Frequency Mixer SIM-43LH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+7	+10	+13
670.0	700.0	19.58	11.28	7.82
770.0	800.0	10.18	7.64	6.80
870.0	900.0	8.18	7.14	6.60
970.0	1000.0	8.41	7.44	6.72
1070.0	1100.0	7.41	6.62	6.13
1170.0	1200.0	6.80	6.48	6.28
1270.0	1300.0	6.64	6.31	6.09
1370.0	1400.0	6.32	5.98	5.89
1470.0	1500.0	6.23	5.84	5.78
1570.0	1600.0	6.40	5.93	5.74
1670.0	1700.0	6.55	6.18	5.98
1770.0	1800.0	6.68	6.28	6.01
1870.0	1900.0	6.55	6.15	5.99
1970.0	2000.0	6.49	6.19	6.08
2070.0	2100.0	6.36	6.12	6.02
2170.0	2200.0	6.42	6.14	6.02
2270.0	2300.0	6.58	6.24	6.07
2370.0	2400.0	6.37	5.93	5.77
2470.0	2500.0	6.61	6.08	5.86
2570.0	2600.0	7.65	6.50	5.89
2650.0	2680.0	7.21	6.76	6.29
2750.0	2780.0	6.39	5.91	5.62
2830.0	2860.0	6.07	5.70	5.46
2930.0	2960.0	5.90	5.39	5.32
3010.0	3040.0	5.62	5.33	5.30
3110.0	3140.0	5.55	5.41	5.40
3190.0	3220.0	5.57	5.47	5.49
3290.0	3320.0	5.67	5.53	5.52
3370.0	3400.0	5.87	5.67	5.63
3470.0	3500.0	6.12	5.86	5.79
3550.0	3580.0	6.43	6.05	5.95
3650.0	3680.0	6.78	6.24	6.02
3730.0	3760.0	6.89	6.27	6.04
3830.0	3860.0	6.83	6.23	5.99
3910.0	3940.0	7.77	6.91	6.49
4010.0	4040.0	7.72	6.93	6.62
4090.0	4120.0	8.00	6.89	6.53
4190.0	4220.0	8.48	7.15	6.73
4270.0	4300.0	9.36	7.26	6.66
4370.0	4400.0	12.03	8.16	7.13

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+7	+10	+13
670.0	700.0	-4.83	3.01	7.79
770.0	800.0	3.44	6.48	12.25
870.0	900.0	5.44	7.84	9.78
970.0	1000.0	6.89	8.94	11.76
1070.0	1100.0	8.38	11.58	16.01
1170.0	1200.0	9.51	9.85	10.08
1270.0	1300.0	9.13	12.18	15.04
1370.0	1400.0	15.38	14.10	14.48
1470.0	1500.0	16.13	11.89	19.03
1570.0	1600.0	13.88	17.81	12.84
1670.0	1700.0	15.99	14.09	14.53
1770.0	1800.0	12.34	16.20	16.70
1870.0	1900.0	14.57	15.46	18.03
1970.0	2000.0	13.36	20.69	26.96
2070.0	2100.0	17.24	22.60	20.34
2170.0	2200.0	23.52	19.52	19.29
2270.0	2300.0	18.59	16.51	15.88
2370.0	2400.0	12.40	14.02	15.17
2470.0	2500.0	10.88	16.55	20.28
2570.0	2600.0	10.92	11.24	12.42
2650.0	2680.0	11.81	10.30	10.75
2750.0	2780.0	7.47	7.57	8.29
2830.0	2860.0	6.92	8.46	12.08
2930.0	2960.0	9.22	15.69	16.76
3010.0	3040.0	14.12	18.01	17.60
3110.0	3140.0	16.54	18.45	19.40
3190.0	3220.0	18.21	19.27	21.22
3290.0	3320.0	18.50	21.68	23.99
3370.0	3400.0	17.00	21.10	23.90
3470.0	3500.0	15.98	19.98	23.59
3550.0	3580.0	18.42	16.79	18.81
3650.0	3680.0	15.94	18.02	16.76
3730.0	3760.0	13.36	25.50	17.66
3830.0	3860.0	14.49	16.27	21.63
3910.0	3940.0	16.53	16.82	20.62
4010.0	4040.0	12.62	15.36	17.15
4090.0	4120.0	14.68	18.20	21.24
4190.0	4220.0	13.59	24.03	20.99
4270.0	4300.0	11.48	19.13	17.75
4370.0	4400.0	8.07	16.20	19.63

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+5dBm (dB) @LO (dBm)		
		+7	+10	+13
670.0	700.0	-5.63	-0.28	0.84
770.0	800.0	1.81	1.82	1.26
870.0	900.0	2.15	1.88	1.62
970.0	1000.0	1.22	1.24	1.26
1070.0	1100.0	1.56	1.49	1.31
1170.0	1200.0	1.49	1.18	0.88
1270.0	1300.0	1.06	0.88	0.68
1370.0	1400.0	0.82	0.58	0.43
1470.0	1500.0	0.82	0.63	0.41
1570.0	1600.0	0.69	0.57	0.48
1670.0	1700.0	0.65	0.44	0.34
1770.0	1800.0	0.68	0.49	0.35
1870.0	1900.0	0.69	0.44	0.23
1970.0	2000.0	0.80	0.44	0.24
2070.0	2100.0	0.86	0.47	0.28
2170.0	2200.0	0.86	0.54	0.34
2270.0	2300.0	0.81	0.57	0.42
2370.0	2400.0	0.94	0.65	0.44
2470.0	2500.0	0.94	0.62	0.39
2570.0	2600.0	1.04	1.08	0.91
2650.0	2680.0	1.14	0.98	0.94
2750.0	2780.0	1.35	1.23	1.07
2830.0	2860.0	1.55	1.24	0.97
2930.0	2960.0	1.33	1.04	0.72
3010.0	3040.0	1.28	0.72	0.50
3110.0	3140.0	1.03	0.44	0.31
3190.0	3220.0	0.87	0.30	0.18
3290.0	3320.0	0.94	0.38	0.20
3370.0	3400.0	1.08	0.60	0.35
3470.0	3500.0	1.10	0.60	0.35
3550.0	3580.0	0.96	0.51	0.28
3650.0	3680.0	0.84	0.49	0.27
3730.0	3760.0	0.71	0.43	0.25
3830.0	3860.0	0.91	0.63	0.40
3910.0	3940.0	0.57	0.49	0.37
4010.0	4040.0	0.70	0.46	0.34
4090.0	4120.0	0.67	0.48	0.33
4190.0	4220.0	0.65	0.49	0.33
4270.0	4300.0	0.38	0.66	0.47
4370.0	4400.0	-0.67	0.71	0.57

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2512MHz (dB) @LO (dBm) +10
1412.0	1100.0	10.59
1337.2	1174.8	9.20
1262.5	1249.5	7.62
1187.7	1324.3	7.01
1112.9	1399.1	7.52
1038.1	1473.9	8.22
963.4	1548.6	8.61
888.6	1623.4	9.11
813.8	1698.2	9.28
739.0	1773.0	8.61
664.3	1847.7	7.78
589.5	1922.5	7.27
514.7	1997.3	6.86
439.9	2072.1	6.50
365.2	2146.8	6.19
290.4	2221.6	5.85
215.6	2296.4	5.52
140.9	2371.1	5.61
66.1	2445.9	6.11
10.0	2522.0	7.08
95.2	2607.2	6.72
180.5	2692.5	7.74
265.7	2777.7	7.84
350.9	2862.9	7.30
436.1	2948.1	6.70
521.4	3033.4	6.67
606.6	3118.6	6.73
691.8	3203.8	6.70
777.0	3289.0	6.77
862.3	3374.3	6.89
947.5	3459.5	6.91
1011.4	3523.4	7.08
1096.6	3608.6	7.21
1160.6	3672.6	7.25
1245.8	3757.8	7.46
1309.7	3821.7	7.65
1394.9	3906.9	8.11
1458.9	3970.9	8.65
1544.1	4056.1	9.62
1608.0	4120.0	10.54

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=813.9MHz (dB) @LO (dBm) +10
10.1	824.0	7.89
50.1	864.0	7.17
90.1	904.0	7.02
130.1	944.0	6.99
170.1	984.0	7.02
210.1	1024.0	7.21
250.1	1064.0	7.03
290.1	1104.0	6.81
330.1	1144.0	6.82
370.1	1184.0	7.01
410.1	1224.0	6.81
450.1	1264.0	6.64
490.1	1304.0	6.53
530.1	1344.0	6.58
570.1	1384.0	6.91
610.1	1424.0	7.16
650.1	1464.0	7.14
690.1	1504.0	7.18
730.1	1544.0	7.27
770.1	1584.0	7.42
810.1	1624.0	7.51
850.1	1664.0	7.48
890.1	1704.0	7.71
930.1	1744.0	7.81
970.1	1784.0	7.96
1010.1	1824.0	7.69
1050.1	1864.0	7.66
1090.1	1904.0	7.86
1130.1	1944.0	7.65
1170.1	1984.0	7.62
1210.1	2024.0	7.69
1250.1	2064.0	7.96
1290.1	2104.0	8.21
1330.1	2144.0	8.34
1370.1	2184.0	8.62
1410.1	2224.0	9.01
1450.1	2264.0	9.03
1490.1	2304.0	9.36
1530.1	2344.0	9.71
1590.1	2404.0	10.24

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=4210.1MHz (dB) @LO (dBm) +10
1350.1	2860.0	10.32
1310.1	2900.0	9.88
1270.1	2940.0	9.41
1230.1	2980.0	9.02
1190.1	3020.0	8.97
1150.1	3060.0	9.08
1110.1	3100.0	8.96
1070.1	3140.0	8.91
1030.1	3180.0	8.74
990.1	3220.0	8.77
950.1	3260.0	8.72
910.1	3300.0	8.68
870.1	3340.0	8.70
830.1	3380.0	8.59
790.1	3420.0	8.59
750.1	3460.0	8.34
710.1	3500.0	8.08
670.1	3540.0	8.08
630.1	3580.0	8.14
610.1	3600.0	8.25
570.1	3640.0	8.33
550.1	3660.0	8.41
510.1	3700.0	8.41
490.1	3720.0	8.37
450.1	3760.0	8.31
430.1	3780.0	8.12
390.1	3820.0	8.10
370.1	3840.0	8.02
330.1	3880.0	7.92
310.1	3900.0	7.98
270.1	3940.0	7.78
250.1	3960.0	7.67
210.1	4000.0	7.46
190.1	4020.0	7.26
150.1	4060.0	7.18
130.1	4080.0	7.20
90.1	4120.0	7.21
70.1	4140.0	7.23
30.1	4180.0	7.26
10.1	4200.0	7.79

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+7	+10	+13	+7	+10	+13
700.0	53.33	53.53	46.13	24.48	24.49	25.00
800.0	47.32	40.88	39.11	21.98	22.99	25.22
900.0	36.64	36.27	36.40	21.36	23.74	26.17
1000.0	36.24	36.50	36.83	22.32	24.66	26.62
1100.0	41.18	41.13	41.09	23.91	26.17	27.99
1200.0	43.73	44.62	45.05	25.92	27.79	28.57
1300.0	42.42	42.49	42.87	28.12	29.40	29.33
1400.0	41.34	40.26	38.96	30.37	31.40	30.99
1500.0	39.46	38.59	37.02	32.17	33.97	34.73
1600.0	37.46	36.95	36.14	30.01	32.81	36.16
1700.0	37.98	37.05	36.30	28.28	30.09	31.14
1800.0	37.22	37.31	37.19	23.45	24.57	24.80
1900.0	36.63	36.85	36.30	18.65	19.63	19.88
2000.0	36.53	36.57	36.06	15.11	16.20	16.77
2100.0	36.35	36.24	35.79	13.51	14.83	15.78
2200.0	36.83	36.42	36.02	13.37	14.83	16.10
2300.0	37.61	36.80	35.88	14.02	15.73	17.23
2400.0	36.63	35.43	34.38	14.92	16.72	18.47
2500.0	37.29	36.38	35.70	16.02	17.84	19.64
2600.0	36.84	36.25	35.54	17.22	18.92	20.47
2680.0	33.14	31.77	31.77	18.43	19.99	21.26
2780.0	34.31	32.77	31.53	19.53	20.51	21.10
2860.0	33.15	31.58	30.55	20.94	21.40	21.77
2960.0	36.18	34.23	32.17	22.81	22.88	23.01
3040.0	36.15	33.62	31.43	25.03	24.77	24.14
3140.0	34.17	32.15	30.47	28.34	27.21	26.13
3220.0	34.04	32.09	30.53	31.34	29.75	28.54
3320.0	32.70	31.12	29.96	30.87	30.11	29.42
3400.0	33.37	32.03	31.02	27.14	26.94	26.68
3500.0	33.85	32.02	31.09	25.45	26.36	27.27
3580.0	33.16	31.29	30.31	24.22	24.73	25.71
3680.0	32.32	30.86	29.67	21.94	22.67	23.51
3760.0	32.00	30.59	29.45	20.01	20.77	21.76
3860.0	32.05	30.90	29.78	19.33	20.23	21.28
3940.0	32.74	31.30	29.99	19.25	19.88	20.93
4040.0	34.42	32.46	30.69	20.75	21.63	22.68
4120.0	34.82	33.22	31.63	20.40	20.82	21.67
4220.0	33.25	31.74	30.57	18.88	19.45	20.41
4300.0	34.24	32.21	30.71	18.83	19.25	20.03
4400.0	37.17	34.76	32.24	18.66	18.89	19.38

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+7	+10	+13
670.0	700.0	27.05	24.89	18.70
770.0	800.0	21.38	16.38	14.60
870.0	900.0	14.61	13.32	12.60
970.0	1000.0	13.44	12.84	12.42
1070.0	1100.0	15.33	14.59	14.08
1170.0	1200.0	18.43	17.76	17.39
1270.0	1300.0	21.53	20.68	20.17
1370.0	1400.0	23.60	23.48	23.77
1470.0	1500.0	24.50	24.01	24.21
1570.0	1600.0	24.59	24.43	24.31
1670.0	1700.0	24.57	24.36	24.44
1770.0	1800.0	24.97	25.23	25.15
1870.0	1900.0	27.13	27.05	26.74
1970.0	2000.0	31.83	31.72	31.64
2070.0	2100.0	39.33	38.93	38.81
2170.0	2200.0	37.77	37.42	37.33
2270.0	2300.0	36.09	35.70	35.55
2370.0	2400.0	34.82	34.12	33.75
2470.0	2500.0	34.20	33.52	32.99
2570.0	2600.0	31.50	31.02	30.86
2650.0	2680.0	28.95	28.22	27.74
2750.0	2780.0	27.60	26.88	25.88
2830.0	2860.0	24.27	24.21	24.19
2930.0	2960.0	23.90	22.76	22.49
3010.0	3040.0	23.44	23.01	22.96
3110.0	3140.0	22.50	22.28	22.25
3190.0	3220.0	21.92	21.63	21.56
3290.0	3320.0	22.79	22.56	22.47
3370.0	3400.0	31.23	32.67	33.87
3470.0	3500.0	23.39	22.97	22.75
3550.0	3580.0	22.26	22.00	21.95
3650.0	3680.0	21.65	21.22	21.31
3730.0	3760.0	22.38	21.73	21.69
3830.0	3860.0	24.77	24.01	23.68
3910.0	3940.0	28.37	26.74	25.85
4010.0	4040.0	33.89	32.44	33.27
4090.0	4120.0	31.56	28.58	27.32
4190.0	4220.0	25.67	22.87	21.65
4270.0	4300.0	25.18	21.91	20.28
4370.0	4400.0	26.29	23.23	22.35

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+7	+10	+13
670.0	700.0	7.25	4.10	3.15
770.0	800.0	2.89	2.43	2.26
870.0	900.0	2.23	1.96	1.80
970.0	1000.0	2.45	2.20	2.00
1070.0	1100.0	2.75	2.48	2.30
1170.0	1200.0	2.93	2.80	2.70
1270.0	1300.0	2.94	2.80	2.72
1370.0	1400.0	2.96	2.63	2.48
1470.0	1500.0	2.97	2.62	2.33
1570.0	1600.0	2.93	2.59	2.35
1670.0	1700.0	2.97	2.65	2.42
1770.0	1800.0	3.02	2.61	2.29
1870.0	1900.0	2.83	2.42	2.22
1970.0	2000.0	2.72	2.47	2.36
2070.0	2100.0	2.62	2.44	2.32
2170.0	2200.0	2.62	2.45	2.36
2270.0	2300.0	2.75	2.54	2.39
2370.0	2400.0	2.37	2.11	1.96
2470.0	2500.0	2.31	2.08	1.93
2570.0	2600.0	2.87	2.54	2.33
2650.0	2680.0	2.53	2.33	2.12
2750.0	2780.0	2.24	2.01	1.78
2830.0	2860.0	1.91	1.67	1.51
2930.0	2960.0	1.66	1.41	1.38
3010.0	3040.0	1.51	1.42	1.41
3110.0	3140.0	1.47	1.45	1.45
3190.0	3220.0	1.41	1.39	1.41
3290.0	3320.0	1.41	1.34	1.32
3370.0	3400.0	1.48	1.36	1.30
3470.0	3500.0	1.64	1.50	1.44
3550.0	3580.0	1.87	1.68	1.59
3650.0	3680.0	2.17	1.93	1.80
3730.0	3760.0	2.34	2.05	1.88
3830.0	3860.0	2.40	2.08	1.87
3910.0	3940.0	2.92	2.57	2.33
4010.0	4040.0	3.04	2.69	2.51
4090.0	4120.0	3.33	2.82	2.57
4190.0	4220.0	3.50	2.93	2.61
4270.0	4300.0	3.87	3.02	2.62
4370.0	4400.0	4.93	3.53	3.08

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+7	+10	+13
700.0	23.49	22.00	15.96
800.0	15.81	9.79	7.56
900.0	5.51	4.57	4.80
1000.0	2.57	2.81	3.40
1100.0	1.51	1.86	2.42
1200.0	1.19	1.35	1.83
1300.0	1.45	1.12	1.50
1400.0	1.64	1.19	1.45
1500.0	1.75	1.41	1.62
1600.0	1.80	1.62	1.90
1700.0	1.80	1.80	2.17
1800.0	1.67	1.86	2.26
1900.0	1.49	1.74	2.20
2000.0	1.24	1.57	2.09
2100.0	1.01	1.47	1.99
2200.0	1.29	1.47	1.93
2300.0	1.52	1.49	1.86
2400.0	1.80	1.56	1.80
2500.0	1.93	1.62	1.75
2600.0	1.94	1.47	1.56
2680.0	1.88	1.47	1.54
2780.0	1.77	1.25	1.34
2860.0	1.69	1.13	1.24
2960.0	1.71	1.13	1.23
3040.0	1.71	1.13	1.25
3140.0	1.67	1.12	1.31
3220.0	1.63	1.15	1.36
3320.0	1.62	1.21	1.43
3400.0	1.62	1.29	1.52
3500.0	1.72	1.38	1.59
3580.0	1.87	1.56	1.73
3680.0	2.05	1.74	1.86
3760.0	2.24	1.90	1.99
3860.0	2.54	2.07	2.09
3940.0	2.98	2.35	2.27
4040.0	3.63	2.67	2.43
4120.0	4.50	3.14	2.67
4220.0	5.47	3.64	2.91
4300.0	6.63	4.09	2.97
4400.0	8.01	5.03	3.29

IF (OUT) (MHz)	IF VSWR @LO=4200MHz (:1) @LO (dBm)		
	+7	+10	+13
10.0	1.62	1.11	1.09
50.0	1.64	1.15	1.14
90.0	1.71	1.22	1.20
130.0	1.78	1.29	1.25
170.0	1.90	1.40	1.34
210.0	1.99	1.47	1.39
250.0	2.17	1.59	1.47
290.0	2.37	1.71	1.55
330.0	2.57	1.84	1.63
370.0	2.83	1.99	1.72
410.0	3.12	2.18	1.85
450.0	3.40	2.35	1.96
490.0	3.72	2.56	2.11
530.0	4.01	2.74	2.24
570.0	4.32	2.95	2.37
610.0	4.62	3.17	2.55
650.0	4.78	3.24	2.57
710.0	5.16	3.51	2.78
750.0	5.25	3.55	2.80
810.0	5.54	3.80	3.00
850.0	5.63	3.84	3.03
910.0	5.81	4.03	3.20
950.0	5.99	4.20	3.34
1010.0	6.09	4.29	3.43
1050.0	6.17	4.39	3.55
1110.0	6.07	4.34	3.56
1150.0	6.21	4.54	3.82
1210.0	5.99	4.41	3.77
1250.0	6.09	4.60	4.04
1310.0	5.85	4.46	4.02
1350.0	6.09	4.84	4.47
1410.0	5.70	4.78	4.64
1450.0	5.75	4.99	4.92
1510.0	5.58	5.25	5.44
1550.0	5.66	5.54	5.81
1610.0	5.68	5.97	6.42
1650.0	5.66	6.09	6.63
1710.0	5.72	6.39	7.00
1750.0	5.75	6.49	7.08
1810.0	5.68	6.30	6.73

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+8	17	14	22	28	42	35	48	37	---
1	-	27	+0	35	20	52	32	50	46	68	45	>73
2	81	56	58	55	54	61	53	61	68	>73	>73	>73
3	>90	71	59	>73	54	>73	62	73	61	>73	73	>73
4	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
5	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
6	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
7	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
8	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
9	>90	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
10	---	---	>73	>73	>73	>73	>73	>73	>73	>73	>73	>73
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

Test conditions: RF IN: 2512 MHz; -10.00 dBm.
LO IN: 2542 MHz; +10.00 dBm
IF OUT: 30 MHz; -16.78 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	2	27	28	35	40	54	48	55	48	---
1	-	27	+0	37	20	52	39	56	50	73	51	75
2	61	49	49	65	42	59	41	53	54	73	63	79
3	>90	51	42	61	39	55	52	60	45	65	58	79
4	>90	68	67	65	65	57	67	67	65	69	73	79
5	>90	67	58	74	59	74	51	74	61	69	64	80
6	>90	>83	80	83	68	81	79	82	67	>83	66	78
7	>90	>83	>83	>83	79	78	79	>83	68	76	>83	>83
8	>90	>83	>83	>83	>83	>83	82	82	>83	78	77	>83
9	>90	81	>83	>83	>83	>83	>83	>83	>83	>83	83	>83
10	---	---	>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: 2512 MHz; 0.00 dBm.
LO IN: 2542 MHz; +10.00 dBm
IF OUT: 30 MHz; -6.66 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.