

# Frequency Mixer

# ZEM-4300MH+

## 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=+9dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+10	+13	+16			+10	+13	+16			+10	+13	+16
170.0	200.0	18.83	10.40	7.68	170.0	200.0	2.33	11.19	19.52	170.0	200.0	-6.12	-0.61	0.42
270.0	300.0	9.03	6.55	5.93	270.0	300.0	10.35	15.04	20.98	270.0	300.0	1.26	1.59	1.35
370.0	400.0	6.71	5.74	5.32	370.0	400.0	12.82	17.92	23.61	370.0	400.0	2.62	2.17	1.96
470.0	500.0	6.37	5.57	5.17	470.0	500.0	14.67	19.73	20.70	470.0	500.0	2.65	2.41	2.25
570.0	600.0	6.00	5.35	5.04	570.0	600.0	18.64	20.33	19.08	570.0	600.0	2.87	2.57	2.38
670.0	700.0	6.08	5.39	5.09	670.0	700.0	18.59	20.96	20.03	670.0	700.0	2.84	2.65	2.45
770.0	800.0	6.45	5.69	5.25	770.0	800.0	15.64	19.72	26.22	770.0	800.0	2.64	2.55	2.42
870.0	900.0	6.90	6.10	5.63	870.0	900.0	15.15	16.60	17.40	870.0	900.0	2.55	2.52	2.41
970.0	1000.0	6.88	6.19	5.75	970.0	1000.0	14.66	15.54	16.59	970.0	1000.0	2.51	2.42	2.33
1070.0	1100.0	6.61	6.07	5.73	1070.0	1100.0	14.35	15.26	15.94	1070.0	1100.0	2.59	2.35	2.22
1190.0	1220.0	6.32	5.92	5.68	1190.0	1220.0	14.76	15.27	16.25	1190.0	1220.0	2.46	2.21	2.02
1290.0	1320.0	6.21	5.85	5.63	1290.0	1320.0	16.14	15.70	16.39	1290.0	1320.0	2.19	1.94	1.78
1410.0	1440.0	6.04	5.70	5.53	1410.0	1440.0	17.62	18.03	17.55	1410.0	1440.0	1.84	1.47	1.29
1510.0	1540.0	5.94	5.55	5.38	1510.0	1540.0	20.36	21.55	22.34	1510.0	1540.0	1.64	1.09	0.87
1630.0	1660.0	7.10	6.37	6.00	1630.0	1660.0	23.45	24.74	25.02	1630.0	1660.0	1.82	1.66	1.51
1730.0	1760.0	7.39	6.53	6.12	1730.0	1760.0	16.05	16.98	17.91	1730.0	1760.0	1.70	1.70	1.60
1850.0	1880.0	7.18	6.33	5.89	1850.0	1880.0	14.99	15.53	16.83	1850.0	1880.0	1.60	1.60	1.54
1950.0	1980.0	7.10	6.32	5.83	1950.0	1980.0	15.67	15.62	16.58	1950.0	1980.0	1.69	1.56	1.51
2070.0	2100.0	6.84	6.25	5.88	2070.0	2100.0	15.78	16.31	16.57	2070.0	2100.0	1.82	1.55	1.41
2170.0	2200.0	6.70	6.16	5.88	2170.0	2200.0	15.91	16.60	16.65	2170.0	2200.0	1.77	1.48	1.31
2290.0	2320.0	6.90	6.25	5.98	2290.0	2320.0	15.78	16.87	17.09	2290.0	2320.0	1.58	1.28	1.13
2390.0	2420.0	6.92	6.23	5.94	2390.0	2420.0	15.64	16.58	17.54	2390.0	2420.0	1.56	1.22	1.06
2510.0	2540.0	6.95	6.23	5.92	2510.0	2540.0	15.81	16.22	17.71	2510.0	2540.0	1.39	1.10	0.97
2610.0	2640.0	6.95	6.28	5.94	2610.0	2640.0	16.28	16.58	17.30	2610.0	2640.0	1.52	1.11	0.99
2730.0	2760.0	6.77	6.23	5.90	2730.0	2760.0	16.27	17.28	17.16	2730.0	2760.0	1.62	1.15	1.01
2830.0	2860.0	6.73	6.26	5.94	2830.0	2860.0	16.37	17.53	17.20	2830.0	2860.0	1.65	1.13	0.96
2950.0	2980.0	6.72	6.28	6.01	2950.0	2980.0	15.71	17.74	17.56	2950.0	2980.0	1.72	1.08	0.89
3050.0	3080.0	6.75	6.25	6.02	3050.0	3080.0	15.28	18.36	18.66	3050.0	3080.0	1.84	1.08	0.89
3170.0	3200.0	7.04	6.40	6.13	3170.0	3200.0	14.56	18.77	20.73	3170.0	3200.0	1.79	0.94	0.80
3270.0	3300.0	7.15	6.43	6.18	3270.0	3300.0	14.22	18.77	21.41	3270.0	3300.0	1.87	0.85	0.69
3390.0	3420.0	7.33	6.51	6.23	3390.0	3420.0	14.90	17.54	21.61	3390.0	3420.0	1.92	0.83	0.58
3490.0	3520.0	7.70	6.67	6.33	3490.0	3520.0	15.01	16.65	20.67	3490.0	3520.0	1.86	0.88	0.49
3610.0	3640.0	8.18	6.67	6.29	3610.0	3640.0	15.16	17.73	19.31	3610.0	3640.0	1.88	1.21	0.63
3710.0	3740.0	9.21	6.79	6.36	3710.0	3740.0	19.46	18.94	19.11	3710.0	3740.0	1.20	1.16	0.65
3830.0	3860.0	11.30	7.08	6.50	3830.0	3860.0	9.25	19.61	18.74	3830.0	3860.0	-0.19	1.25	0.69
3930.0	3960.0	12.75	7.23	6.59	3930.0	3960.0	6.59	18.78	18.23	3930.0	3960.0	-1.55	1.18	0.64
4050.0	4080.0	13.46	7.51	6.79	4050.0	4080.0	5.78	19.16	18.34	4050.0	4080.0	-2.35	1.00	0.50
4150.0	4180.0	14.27	7.56	6.87	4150.0	4180.0	4.82	18.08	18.56	4150.0	4180.0	-2.85	1.07	0.55
4270.0	4300.0	14.38	7.63	6.96	4270.0	4300.0	4.67	17.52	18.44	4270.0	4300.0	-2.99	1.01	0.49
4370.0	4400.0	14.27	7.86	7.07	4370.0	4400.0	4.95	17.01	18.81	4370.0	4400.0	-3.00	0.93	0.41

# Frequency Mixer

# ZEM-4300MH+

## Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2160.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=289.9MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=4310.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+13			+13			+13
1770.1	390.0	10.35	10.1	300.0	6.75	1750.1	2560.0	10.60
1730.1	430.0	9.68	50.1	340.0	6.14	1710.1	2600.0	10.07
1690.1	470.0	9.15	90.1	380.0	6.04	1670.1	2640.0	9.68
1650.1	510.0	8.61	130.1	420.0	5.92	1630.1	2680.0	9.40
1610.1	550.0	8.18	170.1	460.0	5.91	1590.1	2720.0	9.13
1570.1	590.0	7.88	210.1	500.0	5.86	1550.1	2760.0	8.91
1530.1	630.0	7.65	250.1	540.0	5.86	1510.1	2800.0	8.72
1490.1	670.0	7.40	290.1	580.0	5.82	1470.1	2840.0	8.55
1450.1	710.0	7.22	330.1	620.0	5.78	1430.1	2880.0	8.44
1410.1	750.0	7.03	370.1	660.0	5.67	1390.1	2920.0	8.30
1370.1	790.0	6.88	410.1	700.0	5.54	1350.1	2960.0	8.23
1330.1	830.0	6.78	450.1	740.0	5.54	1310.1	3000.0	8.11
1290.1	870.0	6.67	490.1	780.0	5.49	1270.1	3040.0	8.00
1250.1	910.0	6.63	530.1	820.0	5.51	1230.1	3080.0	7.93
1210.1	950.0	6.58	570.1	860.0	5.51	1190.1	3120.0	7.86
1170.1	990.0	6.53	610.1	900.0	5.51	1150.1	3160.0	7.79
1130.1	1030.0	6.48	650.1	940.0	5.57	1110.1	3200.0	7.74
1090.1	1070.0	6.33	710.1	1000.0	5.80	1070.1	3240.0	7.68
1050.1	1110.0	6.39	750.1	1040.0	5.99	1030.1	3280.0	7.68
1010.1	1150.0	6.57	810.1	1100.0	6.06	990.1	3320.0	7.59
970.1	1190.0	6.74	850.1	1140.0	6.12	950.1	3360.0	7.56
910.1	1250.0	6.85	910.1	1200.0	6.02	910.1	3400.0	7.51
870.1	1290.0	6.86	950.1	1240.0	6.11	870.1	3440.0	7.46
810.1	1350.0	6.72	1010.1	1300.0	6.29	810.1	3500.0	7.42
770.1	1390.0	6.68	1050.1	1340.0	6.42	770.1	3540.0	7.43
710.1	1450.0	6.57	1110.1	1400.0	6.59	710.1	3600.0	7.44
670.1	1490.0	6.57	1150.1	1440.0	6.72	670.1	3640.0	7.47
610.1	1550.0	6.50	1210.1	1500.0	6.83	610.1	3700.0	7.50
570.1	1590.0	6.49	1250.1	1540.0	6.92	570.1	3740.0	7.52
510.1	1650.0	6.46	1310.1	1600.0	6.99	510.1	3800.0	7.49
470.1	1690.0	6.45	1350.1	1640.0	7.08	470.1	3840.0	7.53
410.1	1750.0	6.43	1410.1	1700.0	7.10	410.1	3900.0	7.51
370.1	1790.0	6.29	1450.1	1740.0	7.19	370.1	3940.0	7.59
310.1	1850.0	6.16	1510.1	1800.0	7.39	310.1	4000.0	7.59
270.1	1890.0	6.13	1550.1	1840.0	7.56	270.1	4040.0	7.60
210.1	1950.0	6.13	1610.1	1900.0	7.90	210.1	4100.0	7.61
170.1	1990.0	6.12	1650.1	1940.0	8.13	170.1	4140.0	7.70
110.1	2050.0	6.14	1710.1	2000.0	8.70	110.1	4200.0	7.66
70.1	2090.0	6.15	1750.1	2040.0	9.19	70.1	4240.0	7.73
10.1	2150.0	6.82	1810.1	2100.0	10.09	10.1	4300.0	8.24

# Frequency Mixer

# ZEM-4300MH+

## Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)					@LO (dBm)		
	+10	+13	+16	+10	+13	+16			+10	+13	+16
200.0	23.72	24.44	26.72	33.07	27.43	25.46	170.0	200.0	30.62	35.51	37.42
300.0	23.66	26.46	29.33	24.64	23.31	25.03	270.0	300.0	33.85	36.74	41.74
400.0	25.75	28.76	31.53	21.85	23.60	25.99	370.0	400.0	36.55	39.57	40.18
500.0	28.03	30.87	33.39	22.33	24.98	27.48	470.0	500.0	39.58	39.92	40.09
600.0	30.48	33.30	35.65	24.13	27.36	29.80	570.0	600.0	40.96	40.46	40.08
700.0	32.70	35.22	37.14	26.71	30.85	33.32	670.0	700.0	40.89	40.50	39.91
800.0	35.12	37.05	38.41	31.69	37.00	37.95	770.0	800.0	38.44	38.46	38.84
900.0	37.83	39.14	39.75	45.54	41.22	36.52	870.0	900.0	37.58	37.67	37.69
1000.0	41.95	41.99	41.71	36.66	33.04	31.56	970.0	1000.0	39.32	39.32	39.52
1100.0	45.79	44.47	43.42	29.94	28.56	27.91	1070.0	1100.0	46.66	45.53	44.00
1220.0	44.32	43.81	43.34	24.42	24.19	24.09	1190.0	1220.0	57.33	58.29	65.14
1320.0	41.32	42.02	42.22	21.84	21.82	21.79	1290.0	1320.0	46.94	47.81	48.76
1440.0	38.81	39.51	40.11	19.71	19.55	19.46	1410.0	1440.0	40.89	40.47	41.39
1540.0	37.18	38.22	38.87	18.07	18.04	18.00	1510.0	1540.0	37.86	37.77	38.03
1660.0	35.43	37.00	38.34	16.66	16.74	16.76	1630.0	1660.0	37.47	38.07	38.13
1760.0	34.29	35.67	37.00	15.90	16.14	16.32	1730.0	1760.0	37.60	38.24	38.79
1880.0	33.09	34.90	36.50	15.21	15.58	16.02	1850.0	1880.0	36.82	37.17	38.15
1980.0	32.36	33.88	35.42	15.17	15.70	16.05	1950.0	1980.0	36.34	36.88	37.83
2100.0	31.71	33.28	34.30	15.51	16.20	16.65	2070.0	2100.0	36.59	37.15	37.99
2200.0	31.27	32.91	34.16	15.97	16.67	17.40	2170.0	2200.0	36.92	37.86	38.46
2320.0	30.69	32.29	33.58	16.70	17.48	18.22	2290.0	2320.0	37.55	38.60	39.30
2420.0	30.30	31.88	32.92	17.42	18.33	19.07	2390.0	2420.0	38.06	38.94	39.39
2540.0	30.09	31.64	32.74	18.41	19.29	20.20	2510.0	2540.0	38.70	39.64	40.51
2640.0	30.12	31.58	32.59	19.46	20.25	21.08	2610.0	2640.0	39.16	40.17	40.99
2760.0	30.30	31.65	32.53	20.89	21.49	22.06	2730.0	2760.0	39.64	40.56	41.23
2860.0	30.11	31.34	32.29	22.14	22.53	22.59	2830.0	2860.0	39.95	41.15	42.05
2980.0	29.80	30.58	31.02	23.74	23.72	23.46	2950.0	2980.0	39.89	41.83	43.59
3080.0	30.91	31.84	32.06	25.62	24.84	24.21	3050.0	3080.0	40.64	43.94	46.64
3200.0	32.30	34.01	34.45	27.48	25.23	23.80	3170.0	3200.0	42.24	45.21	45.79
3300.0	33.19	35.45	35.64	27.29	24.55	22.73	3270.0	3300.0	40.31	40.55	39.92
3420.0	34.20	36.87	36.90	25.15	23.49	21.91	3390.0	3420.0	37.18	37.42	37.84
3520.0	34.57	37.95	37.74	23.91	22.61	21.24	3490.0	3520.0	35.24	35.60	36.26
3640.0	34.90	39.65	39.57	22.40	21.81	20.67	3610.0	3640.0	33.95	34.32	35.05
3740.0	35.02	40.75	41.25	21.31	20.83	20.17	3710.0	3740.0	33.15	33.66	34.04
3860.0	34.88	40.71	43.74	20.14	20.00	19.59	3830.0	3860.0	32.19	32.96	33.36
3960.0	34.66	40.54	46.83	19.23	19.24	18.98	3930.0	3960.0	31.58	32.54	32.91
4080.0	34.18	40.55	55.37	18.28	18.30	18.18	4050.0	4080.0	31.12	32.07	32.33
4180.0	33.56	39.78	57.63	17.40	17.57	17.57	4150.0	4180.0	30.96	31.81	32.10
4300.0	32.93	38.62	46.74	16.55	16.74	16.87	4270.0	4300.0	30.89	31.68	31.89
4400.0	32.30	37.29	43.07	15.66	16.07	16.08	4370.0	4400.0	30.86	31.27	31.68

# Frequency Mixer

# ZEM-4300MH+

## Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=4300MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+10	+13	+16		+10	+13	+16		+10	+13	+16
170.0	200.0	13.09	6.44	4.52	200.0	9.08	8.08	6.42	10.0	4.72	1.74	1.30
270.0	300.0	3.76	2.63	2.40	300.0	4.44	3.67	3.77	70.0	4.00	1.58	1.25
370.0	400.0	2.26	1.92	1.79	400.0	2.56	2.55	3.13	130.0	3.91	1.56	1.24
470.0	500.0	1.98	1.73	1.59	500.0	1.78	2.17	2.83	190.0	3.82	1.54	1.23
570.0	600.0	1.98	1.75	1.62	600.0	1.47	2.01	2.64	250.0	3.70	1.49	1.20
670.0	700.0	2.15	1.90	1.75	700.0	1.39	1.92	2.47	310.0	3.55	1.44	1.17
770.0	800.0	2.51	2.24	2.05	800.0	1.40	1.85	2.32	370.0	3.33	1.41	1.15
870.0	900.0	3.14	2.83	2.62	900.0	1.46	1.80	2.19	430.0	3.14	1.33	1.12
970.0	1000.0	3.56	3.24	3.01	1000.0	1.54	1.77	2.08	490.0	2.95	1.26	1.10
1070.0	1100.0	3.67	3.42	3.21	1100.0	1.62	1.75	2.00	550.0	2.80	1.21	1.11
1190.0	1220.0	3.47	3.27	3.13	1220.0	1.72	1.75	1.93	610.0	2.55	1.13	1.14
1290.0	1320.0	3.29	3.10	2.96	1320.0	1.77	1.74	1.87	670.0	2.39	1.07	1.19
1410.0	1440.0	2.97	2.77	2.63	1440.0	1.80	1.71	1.82	730.0	2.19	1.06	1.28
1510.0	1540.0	2.64	2.39	2.24	1540.0	1.82	1.69	1.78	790.0	2.04	1.09	1.35
1630.0	1660.0	3.21	2.84	2.62	1660.0	1.89	1.69	1.75	850.0	1.91	1.17	1.43
1730.0	1760.0	3.78	3.33	3.08	1760.0	1.95	1.71	1.73	910.0	1.78	1.26	1.55
1850.0	1880.0	3.81	3.35	3.06	1880.0	2.00	1.73	1.74	970.0	1.72	1.32	1.61
1950.0	1980.0	3.69	3.29	2.98	1980.0	2.00	1.73	1.73	1030.0	1.65	1.40	1.70
2070.0	2100.0	3.45	3.15	2.90	2100.0	1.97	1.68	1.68	1090.0	1.61	1.52	1.84
2170.0	2200.0	3.31	3.02	2.81	2200.0	1.95	1.63	1.62	1150.0	1.64	1.56	1.88
2290.0	2320.0	3.16	2.84	2.66	2320.0	1.93	1.58	1.53	1210.0	1.62	1.64	1.96
2390.0	2420.0	3.14	2.81	2.63	2420.0	1.89	1.53	1.47	1270.0	1.68	1.74	2.07
2510.0	2540.0	3.11	2.80	2.60	2540.0	1.80	1.45	1.41	1330.0	1.72	1.75	2.06
2610.0	2640.0	3.08	2.80	2.61	2640.0	1.70	1.38	1.37	1390.0	1.78	1.83	2.15
2730.0	2760.0	3.09	2.87	2.69	2760.0	1.56	1.30	1.36	1450.0	1.87	1.84	2.13
2830.0	2860.0	3.05	2.87	2.70	2860.0	1.46	1.26	1.38	1510.0	1.88	1.83	2.10
2950.0	2980.0	2.98	2.78	2.65	2980.0	1.40	1.28	1.45	1570.0	1.91	1.83	2.06
3050.0	3080.0	3.00	2.78	2.65	3080.0	1.43	1.36	1.55	1630.0	1.89	1.77	1.97
3170.0	3200.0	3.01	2.74	2.61	3200.0	1.56	1.50	1.70	1690.0	1.79	1.70	1.88
3270.0	3300.0	3.03	2.73	2.61	3300.0	1.77	1.67	1.82	1750.0	1.66	1.63	1.78
3390.0	3420.0	3.13	2.78	2.65	3420.0	2.08	1.94	2.03	1810.0	1.55	1.61	1.73
3490.0	3520.0	3.24	2.80	2.63	3520.0	2.34	2.14	2.17	1870.0	1.46	1.61	1.71
3610.0	3640.0	3.50	2.88	2.65	3640.0	2.64	2.34	2.29	1950.0	1.55	1.73	1.80
3710.0	3740.0	3.76	2.89	2.63	3740.0	2.86	2.48	2.37	2010.0	1.74	1.90	1.95
3830.0	3860.0	4.14	2.88	2.59	3860.0	3.06	2.60	2.39	2090.0	2.05	2.16	2.19
3930.0	3960.0	4.40	2.87	2.56	3960.0	3.14	2.66	2.38	2150.0	2.28	2.39	2.36
4050.0	4080.0	4.22	2.75	2.48	4080.0	3.10	2.64	2.32	2230.0	2.61	2.66	2.66
4150.0	4180.0	4.23	2.72	2.50	4180.0	2.99	2.54	2.19	2290.0	2.88	2.89	2.89
4270.0	4300.0	4.02	2.69	2.51	4300.0	2.73	2.34	2.00	2370.0	3.15	3.15	3.14
4370.0	4400.0	4.04	2.79	2.61	4400.0	2.47	2.13	1.80	2430.0	3.31	3.30	3.29

## Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+8	36	12	43	29	50	36	62	53	58
1	-	32	+0	46	30	41	44	65	42	58	62	64
2	72	>78	54	49	55	74	51	67	54	>78	55	77
3	>90	70	67	>78	58	>78	75	76	72	>78	69	>78
4	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
5	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
6	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
7	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
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: 2300 MHz; -6.00 dBm.  
 LO IN: 2330 MHz; +13.00 dBm  
 IF OUT: 30 MHz; -12.44 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	2	47	23	58	50	72	47	87	71	78
1	-	33	+0	49	30	46	51	72	53	69	76	83
2	52	70	44	42	47	69	46	67	56	78	61	>88
3	85	49	47	64	38	65	58	59	57	81	59	79
4	>90	79	65	81	64	63	63	>88	61	74	64	81
5	>90	>88	69	76	70	77	50	84	66	73	66	>88
6	>90	>88	86	>88	76	>88	75	73	77	>88	72	82
7	>90	>88	>88	>88	81	>88	83	83	61	>88	78	83
8	>90	>88	>88	>88	>88	>88	>88	>88	84	80	>88	>88
9	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	72	>88
10	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

### LO HARMONICS ORDER

Test conditions: RF IN: 2300 MHz; 4.00 dBm.  
 LO IN: 2330 MHz; +13.00 dBm  
 IF OUT: 30 MHz; -2.45 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.