

Frequency Mixer

LAVI-711H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	8.43	7.58	7.07
40.1	70.1	8.04	7.47	7.10
70.1	100.1	7.65	7.31	7.08
100.1	130.1	7.88	7.56	7.34
130.1	160.1	7.86	7.54	7.32
160.1	190.1	7.79	7.52	7.34
190.1	220.1	7.90	7.63	7.43
220.1	250.1	7.85	7.58	7.38
250.1	280.1	7.77	7.53	7.36
280.1	310.1	7.84	7.60	7.44
310.1	340.1	7.76	7.53	7.38
340.1	370.1	7.69	7.47	7.32
370.1	400.1	7.72	7.52	7.38
400.1	430.1	7.64	7.43	7.29
430.1	460.1	7.51	7.31	7.19
460.1	490.1	7.62	7.44	7.32
490.1	520.1	7.59	7.42	7.31
520.1	550.1	7.58	7.42	7.33
550.1	580.1	7.69	7.55	7.49
580.1	610.1	7.72	7.55	7.44
610.1	640.1	7.69	7.50	7.38
640.1	670.1	7.74	7.55	7.43
670.1	700.1	7.82	7.59	7.45
700.1	730.1	7.87	7.61	7.43
730.1	760.1	7.97	7.69	7.50
760.1	790.1	8.14	7.82	7.60
780.1	810.1	8.23	7.88	7.63
810.1	840.1	8.37	7.98	7.71
830.1	860.1	8.52	8.09	7.79
860.1	890.1	8.81	8.30	7.95
880.1	910.1	8.95	8.40	8.03
910.1	940.1	9.28	8.65	8.23
930.1	960.1	9.58	8.87	8.40
960.1	990.1	9.99	9.22	8.66
980.1	1010.1	10.27	9.47	8.90
1010.1	1040.1	10.67	9.82	9.21
1030.1	1060.1	10.99	10.11	9.49
1060.1	1090.1	11.53	10.60	9.98
1080.1	1110.1	11.98	11.00	10.38
1110.1	1140.1	12.66	11.66	11.03

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	16.40	18.95	22.11
40.1	70.1	18.91	22.02	25.16
70.1	100.1	21.95	25.53	28.97
100.1	130.1	22.86	26.15	28.47
130.1	160.1	23.85	26.44	28.63
160.1	190.1	24.42	26.83	29.41
190.1	220.1	24.26	26.77	29.35
220.1	250.1	24.55	27.24	29.81
250.1	280.1	25.08	27.76	30.21
280.1	310.1	25.06	27.87	30.25
310.1	340.1	25.80	28.62	30.97
340.1	370.1	26.46	29.24	31.59
370.1	400.1	26.51	29.11	31.06
400.1	430.1	27.18	30.04	32.15
430.1	460.1	27.50	30.53	32.71
460.1	490.1	27.74	30.64	32.57
490.1	520.1	28.23	31.00	33.03
520.1	550.1	27.95	31.47	34.14
550.1	580.1	27.14	30.82	33.85
580.1	610.1	26.34	30.11	33.85
610.1	640.1	25.88	29.64	33.76
640.1	670.1	25.66	29.27	33.46
670.1	700.1	25.16	28.60	32.63
700.1	730.1	24.34	27.31	30.76
730.1	760.1	23.52	26.28	29.37
760.1	790.1	22.50	25.13	27.98
780.1	810.1	21.87	24.47	27.26
810.1	840.1	20.98	23.60	26.34
830.1	860.1	20.32	22.90	25.60
860.1	890.1	19.34	21.75	24.38
880.1	910.1	18.80	21.06	23.72
910.1	940.1	17.96	20.02	22.48
930.1	960.1	17.36	19.36	21.68
960.1	990.1	16.66	18.44	20.60
980.1	1010.1	16.28	17.93	19.96
1010.1	1040.1	15.75	17.18	19.04
1030.1	1060.1	15.44	16.70	18.42
1060.1	1090.1	15.18	16.28	17.85
1080.1	1110.1	15.08	16.13	17.68
1110.1	1140.1	14.94	15.93	17.40

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+20dBm (dB)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	8.38	6.67	4.74
40.1	70.1	6.36	4.29	2.52
70.1	100.1	4.46	2.59	1.15
100.1	130.1	3.80	2.08	0.93
130.1	160.1	3.10	1.59	0.73
160.1	190.1	2.49	1.22	0.58
190.1	220.1	2.45	1.21	0.60
220.1	250.1	2.09	1.03	0.52
250.1	280.1	1.85	0.92	0.48
280.1	310.1	1.87	0.94	0.50
310.1	340.1	1.63	0.82	0.43
340.1	370.1	1.46	0.75	0.39
370.1	400.1	1.41	0.72	0.38
400.1	430.1	1.24	0.64	0.33
430.1	460.1	1.17	0.61	0.31
460.1	490.1	1.13	0.59	0.30
490.1	520.1	1.03	0.54	0.27
520.1	550.1	1.07	0.55	0.27
550.1	580.1	1.14	0.61	0.32
580.1	610.1	1.28	0.68	0.34
610.1	640.1	1.44	0.74	0.36
640.1	670.1	1.54	0.77	0.38
670.1	700.1	1.81	0.90	0.44
700.1	730.1	2.23	1.13	0.56
730.1	760.1	2.67	1.39	0.69
760.1	790.1	3.25	1.81	0.89
780.1	810.1	3.64	2.10	1.03
810.1	840.1	4.23	2.58	1.35
830.1	860.1	4.61	2.94	1.64
860.1	890.1	5.25	3.53	2.15
880.1	910.1	5.59	3.87	2.46
910.1	940.1	6.03	4.34	2.94
930.1	960.1	6.35	4.68	3.28
960.1	990.1	6.80	5.15	3.79
980.1	1010.1	7.03	5.39	4.04
1010.1	1040.1	7.43	5.77	4.41
1030.1	1060.1	7.64	5.98	4.59
1060.1	1090.1	7.92	6.20	4.75
1080.1	1110.1	8.02	6.28	4.79
1110.1	1140.1	8.12	6.37	4.75

Frequency Mixer

LAVI-711H+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=465MHz (dB)
		@LO (dBm)
		+17
454.9	10.1	12.17
430.2	34.8	8.66
405.5	59.5	8.35
380.8	84.3	8.10
356.0	109.0	7.98
331.3	133.7	7.99
306.6	158.4	7.89
281.9	183.1	7.77
257.2	207.8	7.75
232.5	232.6	7.57
207.7	257.3	7.51
183.0	282.0	7.54
158.3	306.7	7.50
133.6	331.4	7.48
108.9	356.1	7.42
84.2	380.9	7.46
59.4	405.6	7.47
34.7	430.3	7.37
10.0	455.0	7.61
33.1	498.1	7.47
67.7	532.7	7.43
102.4	567.4	7.49
137.0	602.0	7.65
171.7	636.7	7.51
206.3	671.3	7.42
240.9	705.9	7.56
264.0	729.0	7.61
298.7	763.7	7.75
321.8	786.8	7.87
356.4	821.4	8.06
379.5	844.5	8.17
414.2	879.2	8.43
437.2	902.2	8.66
471.9	936.9	9.03
495.0	960.0	9.30
529.6	994.6	9.74
552.7	1017.7	10.03
587.4	1052.4	10.63
610.5	1075.5	11.09
645.1	1110.1	11.94

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=220.1MHz (dB)
		@LO (dBm)
		+17
10.0	230.1	7.83
30.0	250.1	7.58
50.0	270.1	7.46
70.0	290.1	7.29
90.0	310.1	7.36
110.0	330.1	7.49
130.0	350.1	7.44
150.0	370.1	7.40
170.0	390.1	7.35
190.0	410.1	7.42
210.0	430.1	7.33
230.0	450.1	7.49
250.0	470.1	7.47
270.0	490.1	7.47
290.0	510.1	7.51
310.0	530.1	7.45
330.0	550.1	7.50
350.0	570.1	7.56
370.0	590.1	7.69
390.0	610.1	7.67
410.0	630.1	7.66
440.0	660.1	7.66
460.0	680.1	7.77
490.0	710.1	7.87
510.0	730.1	7.97
540.0	760.1	8.04
560.0	780.1	8.15
590.0	810.1	8.32
610.0	830.1	8.42
640.0	860.1	8.63
660.0	880.1	8.82
690.0	910.1	9.11
710.0	930.1	9.27
740.0	960.1	9.62
760.0	980.1	9.91
790.0	1010.1	10.37
810.0	1030.1	10.71
840.0	1060.1	11.38
860.0	1080.1	11.91
890.0	1110.1	12.73

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=710.1MHz (dB)
		@LO (dBm)
		+17
700.0	10.1	12.40
680.0	30.1	8.96
660.0	50.1	8.68
640.0	70.1	8.47
620.0	90.1	8.25
600.0	110.1	8.19
580.0	130.1	8.19
560.0	150.1	8.14
540.0	170.1	8.05
520.0	190.1	8.00
500.0	210.1	8.01
480.0	230.1	7.98
460.0	250.1	7.91
440.0	270.1	7.88
420.0	290.1	7.84
400.0	310.1	7.81
380.0	330.1	7.73
360.0	350.1	7.63
340.0	370.1	7.54
320.0	390.1	7.56
300.0	410.1	7.49
280.0	430.1	7.43
260.0	450.1	7.40
250.0	460.1	7.43
230.0	480.1	7.30
220.0	490.1	7.33
200.0	510.1	7.44
190.0	520.1	7.46
170.0	540.1	7.39
160.0	550.1	7.30
140.0	570.1	7.42
130.0	580.1	7.40
110.0	600.1	7.39
100.0	610.1	7.47
80.0	630.1	7.46
70.0	640.1	7.49
50.0	660.1	7.52
40.0	670.1	7.48
20.0	690.1	7.52
10.0	700.1	7.71

Frequency Mixer

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+14	+17	+20	+14	+17	+20
40.1	77.53	74.01	72.65	51.98	50.95	50.17
70.1	67.02	65.21	63.95	46.36	45.58	44.98
100.1	63.46	62.14	60.85	44.15	43.57	43.13
130.1	64.48	62.36	60.71	43.74	43.20	42.85
160.1	62.68	60.73	59.21	43.79	43.35	43.04
190.1	62.47	60.22	58.37	43.97	43.64	43.42
220.1	62.06	59.84	57.68	44.24	43.85	43.61
250.1	62.51	59.78	57.26	44.21	43.88	43.63
280.1	65.21	61.74	58.61	43.60	43.26	43.03
310.1	68.60	64.04	60.17	42.80	42.32	42.05
340.1	68.16	63.88	59.78	41.87	41.43	41.16
370.1	83.29	66.33	60.65	40.55	40.14	39.87
400.1	65.21	66.54	62.67	39.09	38.71	38.46
430.1	58.75	59.66	59.16	37.56	37.16	36.96
460.1	56.88	57.97	58.57	36.18	35.82	35.58
490.1	55.74	56.56	56.92	35.49	35.19	34.98
520.1	53.70	53.95	53.92	34.89	34.60	34.42
550.1	50.24	50.18	50.10	33.70	33.36	33.12
580.1	47.91	47.76	47.59	32.19	31.86	31.55
610.1	45.83	45.56	45.24	31.71	31.51	31.30
640.1	43.86	43.50	43.22	32.29	32.11	31.98
670.1	43.15	42.83	42.62	33.05	32.86	32.68
700.1	43.27	42.93	42.70	33.88	33.63	33.43
730.1	43.58	43.19	42.96	34.61	34.27	33.97
760.1	43.84	43.45	43.20	35.27	34.85	34.47
790.1	43.98	43.56	43.30	36.14	35.65	35.20
810.1	44.21	43.78	43.46	36.75	36.20	35.70
840.1	44.96	44.58	44.35	38.09	37.44	36.96
860.1	45.57	45.25	45.04	39.06	38.33	37.75
890.1	46.47	46.24	46.14	40.83	39.98	39.34
910.1	47.75	47.55	47.50	42.46	41.54	40.94
940.1	50.65	50.51	50.27	45.49	44.33	43.66
960.1	53.25	52.63	51.56	48.40	46.98	46.27
990.1	61.38	56.15	52.18	55.14	54.67	54.65
1010.1	71.93	57.04	51.75	53.59	55.12	56.58
1040.1	60.64	64.52	56.65	48.16	48.86	49.32
1060.1	55.42	60.89	64.50	46.12	46.49	46.67
1090.1	53.35	57.07	61.82	44.42	44.58	44.71
1110.1	53.43	57.96	67.21	43.82	43.86	43.97
1140.1	56.22	67.27	60.33	42.91	42.82	42.81

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	40.39	37.75	36.48
40.1	70.1	40.42	37.77	36.52
70.1	100.1	37.96	36.64	35.85
100.1	130.1	39.61	39.06	38.83
130.1	160.1	42.13	42.43	42.64
160.1	190.1	46.08	46.85	46.83
190.1	220.1	48.36	49.24	49.88
220.1	250.1	52.21	53.28	53.04
250.1	280.1	49.00	47.54	43.82
280.1	310.1	61.56	67.00	61.42
310.1	340.1	50.64	50.18	47.78
340.1	370.1	48.73	47.71	45.81
370.1	400.1	48.53	47.09	45.12
400.1	430.1	47.55	45.72	43.44
430.1	460.1	49.23	48.20	46.24
460.1	490.1	49.18	48.25	46.79
490.1	520.1	48.15	47.22	46.01
520.1	550.1	48.22	47.60	46.59
550.1	580.1	48.93	48.67	48.21
580.1	610.1	48.97	48.77	48.51
610.1	640.1	47.05	46.25	45.58
640.1	670.1	44.29	43.36	42.54
670.1	700.1	43.15	42.06	41.13
700.1	730.1	43.12	41.77	40.70
730.1	760.1	44.10	42.85	41.79
760.1	790.1	45.03	44.02	43.05
780.1	810.1	45.85	45.09	44.15
810.1	840.1	46.92	47.08	47.07
830.1	860.1	47.49	47.82	48.11
860.1	890.1	47.19	47.34	47.34
880.1	910.1	48.62	49.06	49.94
910.1	940.1	49.58	48.69	47.61
930.1	960.1	48.92	46.76	44.87
960.1	990.1	50.40	46.68	45.43
980.1	1010.1	50.39	44.72	43.52
1010.1	1040.1	47.79	48.21	43.75
1030.1	1060.1	43.25	50.54	45.14
1060.1	1090.1	37.74	39.83	44.36
1080.1	1110.1	36.12	36.13	37.99
1110.1	1140.1	34.33	32.50	32.26

Frequency Mixer

LAVI-711H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=710MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+14	+17	+20		+14	+17	+20		+14	+17	+20
10.1	40.1	1.26	1.14	1.08	40.1	8.51	8.47	8.47	10.1	1.15	1.23	1.31
40.1	70.1	1.18	1.09	1.03	70.1	4.06	4.06	4.06	30.1	1.16	1.24	1.33
70.1	100.1	1.10	1.06	1.08	100.1	3.51	3.50	3.50	50.1	1.13	1.19	1.26
100.1	130.1	1.11	1.09	1.11	130.1	3.43	3.43	3.42	70.1	1.20	1.27	1.35
130.1	160.1	1.14	1.15	1.18	160.1	3.41	3.41	3.41	90.1	1.22	1.28	1.34
160.1	190.1	1.17	1.18	1.21	190.1	3.38	3.38	3.38	110.1	1.20	1.25	1.32
190.1	220.1	1.17	1.18	1.22	220.1	3.37	3.36	3.37	130.1	1.26	1.30	1.36
220.1	250.1	1.21	1.24	1.28	250.1	3.37	3.37	3.37	150.1	1.29	1.31	1.35
250.1	280.1	1.24	1.27	1.30	280.1	3.36	3.36	3.35	170.1	1.33	1.36	1.41
280.1	310.1	1.24	1.26	1.30	310.1	3.33	3.33	3.32	190.1	1.38	1.39	1.42
310.1	340.1	1.27	1.30	1.34	340.1	3.26	3.25	3.25	210.1	1.35	1.35	1.38
340.1	370.1	1.29	1.32	1.36	370.1	3.18	3.17	3.17	230.1	1.46	1.46	1.47
370.1	400.1	1.29	1.31	1.35	400.1	3.07	3.06	3.06	250.1	1.47	1.46	1.46
400.1	430.1	1.31	1.33	1.37	430.1	2.92	2.91	2.91	270.1	1.50	1.49	1.51
430.1	460.1	1.32	1.34	1.37	460.1	2.73	2.72	2.72	290.1	1.55	1.53	1.52
460.1	490.1	1.32	1.34	1.37	490.1	2.52	2.51	2.51	310.1	1.54	1.50	1.49
490.1	520.1	1.33	1.35	1.38	520.1	2.32	2.31	2.31	330.1	1.67	1.64	1.62
520.1	550.1	1.34	1.36	1.38	550.1	2.13	2.13	2.12	350.1	1.66	1.62	1.59
550.1	580.1	1.33	1.33	1.34	580.1	1.96	1.96	1.96	370.1	1.68	1.64	1.61
580.1	610.1	1.32	1.31	1.31	610.1	1.87	1.87	1.88	390.1	1.75	1.69	1.65
610.1	640.1	1.34	1.32	1.32	640.1	1.87	1.88	1.89	410.1	1.75	1.69	1.65
640.1	670.1	1.35	1.32	1.30	670.1	1.94	1.95	1.96	430.1	1.87	1.80	1.76
670.1	700.1	1.36	1.32	1.29	700.1	2.06	2.07	2.08	450.1	1.86	1.78	1.73
700.1	730.1	1.42	1.36	1.33	730.1	2.20	2.21	2.22	460.1	1.92	1.85	1.79
730.1	760.1	1.47	1.40	1.35	760.1	2.34	2.35	2.36	480.1	1.88	1.80	1.73
760.1	790.1	1.52	1.44	1.38	790.1	2.48	2.49	2.50	490.1	1.98	1.89	1.82
780.1	810.1	1.58	1.49	1.43	810.1	2.57	2.58	2.59	510.1	1.98	1.89	1.82
810.1	840.1	1.65	1.56	1.48	840.1	2.70	2.70	2.71	520.1	2.06	1.96	1.89
830.1	860.1	1.70	1.60	1.52	860.1	2.77	2.77	2.77	540.1	2.06	1.96	1.89
860.1	890.1	1.78	1.67	1.57	890.1	2.85	2.85	2.85	550.1	2.10	2.00	1.91
880.1	910.1	1.81	1.69	1.59	910.1	2.91	2.91	2.90	570.1	2.14	2.03	1.95
910.1	940.1	1.89	1.75	1.64	940.1	2.96	2.96	2.96	580.1	2.15	2.03	1.95
930.1	960.1	1.92	1.77	1.65	960.1	2.98	2.98	2.98	600.1	2.29	2.17	2.08
960.1	990.1	1.96	1.81	1.68	990.1	3.00	3.00	3.00	610.1	2.25	2.14	2.04
980.1	1010.1	1.98	1.83	1.70	1010.1	3.01	3.01	3.00	630.1	2.39	2.27	2.18
1010.1	1040.1	2.04	1.91	1.77	1040.1	3.01	3.01	3.01	640.1	2.34	2.22	2.12
1030.1	1060.1	2.04	1.92	1.79	1060.1	3.00	3.00	3.00	660.1	2.45	2.32	2.22
1060.1	1090.1	2.05	1.93	1.80	1090.1	2.95	2.94	2.94	670.1	2.42	2.29	2.19
1080.1	1110.1	2.05	1.92	1.79	1110.1	2.91	2.90	2.90	690.1	2.52	2.39	2.28
1110.1	1140.1	2.06	1.92	1.80	1140.1	2.82	2.82	2.82	700.1	2.52	2.40	2.29

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	16	23	16	29	29	42	37	46	43	50
1	-	41	+0	37	12	42	19	52	26	46	40	46
2	55	57	51	59	54	61	58	57	62	57	60	57
3	83	>88	58	83	56	80	56	78	57	80	61	78
4	>90	>88	>88	>88	>88	>88	85	>88	83	>88	86	>88
5	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
6	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
7	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
8	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
9	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>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: 465 MHz; 5.00 dBm.
LO IN: 495 MHz; +17.00 dBm
IF OUT: 30 MHz; -2.5 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	23	31	29	34	41	45	47	57	52	56
1	-	40	+0	38	13	45	21	54	32	51	46	51
2	35	49	39	53	43	56	53	48	55	47	55	49
3	54	65	39	64	36	62	37	65	39	72	45	65
4	75	70	63	65	60	63	57	62	59	61	63	60
5	>90	83	67	76	66	71	60	69	58	71	58	74
6	>90	85	83	83	84	87	78	80	72	74	69	71
7	>90	90	82	91	84	95	86	85	80	80	76	81
8	>90	92	88	91	84	88	87	88	93	95	89	>97
9	>90	>97	94	95	93	92	92	90	96	95	94	96
10	>90	>97	>97	>97	96	>97	93	94	92	92	93	93
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 465 MHz; 15.00 dBm.
LO IN: 495 MHz; +17.00 dBm
IF OUT: 30 MHz; 7.33 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.