Frequency Mixer MBR-30L

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+1	+4	+7
1500.0	1530.0	13.19	11.73	11.30
1600.0	1630.0	11.40	10.41	10.01
1700.0	1730.0	10.17	9.47	9.04
1800.0	1830.0	9.20	8.66	8.24
1900.0	1930.0	8.47	7.97	7.56
2000.0	2030.0	7.83	7.29	6.92
2100.0	2130.0	7.24	6.79	6.56
2200.0	2230.0	6.79	6.47	6.30
2300.0	2330.0	6.55	6.25	6.12
2400.0	2430.0	6.46	6.23	6.21
2480.0	2510.0	6.57	6.34	6.33
2580.0	2610.0	6.75	6.43	6.33
2660.0	2690.0	6.70	6.25	6.07
2760.0	2790.0	6.53	6.06	5.87
2840.0	2870.0	6.40	5.91	5.71
2940.0	2970.0	6.37	5.90	5.69
3020.0	3050.0	6.38	5.92	5.71
3120.0	3150.0	6.42	5.99	5.79
3200.0	3230.0	6.47	6.07	5.89
3300.0	3330.0	6.40	6.01	5.91
3380.0	3410.0	7.31	6.68	6.35
3480.0	3510.0	7.17	6.69	6.42
3560.0	3590.0	7.11	6.70	6.47
3660.0	3690.0	7.14	6.75	6.51
3740.0	3770.0	7.10	6.72	6.50
3840.0	3870.0	7.15	6.78	6.57
3920.0	3950.0	7.09	6.72	6.52
4020.0	4050.0	7.14	6.73	6.50
4100.0	4130.0	7.20	6.69	6.44
4200.0	4230.0	7.42	6.81	6.51
4280.0	4310.0	7.63	6.97	6.68
4380.0	4410.0	7.90	7.06	6.72
4460.0	4490.0	8.19	7.17	6.79
4560.0	4590.0	8.61	7.36	6.92
4640.0	4670.0	9.25	7.70	7.11
4740.0	4770.0	10.02	8.14	7.44
4820.0	4850.0	11.11	8.68	7.94
4920.0	4950.0	12.56	9.59	8.64
5000.0	5030.0	13.73	10.34	9.35
5100.0	5130.0	15.46	11.20	10.22

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+1	+4	+7
1500.0	1530.0	15.90	11.67	8.75
1600.0	1630.0	10.49	8.27	6.49
1700.0	1730.0	7.82	7.20	6.92
1800.0	1830.0	6.95	7.11	7.63
1900.0	1930.0	6.49	8.03	9.36
2000.0	2030.0	8.60	11.53	11.90
2100.0	2130.0	9.65	10.25	10.88
2200.0	2230.0	8.39	9.59	11.56
2300.0	2330.0	6.64	8.39	10.94
2400.0	2430.0	7.32	8.93	11.41
2480.0	2510.0	8.19	9.81	10.92
2580.0	2610.0	7.84	8.57	9.76
2660.0	2690.0	6.22	7.19	8.34
2760.0	2790.0	5.13	6.05	7.56
2840.0	2870.0	5.54	6.41	7.66
2940.0	2970.0	5.85	6.87	7.88
3020.0	3050.0	6.53	7.63	8.63
3120.0	3150.0	7.56	8.61	9.90
3200.0	3230.0	9.13	10.14	11.26
3300.0	3330.0	10.95	14.16	14.77
3380.0	3410.0	8.73	9.22	9.94
3480.0	3510.0	8.00	8.87	9.82
3560.0	3590.0	8.47	9.27	10.35
3660.0	3690.0	9.40	9.80	10.58
3740.0	3770.0	9.33	9.72	10.63
3840.0	3870.0	9.82	10.05	10.91
3920.0	3950.0	9.82	10.25	10.90
4020.0	4050.0	9.82	10.47	11.01
4100.0	4130.0	9.95	11.33	11.49
4200.0	4230.0	9.27	12.13	12.89
4280.0	4310.0	8.96	11.45	11.69
4380.0	4410.0	8.48	11.89	11.75
4460.0	4490.0	8.78	11.03	11.62
4560.0	4590.0	8.40	10.58	11.61
4640.0	4670.0	8.12	10.23	10.99
4740.0	4770.0	9.05	10.75	10.78
4820.0	4850.0	8.47	11.13	11.09
4920.0	4950.0	4.90	9.67	11.12
5000.0	5030.0	3.11	8.11	11.08
5100.0	5130.0	1.18	8.69	11.95

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=0dBm (dB) @LO (dBm)		
		+1	+4	+7
1500.0	1530.0	0.22	0.32	0.42
1600.0	1630.0	0.53	0.60	0.69
1700.0	1730.0	0.64	0.61	0.73
1800.0	1830.0	0.69	0.56	0.68
1900.0	1930.0	0.81	0.58	0.62
2000.0	2030.0	0.96	0.67	0.56
2100.0	2130.0	1.00	0.59	0.46
2200.0	2230.0	1.01	0.61	0.50
2300.0	2330.0	1.06	0.63	0.56
2400.0	2430.0	1.05	0.57	0.41
2480.0	2510.0	1.08	0.55	0.33
2580.0	2610.0	1.17	0.68	0.41
2660.0	2690.0	1.41	0.95	0.67
2760.0	2790.0	1.55	1.08	0.79
2840.0	2870.0	1.49	1.05	0.76
2940.0	2970.0	1.35	0.93	0.66
3020.0	3050.0	1.36	0.92	0.66
3120.0	3150.0	1.29	0.81	0.58
3200.0	3230.0	1.20	0.68	0.45
3300.0	3330.0	1.49	0.80	0.49
3380.0	3410.0	1.37	1.03	0.81
3480.0	3510.0	1.06	0.82	0.66
3560.0	3590.0	1.03	0.73	0.58
3660.0	3690.0	0.93	0.63	0.49
3740.0	3770.0	0.96	0.63	0.49
3840.0	3870.0	0.93	0.57	0.44
3920.0	3950.0	1.01	0.60	0.44
4020.0	4050.0	1.10	0.66	0.47
4100.0	4130.0	1.09	0.67	0.48
4200.0	4230.0	1.21	0.79	0.64
4280.0	4310.0	1.21	0.79	0.64
4380.0	4410.0	1.26	0.85	0.72
4460.0	4490.0	1.23	0.86	0.76
4560.0	4590.0	1.26	0.93	0.82
4640.0	4670.0	1.09	0.93	0.84
4740.0	4770.0	0.85	0.83	0.74
4820.0	4850.0	0.51	0.83	0.74
4920.0	4950.0	-0.25	0.60	0.67
5000.0	5030.0	-0.77	0.43	0.57
5100.0	5130.0	-1.54	0.45	0.47

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=3000MHz (dB) @LO (dBm) +4
1000.0	2000.0	6.96
939.4	2060.6	6.97
878.8	2121.2	7.16
818.2	2181.8	7.42
757.6	2242.4	7.64
696.9	2303.1	7.76
656.5	2343.5	7.76
595.9	2404.1	7.70
555.5	2444.5	7.54
494.9	2505.1	7.29
454.5	2545.5	7.04
393.9	2606.1	6.74
353.5	2646.5	6.53
292.9	2707.1	6.28
252.4	2747.6	6.18
191.8	2808.2	6.04
151.4	2848.6	6.07
90.8	2909.2	6.03
50.4	2949.6	6.01
10.0	3010.0	6.44
49.6	3049.6	5.98
109.0	3109.0	6.02
148.6	3148.6	6.06
208.0	3208.0	6.10
247.6	3247.6	6.01
307.0	3307.0	6.21
346.6	3346.6	6.31
406.0	3406.0	6.50
445.6	3445.6	6.59
505.0	3505.0	6.77
544.6	3544.6	6.90
604.0	3604.0	7.17
643.6	3643.6	7.36
703.0	3703.0	7.74
742.6	3742.6	7.94
802.0	3802.0	8.27
841.6	3841.6	8.39
901.0	3901.0	8.54
940.6	3940.6	8.66
1000.0	4000.0	8.89

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1989.9MHz (dB) @LO (dBm) +4
10.1	2000.0	7.66
27.6	2017.5	7.41
45.1	2035.0	7.40
62.6	2052.5	7.35
80.1	2070.0	7.32
97.6	2087.5	7.31
115.1	2105.0	7.33
132.6	2122.5	7.34
150.1	2140.0	7.33
167.6	2157.5	7.34
185.1	2175.0	7.36
202.6	2192.5	7.40
220.1	2210.0	7.43
237.6	2227.5	7.47
255.1	2245.0	7.52
272.6	2262.5	7.57
290.1	2280.0	7.58
307.6	2297.5	7.65
325.1	2315.0	7.66
342.6	2332.5	7.73
360.1	2350.0	7.82
377.6	2367.5	7.83
395.1	2385.0	7.92
412.6	2402.5	7.95
430.1	2420.0	8.00
447.6	2437.5	8.23
465.1	2455.0	8.30
482.6	2472.5	8.44
500.1	2490.0	8.53
517.6	2507.5	8.61
535.1	2525.0	8.74
552.6	2542.5	8.85
570.1	2560.0	8.91
587.6	2577.5	9.04
605.1	2595.0	9.13
622.6	2612.5	9.19
640.1	2630.0	9.35
657.6	2647.5	9.38
692.6	2682.5	9.67
710.1	2700.0	9.66

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=4010MHz (dB) @LO (dBm) +4
1810.0	2200.0	8.61
1770.0	2240.0	8.48
1730.0	2280.0	8.17
1690.0	2320.0	7.85
1650.0	2360.0	7.62
1610.0	2400.0	7.40
1570.0	2440.0	7.33
1530.0	2480.0	7.21
1490.0	2520.0	7.25
1450.0	2560.0	7.30
1410.0	2600.0	7.50
1370.0	2640.0	7.83
1330.0	2680.0	8.15
1290.0	2720.0	8.52
1250.0	2760.0	8.72
1210.0	2800.0	8.89
1170.0	2840.0	9.11
1110.0	2900.0	9.12
1070.0	2940.0	9.19
1010.0	3000.0	8.95
970.0	3040.0	8.85
910.0	3100.0	8.88
870.0	3140.0	9.02
810.0	3200.0	8.96
770.0	3240.0	8.84
710.0	3300.0	8.49
670.0	3340.0	8.31
610.0	3400.0	8.02
570.0	3440.0	7.91
510.0	3500.0	7.58
470.0	3540.0	7.44
410.0	3600.0	7.08
370.0	3640.0	6.98
310.0	3700.0	6.85
270.0	3740.0	6.78
210.0	3800.0	6.73
170.0	3840.0	6.67
110.0	3900.0	6.66
70.0	3940.0	6.67
10.0	4000.0	6.85

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+1	+4	+7	+1	+4	+7
1500.0	31.79	30.45	31.29	9.73	10.61	11.93
1600.0	32.38	31.83	32.81	9.85	10.98	12.32
1700.0	32.80	33.59	35.20	10.16	11.29	12.28
1800.0	32.96	34.19	35.64	10.73	11.57	11.84
1900.0	33.59	35.46	37.49	11.15	11.51	11.12
2000.0	34.08	37.14	41.65	11.44	10.89	10.16
2100.0	32.97	36.14	40.64	11.82	10.99	10.09
2200.0	32.97	38.43	51.38	12.94	11.53	10.31
2300.0	33.81	43.82	44.67	13.88	11.96	10.46
2400.0	34.06	50.45	38.05	14.50	12.14	10.57
2480.0	32.75	45.77	36.85	14.89	12.47	10.78
2580.0	30.14	40.39	40.12	15.35	12.93	11.32
2660.0	28.47	37.10	45.56	15.46	13.07	11.68
2760.0	28.08	36.57	46.71	15.89	13.73	12.33
2840.0	28.38	37.83	42.28	16.21	14.30	12.97
2940.0	28.31	38.18	40.55	16.71	15.02	13.84
3020.0	29.48	40.86	39.02	16.81	15.59	14.75
3120.0	29.97	41.63	38.60	17.50	16.63	16.10
3200.0	30.39	41.95	37.71	18.25	17.79	17.23
3300.0	30.57	40.40	35.51	19.21	19.30	19.03
3380.0	29.77	37.11	46.91	20.06	20.45	20.62
3480.0	35.54	40.94	33.83	21.40	22.18	22.78
3560.0	38.38	36.77	30.63	22.71	23.86	24.76
3660.0	36.68	32.95	28.70	24.58	25.94	27.04
3740.0	34.22	30.88	27.50	25.72	27.04	28.13
3840.0	30.97	28.75	26.12	25.37	26.32	27.14
3920.0	28.96	27.17	25.13	23.98	24.40	25.17
4020.0	26.92	25.84	24.29	21.65	21.98	22.72
4100.0	25.66	25.25	23.98	19.80	19.98	20.69
4200.0	24.16	24.31	23.70	18.21	17.97	18.27
4280.0	23.32	23.48	23.08	17.88	17.65	17.92
4380.0	22.41	22.68	22.22	17.28	17.29	17.63
4460.0	22.00	22.33	22.06	16.28	16.22	16.77
4560.0	21.99	22.49	22.23	15.35	14.99	15.52
4640.0	22.16	23.14	22.86	14.59	14.22	14.39
4740.0	22.77	24.01	24.09	13.65	13.12	13.09
4820.0	23.61	24.86	25.23	12.84	12.38	12.31
4920.0	24.96	25.79	26.47	11.82	11.38	11.41
5000.0	25.69	25.91	26.70	10.94	10.75	10.89
5100.0	24.45	23.95	25.05	10.27	10.31	10.80

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+1	+4	+7
1500.0	1530.0	21.47	23.25	23.82
1600.0	1630.0	22.55	23.29	23.53
1700.0	1730.0	23.63	23.51	23.13
1800.0	1830.0	24.74	23.80	22.95
1900.0	1930.0	25.13	24.13	23.75
2000.0	2030.0	24.96	24.59	24.48
2100.0	2130.0	26.20	25.91	26.50
2200.0	2230.0	31.93	30.97	31.71
2300.0	2330.0	34.47	34.70	34.29
2400.0	2430.0	24.60	25.28	25.58
2480.0	2510.0	20.94	21.52	21.92
2580.0	2610.0	18.74	19.29	19.65
2660.0	2690.0	18.00	18.51	18.83
2760.0	2790.0	17.81	18.30	18.62
2840.0	2870.0	17.71	18.13	18.36
2940.0	2970.0	17.72	17.92	18.04
3020.0	3050.0	17.85	17.89	17.77
3120.0	3150.0	17.81	17.63	17.43
3200.0	3230.0	17.48	17.11	16.75
3300.0	3330.0	16.98	16.45	16.03
3380.0	3410.0	17.44	16.86	16.50
3480.0	3510.0	16.54	15.89	15.50
3560.0	3590.0	15.78	15.21	14.76
3660.0	3690.0	14.88	14.33	13.94
3740.0	3770.0	14.18	13.77	13.40
3840.0	3870.0	13.31	12.93	12.66
3920.0	3950.0	12.76	12.42	12.25
4020.0	4050.0	12.00	11.82	11.73
4100.0	4130.0	11.53	11.40	11.38
4200.0	4230.0	10.88	10.57	10.41
4280.0	4310.0	10.35	9.96	9.70
4380.0	4410.0	10.08	9.81	9.67
4460.0	4490.0	10.18	10.03	9.92
4560.0	4590.0	10.55	10.51	10.55
4640.0	4670.0	10.97	11.14	11.10
4740.0	4770.0	12.13	12.42	12.23
4820.0	4850.0	13.54	13.64	12.91
4920.0	4950.0	15.97	15.29	13.19
5000.0	5030.0	16.94	15.12	12.23
5100.0	5130.0	13.99	12.58	10.38

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+1	+4	+7
1500.0	1530.0	11.53	9.79	8.68
1600.0	1630.0	8.99	7.56	6.44
1700.0	1730.0	7.02	5.97	5.04
1800.0	1830.0	5.61	4.87	4.16
1900.0	1930.0	4.46	3.92	3.50
2000.0	2030.0	3.54	3.22	3.02
2100.0	2130.0	2.94	2.78	2.69
2200.0	2230.0	2.53	2.49	2.51
2300.0	2330.0	2.19	2.24	2.34
2400.0	2430.0	2.02	2.18	2.35
2480.0	2510.0	1.86	2.04	2.21
2580.0	2610.0	1.63	1.77	1.90
2660.0	2690.0	1.32	1.44	1.55
2760.0	2790.0	1.08	1.27	1.41
2840.0	2870.0	1.15	1.30	1.46
2940.0	2970.0	1.39	1.44	1.54
3020.0	3050.0	1.55	1.59	1.66
3120.0	3150.0	1.73	1.75	1.80
3200.0	3230.0	1.82	1.85	1.91
3300.0	3330.0	1.64	1.62	1.65
3380.0	3410.0	2.04	1.90	1.81
3480.0	3510.0	2.33	2.22	2.15
3560.0	3590.0	2.36	2.27	2.21
3660.0	3690.0	2.39	2.29	2.22
3740.0	3770.0	2.40	2.30	2.23
3840.0	3870.0	2.35	2.24	2.18
3920.0	3950.0	2.28	2.17	2.11
4020.0	4050.0	2.19	2.07	2.00
4100.0	4130.0	2.14	1.99	1.91
4200.0	4230.0	2.08	1.93	1.84
4280.0	4310.0	2.04	1.91	1.86
4380.0	4410.0	2.08	1.95	1.91
4460.0	4490.0	2.11	1.98	1.97
4560.0	4590.0	2.33	2.17	2.16
4640.0	4670.0	2.54	2.35	2.33
4740.0	4770.0	2.99	2.71	2.66
4820.0	4850.0	3.55	3.11	2.99
4920.0	4950.0	4.38	3.72	3.44
5000.0	5030.0	4.92	4.09	3.69
5100.0	5130.0	5.61	4.48	4.00

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+1	+4	+7
1500.0	5.39	3.69	3.55
1600.0	3.38	2.73	2.98
1700.0	2.37	2.19	2.59
1800.0	1.80	1.84	2.29
1900.0	1.49	1.61	2.07
2000.0	1.34	1.41	1.85
2100.0	1.32	1.21	1.69
2200.0	1.42	1.11	1.58
2300.0	1.56	1.13	1.49
2400.0	1.68	1.18	1.42
2480.0	1.79	1.21	1.38
2580.0	1.85	1.22	1.33
2660.0	1.89	1.21	1.30
2760.0	1.88	1.19	1.27
2840.0	1.83	1.15	1.28
2940.0	1.78	1.10	1.35
3020.0	1.67	1.08	1.43
3120.0	1.54	1.14	1.57
3200.0	1.44	1.24	1.69
3300.0	1.34	1.32	1.84
3380.0	1.17	1.39	1.96
3480.0	1.06	1.54	2.17
3560.0	1.16	1.69	2.34
3660.0	1.36	1.89	2.57
3740.0	1.56	2.11	2.83
3840.0	1.84	2.36	3.08
3920.0	2.10	2.61	3.34
4020.0	2.50	2.92	3.62
4100.0	2.86	3.20	3.86
4200.0	3.35	3.56	4.15
4280.0	3.85	3.83	4.35
4380.0	4.72	4.35	4.67
4460.0	5.49	4.75	4.86
4560.0	6.42	5.33	5.13
4640.0	7.22	5.77	5.31
4740.0	8.08	6.30	5.58
4820.0	8.72	6.71	5.85
4920.0	8.99	6.83	5.87
5000.0	9.28	6.97	5.74
5100.0	8.90	7.08	5.66

IF (OUT) (MHz)	IF VSWR @LO=4000MHz (:1) @LO (dBm)		
	+1	+4	+7
10.0	1.25	1.06	1.08
30.2	1.26	1.07	1.09
50.4	1.26	1.07	1.10
70.6	1.29	1.11	1.10
90.8	1.30	1.12	1.12
111.0	1.33	1.15	1.13
131.2	1.35	1.18	1.15
151.4	1.37	1.19	1.15
171.6	1.41	1.24	1.19
191.8	1.45	1.26	1.20
212.0	1.50	1.31	1.24
232.2	1.51	1.33	1.25
252.4	1.58	1.37	1.28
272.7	1.63	1.42	1.32
292.9	1.69	1.48	1.37
313.1	1.73	1.51	1.40
333.3	1.77	1.55	1.42
353.5	1.86	1.62	1.48
373.7	1.94	1.69	1.54
393.9	2.02	1.77	1.61
434.3	2.12	1.86	1.69
454.5	2.25	1.97	1.79
494.9	2.44	2.15	1.95
515.1	2.45	2.17	1.97
555.5	2.73	2.42	2.19
575.7	2.87	2.56	2.32
616.1	3.07	2.73	2.47
636.3	3.11	2.78	2.54
676.7	3.37	3.04	2.78
696.9	3.42	3.07	2.81
737.3	3.74	3.38	3.10
757.6	3.79	3.45	3.19
798.0	3.85	3.52	3.26
818.2	4.09	3.74	3.46
858.6	4.37	4.01	3.73
878.8	4.23	3.91	3.67
919.2	4.38	4.08	3.84
939.4	4.73	4.39	4.09
979.8	4.83	4.48	4.22
1000.0	4.68	4.40	4.17

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+9	11	11	40	28	61	29	---	---	---
1	-	12	+0	29	18	40	44	37	55	53	---	---
2	>90	50	50	45	53	65	52	57	56	59	54	---
3	>90	66	63	>69	64	64	>69	>69	>69	>69	>69	>69
4	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
5	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
6	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
7	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
8	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
9	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69	>69
10	---	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 3000 MHz; -15.00 dBm.
LO IN: 3030 MHz; +4.00 dBm
IF OUT: 30 MHz; -21.16 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+0	22	22	57	42	52	45	---	---	---
1	-	12	+0	33	19	46	45	43	65	59	---	---
2	75	40	41	39	45	74	46	55	53	61	54	---
3	>90	47	43	50	44	46	47	56	68	59	66	73
4	>90	69	69	70	61	55	65	66	63	64	65	65
5	>90	75	76	75	>79	78	60	65	>79	71	77	70
6	90	>79	>79	>79	>79	>79	>79	72	>79	77	>79	75
7	>90	>79	>79	>79	>79	>79	>79	>79	76	>79	>79	>79
8	---	---	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
9	---	---	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
10	---	---	---	>79	>79	>79	>79	>79	>79	>79	>79	>79
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 3000 MHz; -5.00 dBm.
LO IN: 3030 MHz; +4.00 dBm
IF OUT: 30 MHz; -11.25 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.