745.1	29.23	32.41	36.09
1700.1	1775.1	31.55	37.17	41.97
1730.1	1805.1	35.05	45.47	37.34
1760.1	1835.1	40.56	41.30	33.97
1790.1	1865.1	39.75	37.01	32.56
1820.1	1895.1	34.38	34.72	32.31
1850.1	1925.1	30.94	32.40	31.94
1870.1	1945.1	29.36	31.07	31.45
1900.1	1975.1	27.27	29.06	30.29
1920.1	1995.1	25.96	27.52	28.89
1950.1	2025.1	24.93	25.96	27.30
1970.1	2045.1	24.45	25.15	26.20
2000.1	2075.1	24.15	24.29	24.93
2020.1	2095.1	24.07	23.94	24.24
2050.1	2125.1	24.70	24.13	23.96
2070.1	2145.1	25.30	24.34	23.95
2100.1	2175.1	27.12	25.33	24.49
2120.1	2195.1	28.73	26.18	24.96
2150.1	2225.1	31.42	27.71	25.78
2170.1	2245.1	33.11	28.91	26.48
2200.1	2275.1	31.55	29.69	27.17

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+10	+13	+16
1100.1	1175.1	5.83	4.15	3.09
1130.1	1205.1	5.52	3.95	2.99
1160.1	1235.1	5.39	3.88	2.95
1190.1	1265.1	5.12	3.71	2.87
1220.1	1295.1	4.87	3.52	2.74
1250.1	1325.1	4.63	3.40	2.67
1280.1	1355.1	4.34	3.22	2.56
1310.1	1385.1	4.02	3.00	2.41
1340.1	1415.1	3.79	2.86	2.33
1370.1	1445.1	3.51	2.71	2.25
1400.1	1475.1	3.18	2.54	2.13
1430.1	1505.1	2.95	2.40	2.06
1460.1	1535.1	2.75	2.29	2.01
1490.1	1565.1	2.60	2.23	2.00
1520.1	1595.1	2.42	2.13	1.96
1550.1	1625.1	2.32	2.09	1.96
1580.1	1655.1	2.28	2.11	2.02
1610.1	1685.1	2.20	2.08	2.03
1640.1	1715.1	2.16	2.07	2.03
1670.1	1745.1	2.18	2.11	2.07
1700.1	1775.1	2.15	2.09	2.07
1730.1	1805.1	2.11	2.06	2.06
1760.1	1835.1	2.11	2.08	2.09
1790.1	1865.1	2.09	2.08	2.12
1820.1	1895.1	2.02	2.03	2.08
1850.1	1925.1	1.99	2.02	2.09
1870.1	1945.1	1.97	2.03	2.12
1900.1	1975.1	1.91	2.00	2.11
1920.1	1995.1	1.84	1.95	2.08
1950.1	2025.1	1.80	1.93	2.09
1970.1	2045.1	1.79	1.94	2.13
2000.1	2075.1	1.71	1.90	2.11
2020.1	2095.1	1.69	1.89	2.13
2050.1	2125.1	1.70	1.94	2.20
2070.1	2145.1	1.74	2.04	2.30
2100.1	2175.1	1.78	2.12	2.42
2120.1	2195.1	1.82	2.18	2.51
2150.1	2225.1	1.97	2.39	2.76
2170.1	2245.1	2.07	2.54	2.93
2200.1	2275.1	2.22	2.72	3.14

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+10	+13	+16
1175.1	31.03	29.96	29.46
1205.1	28.49	27.59	26.74
1235.1	28.03	27.59	26.74
1265.1	24.48	23.81	23.49
1295.1	21.20	20.45	19.76
1325.1	20.22	19.54	18.90
1355.1	17.75	17.22	16.56
1385.1	14.87	14.26	13.60
1415.1	13.29	12.61	12.18
1445.1	11.38	10.82	10.37
1475.1	9.23	8.72	8.27
1505.1	7.73	7.28	6.91
1535.1	6.32	5.93	5.61
1565.1	4.93	4.60	4.34
1595.1	3.91	3.65	3.44
1625.1	3.10	2.91	2.76
1655.1	2.41	2.28	2.18
1685.1	1.90	1.81	1.74
1715.1	1.51	1.46	1.41
1745.1	1.26	1.24	1.24
1775.1	1.31	1.37	1.42
1805.1	1.58	1.68	1.76
1835.1	1.94	2.07	2.18
1865.1	2.35	2.51	2.65
1895.1	2.76	2.94	3.09
1925.1	3.17	3.38	3.56
1945.1	3.42	3.63	3.81
1975.1	3.70	3.91	4.07
1995.1	3.87	4.09	4.25
2025.1	4.08	4.29	4.44
2045.1	4.09	4.28	4.41
2075.1	4.02	4.15	4.24
2095.1	4.01	4.11	4.19
2125.1	3.85	3.90	3.94
2145.1	3.66	3.67	3.67
2175.1	3.40	3.36	3.33
2195.1	3.27	3.21	3.16
2225.1	3.04	2.95	2.89
2245.1	2.87	2.77	2.71
2275.1	2.71	2.62	2.56

IF (OUT) (MHz)	IF VSWR @LO=1900MHz (:1) @LO (dBm)		
	+10	+13	+16
10.0	1.65	1.44	1.29
50.4	1.74	1.51	1.36
90.9	1.78	1.57	1.42
131.3	1.92	1.70	1.55
171.7	2.00	1.79	1.66
212.2	2.09	1.88	1.76
252.6	2.21	2.03	1.92
293.0	2.30	2.13	2.03
333.4	2.44	2.27	2.18
373.9	2.50	2.34	2.26
414.3	2.61	2.44	2.36
474.9	2.71	2.56	2.50
515.4	2.72	2.60	2.55
576.0	2.75	2.60	2.54
616.5	2.69	2.56	2.51
677.1	2.59	2.42	2.35
717.5	2.53	2.36	2.28
778.2	2.43	2.25	2.18
818.6	2.32	2.12	2.04
879.2	2.33	2.12	2.02
919.7	2.25	2.02	1.90
980.3	2.12	1.89	1.77
1020.8	2.05	1.80	1.67
1081.4	1.88	1.62	1.48
1121.8	1.90	1.63	1.46
1182.5	1.80	1.53	1.36
1222.9	1.78	1.51	1.33
1283.5	1.79	1.53	1.36
1324.0	1.77	1.54	1.38
1384.6	1.77	1.58	1.47
1425.1	1.75	1.57	1.47
1485.7	1.67	1.51	1.41
1526.1	1.58	1.42	1.32
1586.8	1.48	1.33	1.24
1627.2	1.41	1.25	1.15
1687.8	1.36	1.20	1.10
1728.3	1.31	1.15	1.05
1788.9	1.28	1.12	1.01
1829.4	1.26	1.09	1.03
1890.0	1.23	1.06	1.07

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	4	24	27	23	35	36	39	40	45	60
1	-	23	+0	22	21	35	34	47	44	47	54	57
2	56	47	41	47	42	56	69	59	58	66	53	67
3	>90	70	58	62	58	54	63	60	74	69	70	68
4	>90	>83	>83	77	77	76	80	82	>83	>83	81	>83
5	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
6	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
7	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
8	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
9	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
10	>90	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83	>83
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1600 MHz; 0.00 dBm.
LO IN: 1675 MHz; +13.00 dBm
IF OUT: 75 MHz; -7.22 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	14	41	44	34	50	47	63	52	84	80
1	-	23	+0	24	22	40	35	55	50	58	54	54
2	37	37	32	37	34	48	62	55	55	70	54	63
3	73	52	38	43	39	38	44	47	56	56	60	60
4	>90	65	65	56	50	56	50	61	70	69	62	77
5	>90	81	68	71	64	54	68	51	63	59	72	68
6	>90	84	73	74	75	65	73	61	70	66	79	87
7	>90	>93	84	91	89	80	75	68	67	67	74	77
8	>90	90	>93	90	92	83	82	77	73	69	74	74
9	>90	>93	>93	>93	>93	89	>93	90	78	85	71	87
10	>90	>93	>93	>93	>93	>93	>93	>93	85	92	77	87
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1600 MHz; 10.00 dBm.
LO IN: 1675 MHz; +13.00 dBm
IF OUT: 75 MHz; 2.63 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.