

Frequency Mixer

SYM-ED7654/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)			RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)			RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+14dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+14	+17	+20			+14	+17	+20			+14	+17	+20
420.1	450.1	15.20	11.05	8.98	420.1	450.1	15.88	23.37	34.70	420.1	450.1	-1.05	0.07	0.03
500.7	530.7	12.32	8.89	7.64	500.7	530.7	13.81	19.55	27.45	500.7	530.7	0.03	0.72	0.21
581.2	611.2	11.28	8.76	7.51	581.2	611.2	14.74	24.11	25.37	581.2	611.2	0.26	0.15	0.33
661.8	691.8	11.09	9.28	8.03	661.8	691.8	17.14	19.12	25.36	661.8	691.8	0.79	0.16	0.29
742.3	772.3	12.29	9.32	7.52	742.3	772.3	14.13	25.29	29.43	742.3	772.3	0.34	0.49	0.56
822.9	852.9	12.60	8.23	6.71	822.9	852.9	13.23	33.13	29.50	822.9	852.9	-0.45	1.15	1.17
903.5	933.5	9.02	7.55	6.22	903.5	933.5	15.71	23.04	24.33	903.5	933.5	2.33	1.72	1.80
984.0	1014.0	7.34	6.46	5.73	984.0	1014.0	17.64	18.36	19.42	984.0	1014.0	3.25	2.49	2.14
1064.6	1094.6	6.76	5.62	5.06	1064.6	1094.6	18.76	17.67	17.52	1064.6	1094.6	3.08	2.91	2.68
1145.1	1175.1	6.48	5.36	5.00	1145.1	1175.1	16.98	17.77	17.48	1145.1	1175.1	3.16	3.06	2.72
1225.7	1255.7	6.33	5.33	4.91	1225.7	1255.7	14.52	16.39	20.95	1225.7	1255.7	3.24	2.90	2.52
1306.3	1336.3	6.50	5.40	5.03	1306.3	1336.3	13.19	15.98	23.94	1306.3	1336.3	2.97	2.70	2.35
1386.8	1416.8	6.75	5.70	5.26	1386.8	1416.8	15.26	17.54	24.30	1386.8	1416.8	2.40	2.29	2.06
1467.4	1497.4	7.23	6.30	5.66	1467.4	1497.4	21.36	19.02	22.10	1467.4	1497.4	1.96	1.87	1.80
1547.9	1577.9	7.49	6.88	6.36	1547.9	1577.9	20.24	23.59	21.17	1547.9	1577.9	1.75	1.61	1.61
1608.4	1638.4	7.21	6.96	6.81	1608.4	1638.4	20.55	25.38	21.96	1608.4	1638.4	1.48	1.21	1.12
1688.9	1718.9	6.49	6.32	6.32	1688.9	1718.9	19.48	25.17	21.57	1688.9	1718.9	1.47	1.09	0.99
1749.3	1779.3	6.65	6.23	6.18	1749.3	1779.3	19.90	23.31	25.26	1749.3	1779.3	1.03	0.82	0.66
1829.9	1859.9	6.63	6.08	5.97	1829.9	1859.9	19.27	22.04	28.89	1829.9	1859.9	1.01	0.63	0.38
1890.3	1920.3	6.94	6.32	6.10	1890.3	1920.3	21.64	22.61	26.56	1890.3	1920.3	0.87	0.58	0.43
1970.9	2000.9	7.50	6.98	6.66	1970.9	2000.9	31.28	37.13	30.57	1970.9	2000.9	0.62	0.37	0.29
2031.3	2061.3	7.44	7.09	6.87	2031.3	2061.3	27.66	32.08	28.91	2031.3	2061.3	0.59	0.32	0.23
2111.8	2141.8	7.12	6.79	6.59	2111.8	2141.8	25.77	28.58	30.29	2111.8	2141.8	0.70	0.47	0.36
2172.3	2202.3	6.92	6.54	6.34	2172.3	2202.3	26.85	29.02	29.25	2172.3	2202.3	0.77	0.55	0.45
2252.8	2282.8	6.92	6.57	6.39	2252.8	2282.8	25.87	28.30	27.78	2252.8	2282.8	0.76	0.50	0.43
2313.2	2343.2	6.90	6.53	6.38	2313.2	2343.2	24.80	27.62	27.36	2313.2	2343.2	0.84	0.62	0.55
2393.8	2423.8	6.69	6.22	6.05	2393.8	2423.8	22.84	26.62	27.81	2393.8	2423.8	1.05	0.91	0.87
2454.2	2484.2	6.54	6.00	5.82	2454.2	2484.2	20.09	23.94	25.59	2454.2	2484.2	1.10	1.04	1.00
2534.8	2564.8	6.61	6.10	5.91	2534.8	2564.8	20.38	21.09	22.13	2534.8	2564.8	1.18	0.96	0.87
2595.2	2625.2	6.55	6.23	6.01	2595.2	2625.2	22.47	21.26	24.79	2595.2	2625.2	1.36	0.93	0.79
2675.8	2705.8	6.50	6.23	6.08	2675.8	2705.8	22.62	24.99	26.31	2675.8	2705.8	1.41	0.96	0.77
2736.2	2766.2	6.45	6.18	6.07	2736.2	2766.2	23.68	25.90	26.19	2736.2	2766.2	1.48	0.93	0.69
2816.7	2846.7	6.85	6.53	6.37	2816.7	2846.7	24.10	26.01	28.24	2816.7	2846.7	1.30	0.69	0.59
2877.2	2907.2	7.32	6.98	6.81	2877.2	2907.2	24.61	26.63	27.16	2877.2	2907.2	0.96	0.46	0.43
2957.7	2987.7	7.84	7.58	7.43	2957.7	2987.7	25.70	28.91	26.85	2957.7	2987.7	0.75	0.30	0.28
3018.1	3048.1	8.18	7.92	7.83	3018.1	3048.1	25.22	29.76	31.05	3018.1	3048.1	0.81	0.24	0.19
3098.7	3128.7	8.83	8.43	8.38	3098.7	3128.7	22.80	27.88	32.25	3098.7	3128.7	0.72	0.26	0.13
3159.1	3189.1	9.59	9.08	8.97	3159.1	3189.1	22.81	25.03	30.38	3159.1	3189.1	0.53	0.22	0.11
3239.7	3269.7	10.69	9.85	9.68	3239.7	3269.7	22.73	22.42	25.43	3239.7	3269.7	0.38	0.26	0.14
3300.1	3330.1	11.83	10.59	10.17	3300.1	3330.1	31.22	28.10	24.42	3300.1	3330.1	0.13	0.13	0.14

Frequency Mixer

SYM-ED7654/1

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2000MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=889.9MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=3110.1001MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+17			+17			+17
1200.0	800.0	10.85	10.1	900.0	7.89	810.1	2300.0	10.11
1139.5	860.5	9.44	50.1	940.0	7.68	789.6	2320.5	9.99
1079.0	921.0	8.88	90.1	980.0	7.87	769.1	2341.0	9.81
1018.5	981.5	8.44	130.1	1020.0	7.89	748.6	2361.5	9.70
958.0	1042.0	8.65	170.1	1060.0	7.62	728.0	2382.1	9.58
897.5	1102.5	9.14	210.1	1100.0	7.25	707.5	2402.6	9.52
836.9	1163.1	8.74	250.1	1140.0	6.83	687.0	2423.1	9.42
776.4	1223.6	8.70	290.1	1180.0	6.53	666.5	2443.6	9.41
715.9	1284.1	7.80	330.1	1220.0	6.38	646.0	2464.1	9.34
655.4	1344.6	8.07	370.1	1260.0	6.42	625.5	2484.6	9.39
594.9	1405.1	7.90	410.1	1300.0	6.33	605.0	2505.1	9.36
534.4	1465.6	7.59	450.1	1340.0	6.27	584.5	2525.6	9.53
473.9	1526.1	7.35	490.1	1380.0	6.30	563.9	2546.2	9.55
413.4	1586.6	6.81	530.1	1420.0	6.44	543.4	2566.7	9.70
352.9	1647.1	6.66	570.1	1460.0	6.67	522.9	2587.2	9.73
292.4	1707.6	6.43	610.1	1500.0	6.69	502.4	2607.7	9.92
231.9	1768.1	7.05	650.1	1540.0	6.74	481.9	2628.2	9.72
171.4	1828.6	7.26	690.1	1580.0	6.68	461.4	2648.7	9.72
110.8	1889.2	7.26	730.1	1620.0	6.71	440.9	2669.2	9.46
50.3	1949.7	7.03	750.1	1640.0	6.71	420.4	2689.7	9.61
10.0	2010.0	7.33	790.1	1680.0	6.75	399.8	2710.3	9.51
70.5	2070.5	6.91	810.1	1700.0	6.79	379.3	2730.8	9.51
131.0	2131.0	6.87	850.1	1740.0	6.94	358.8	2751.3	9.40
191.5	2191.5	6.94	870.1	1760.0	7.08	338.3	2771.8	9.49
252.0	2252.0	7.13	910.1	1800.0	7.25	317.8	2792.3	9.39
312.5	2312.5	7.37	930.1	1820.0	7.27	297.3	2812.8	9.47
373.1	2373.1	7.36	970.1	1860.0	7.38	276.8	2833.3	9.46
433.6	2433.6	7.31	990.1	1880.0	7.74	256.3	2853.8	9.48
494.1	2494.1	7.36	1030.1	1920.0	7.88	235.7	2874.4	9.43
554.6	2554.6	7.75	1050.1	1940.0	7.75	215.2	2894.9	9.43
615.1	2615.1	8.05	1090.1	1980.0	7.92	194.7	2915.4	9.37
675.6	2675.6	8.05	1110.1	2000.0	8.14	174.2	2935.9	9.32
736.1	2736.1	8.15	1150.1	2040.0	8.07	153.7	2956.4	9.27
796.6	2796.6	8.03	1170.1	2060.0	7.91	133.2	2976.9	9.21
857.1	2857.1	8.26	1210.1	2100.0	7.90	112.7	2997.4	9.12
917.6	2917.6	8.16	1230.1	2120.0	7.84	92.2	3017.9	9.03
998.3	2998.3	8.08	1270.1	2160.0	8.17	71.6	3038.5	8.96
1058.8	3058.8	8.42	1290.1	2180.0	8.70	51.1	3059.0	8.84
1139.5	3139.5	9.28	1330.1	2220.0	9.59	30.6	3079.5	8.78
1200.0	3200.0	10.11	1350.1	2240.0	10.05	10.1	3100.0	9.03

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+14	+17	+20	+14	+17	+20
450.1	38.15	31.83	29.35	20.68	14.93	12.15
530.7	36.33	29.61	27.52	19.15	13.24	11.69
611.2	31.34	27.34	27.30	15.90	12.30	12.13
691.8	29.06	26.23	27.08	14.44	11.61	11.97
772.3	27.59	25.63	26.71	13.63	11.12	11.83
852.9	26.86	25.19	26.57	12.84	10.76	11.59
933.5	26.98	25.30	26.70	12.51	10.40	11.15
1014.0	27.18	26.41	28.28	12.27	10.12	10.72
1094.6	28.40	29.11	29.36	11.90	9.86	10.19
1175.1	30.59	31.74	31.81	12.16	10.06	10.21
1255.7	32.32	33.49	33.47	12.72	10.94	11.24
1336.3	32.44	33.54	35.05	13.38	12.75	13.18
1416.8	29.17	31.84	34.94	13.70	14.39	14.81
1497.4	27.12	30.44	33.52	15.98	16.29	16.41
1577.9	27.88	30.40	33.39	19.09	18.82	18.42
1638.4	28.70	31.25	35.04	21.74	21.09	20.30
1718.9	29.81	32.07	35.70	25.15	23.80	22.62
1779.3	29.46	32.13	35.52	26.91	25.31	24.18
1859.9	30.84	35.00	40.23	29.98	27.67	26.39
1920.3	30.87	35.16	39.87	31.80	28.92	27.60
2000.9	30.55	34.22	37.83	33.18	30.34	28.79
2061.3	30.16	33.29	36.35	33.62	31.33	29.97
2141.8	29.49	32.21	34.70	33.97	32.42	31.24
2202.3	28.93	31.60	34.04	34.30	32.82	32.07
2282.8	28.13	30.69	32.70	34.38	33.42	32.88
2343.2	27.22	29.67	31.61	34.30	33.89	33.60
2423.8	26.09	28.52	30.45	33.87	34.17	34.03
2484.2	25.00	27.10	28.99	33.42	33.96	34.09
2564.8	21.56	23.71	25.72	32.39	33.18	33.85
2625.2	21.72	22.76	24.37	33.54	33.57	34.14
2705.8	22.68	23.76	24.72	35.35	35.52	35.75
2766.2	23.21	24.60	25.69	36.62	37.21	37.66
2846.7	23.73	25.24	26.40	38.48	39.64	40.45
2907.2	24.03	25.57	26.72	39.79	41.54	42.66
2987.7	24.51	26.49	27.60	42.03	45.68	47.77
3048.1	24.65	26.98	28.30	45.87	52.31	54.40
3128.7	24.92	27.23	28.82	53.29	60.04	50.75
3189.1	25.20	27.19	28.77	70.24	51.30	46.99
3269.7	25.27	27.05	28.47	46.54	43.44	41.73
3330.1	25.12	26.94	28.36	39.80	38.61	38.03

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+14	+17	+20
420.1	450.1	15.25	17.44	18.73
500.7	530.7	14.36	16.57	18.16
581.2	611.2	13.87	16.20	19.99
661.8	691.8	14.05	15.89	18.65
742.3	772.3	13.88	15.98	18.47
822.9	852.9	14.30	17.44	19.31
903.5	933.5	16.69	18.55	19.82
984.0	1014.0	19.48	20.21	21.11
1064.6	1094.6	20.67	20.93	20.36
1145.1	1175.1	21.91	20.46	20.48
1225.7	1255.7	23.20	21.04	20.59
1306.3	1336.3	24.38	22.32	22.32
1386.8	1416.8	21.09	21.47	22.14
1467.4	1497.4	20.89	20.89	21.46
1547.9	1577.9	22.45	22.22	22.10
1608.4	1638.4	24.10	23.84	23.68
1688.9	1718.9	27.29	27.30	27.11
1749.3	1779.3	28.59	29.23	29.55
1829.9	1859.9	29.30	30.38	31.05
1890.3	1920.3	28.57	29.26	29.71
1970.9	2000.9	28.07	28.40	28.63
2031.3	2061.3	27.46	27.66	27.85
2111.8	2141.8	26.47	26.60	26.74
2172.3	2202.3	25.81	25.91	25.99
2252.8	2282.8	25.22	25.35	25.43
2313.2	2343.2	24.77	24.87	24.94
2393.8	2423.8	24.25	24.24	24.25
2454.2	2484.2	23.68	23.60	23.47
2534.8	2564.8	22.39	21.67	21.37
2595.2	2625.2	21.24	20.66	19.92
2675.8	2705.8	19.02	18.55	18.13
2736.2	2766.2	17.51	17.03	16.63
2816.7	2846.7	15.40	15.00	14.79
2877.2	2907.2	14.01	13.72	13.56
2957.7	2987.7	12.41	12.24	12.11
3018.1	3048.1	11.50	11.36	11.28
3098.7	3128.7	10.29	10.24	10.19
3159.1	3189.1	9.48	9.50	9.55
3239.7	3269.7	8.64	8.70	8.77
3300.1	3330.1	8.09	8.17	8.23

Frequency Mixer

SYM-ED7654/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=3100MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+14	+17	+20		+14	+17	+20		+14	+17	+20
420.1	450.1	11.85	8.43	6.76	450.1	23.81	14.26	7.20	10.0	1.47	1.26	1.11
500.7	530.7	8.01	5.91	4.79	530.7	22.00	10.37	5.83	50.0	1.46	1.25	1.11
581.2	611.2	6.49	5.02	4.53	611.2	16.89	9.28	4.28	90.0	1.46	1.25	1.10
661.8	691.8	5.77	5.34	5.25	691.8	14.03	6.97	3.41	130.0	1.43	1.23	1.10
742.3	772.3	6.13	5.52	4.80	772.3	11.53	5.39	2.95	170.0	1.42	1.20	1.08
822.9	852.9	6.13	4.43	3.74	852.9	9.28	4.39	2.60	210.0	1.35	1.16	1.09
903.5	933.5	3.66	3.47	2.92	933.5	7.41	3.59	2.30	250.0	1.33	1.13	1.09
984.0	1014.0	2.46	2.45	2.13	1014.0	5.83	2.96	2.01	290.0	1.23	1.09	1.17
1064.6	1094.6	1.88	1.77	1.51	1094.6	4.56	2.54	1.79	330.0	1.20	1.11	1.22
1145.1	1175.1	1.52	1.35	1.31	1175.1	3.76	2.29	1.74	370.0	1.10	1.16	1.34
1225.7	1255.7	1.35	1.30	1.30	1255.7	3.37	2.26	1.85	410.0	1.10	1.23	1.41
1306.3	1336.3	1.49	1.57	1.62	1336.3	3.13	2.11	1.84	450.0	1.09	1.32	1.54
1386.8	1416.8	1.77	1.90	1.92	1416.8	2.95	1.97	1.87	490.0	1.18	1.42	1.66
1467.4	1497.4	2.38	2.40	2.36	1497.4	2.57	1.85	1.93	530.0	1.20	1.47	1.73
1547.9	1577.9	2.95	2.96	2.92	1577.9	2.36	1.82	2.01	570.0	1.31	1.60	1.89
1608.4	1638.4	3.03	3.22	3.31	1638.4	2.46	1.87	2.07	590.0	1.29	1.59	1.89
1688.9	1718.9	2.73	2.84	3.01	1718.9	2.40	1.86	2.15	630.0	1.38	1.72	2.03
1749.3	1779.3	2.97	2.86	2.89	1779.3	2.32	1.91	2.23	650.0	1.39	1.72	2.05
1829.9	1859.9	3.03	2.76	2.64	1859.9	2.37	1.88	2.22	690.0	1.39	1.72	2.06
1890.3	1920.3	3.27	2.98	2.80	1920.3	2.19	1.76	2.20	710.0	1.45	1.80	2.14
1970.9	2000.9	3.91	3.67	3.48	2000.9	1.86	1.68	2.26	750.0	1.49	1.84	2.20
2031.3	2061.3	3.94	3.75	3.61	2061.3	1.64	1.64	2.28	770.0	1.43	1.75	2.12
2111.8	2141.8	3.85	3.68	3.54	2141.8	1.42	1.60	2.28	810.0	1.45	1.73	2.06
2172.3	2202.3	3.76	3.57	3.43	2202.3	1.30	1.62	2.37	830.0	1.55	1.81	2.14
2252.8	2282.8	3.46	3.28	3.16	2282.8	1.13	1.65	2.45	870.0	1.53	1.71	1.97
2313.2	2343.2	3.18	3.01	2.90	2343.2	1.05	1.63	2.39	890.0	1.52	1.64	1.88
2393.8	2423.8	2.78	2.61	2.49	2423.8	1.10	1.65	2.37	930.0	1.57	1.57	1.72
2454.2	2484.2	2.44	2.30	2.18	2484.2	1.15	1.69	2.45	950.0	1.60	1.57	1.70
2534.8	2564.8	2.17	1.88	1.80	2564.8	1.22	1.70	2.42	990.0	1.68	1.52	1.51
2595.2	2625.2	2.01	1.85	1.66	2625.2	1.33	1.78	2.40	1010.0	1.70	1.48	1.40
2675.8	2705.8	1.84	1.74	1.68	2705.8	1.58	1.90	2.53	1050.0	1.77	1.47	1.26
2736.2	2766.2	1.77	1.70	1.67	2766.2	1.76	2.01	2.64	1070.0	1.85	1.53	1.28
2816.7	2846.7	1.80	1.78	1.77	2846.7	1.99	2.09	2.63	1110.0	1.98	1.62	1.36
2877.2	2907.2	1.90	1.90	1.91	2907.2	2.14	2.14	2.57	1130.0	2.09	1.73	1.48
2957.7	2987.7	2.08	2.10	2.13	2987.7	2.36	2.27	2.63	1170.0	2.32	1.97	1.80
3018.1	3048.1	2.28	2.30	2.32	3048.1	2.52	2.35	2.69	1190.0	2.43	2.10	1.96
3098.7	3128.7	2.52	2.51	2.53	3128.7	2.75	2.40	2.66	1230.0	2.68	2.43	2.37
3159.1	3189.1	2.67	2.63	2.63	3189.1	2.86	2.48	2.68	1250.0	2.93	2.69	2.68
3239.7	3269.7	2.90	2.82	2.80	3269.7	3.02	2.54	2.74	1290.0	3.31	3.15	3.22
3300.1	3330.1	3.09	2.99	2.94	3330.1	3.26	2.54	2.66	1310.0	3.45	3.33	3.41

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	6	13	19	25	16	21	29	42	41	53
1	-	21	+0	40	32	36	32	42	39	47	47	70
2	61	61	63	54	63	70	63	63	53	53	61	70
3	>90	71	70	82	76	>82	72	73	70	76	75	80
4	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
5	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
6	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
7	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
8	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
9	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
10	>90	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 2000 MHz; -1.00 dBm.
LO IN: 2030 MHz; +17.00 dBm
IF OUT: 30 MHz; -8.03 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	16	23	29	36	28	36	44	59	54	68
1	-	21	+0	41	31	40	33	42	42	46	53	76
2	41	54	53	43	54	60	57	55	46	48	54	66
3	70	51	50	64	48	64	57	55	53	71	57	73
4	>90	70	71	67	83	65	84	84	76	70	62	62
5	>90	74	91	73	73	80	64	85	72	72	67	74
6	>90	85	81	86	84	85	>92	91	>92	87	>92	86
7	>90	>92	90	86	>92	89	85	91	78	90	83	87
8	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
9	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
10	>90	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92	>92
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 2000 MHz; 9.00 dBm.
LO IN: 2030 MHz; +17.00 dBm
IF OUT: 30 MHz; 1.97 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.