

Up Converter Frequency Mixer

Level 17 (LO Power +17 dBm) 0.1 to 3900 MHz

SIM-U432H+



Generic photo used for illustration purposes only

CASE STYLE: HV1195

Maximum Ratings

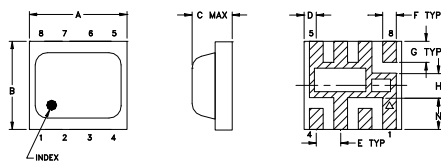
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	100mW

For extended temperature range, consult factory.
Permanent damage may occur if any of these limits are exceeded.

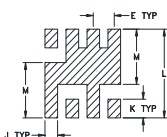
Pin Connections

LO	4
IF (IN)	2
RF (OUT)	8
GROUND	1,3,5,6,7

Outline Drawing



PCB Metal Land Pattern

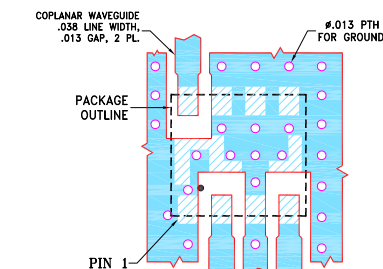


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.2098	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.043	.204	.127	0.065	grams
1.27	0.76	1.09	5.18	3.23	1.65	0.08

Demo Board MCL P/N: TB-382
Suggested PCB Layout (PL-239)



NOTES:
1. TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020"±.0015"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Features

- up converter mixer
- low conversion loss, 7.5 dB typ.
- high IP3, 26 dBm typ.
- ceramic, tiny size
- aqueous washable
- protected by US patent, 7,027,795

Applications

- WIMAX
- wide band receivers

Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ**	Max.	Typ.	Min.	Typ.	Min.	
0.1-800	1100-4250	1100-3900	7.5	0.2	9.8	24	13	36	28	26

1 dB Compression: +14 dBm typ.

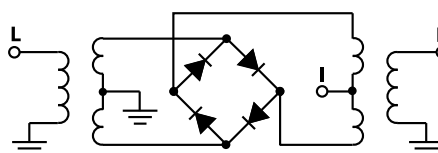
* Conversion Loss at 30 MHz IF

** σ is a standard deviation

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
IF (IN)	LO	RF (OUT)	+17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
30.00	975.10	945.10	9.21	16.41	37.30	4.82	1.56
30.00	1050.10	1020.10	6.90	16.28	38.13	2.79	1.53
30.00	1200.10	1170.10	5.40	16.34	42.11	2.03	1.68
30.00	1350.10	1320.10	5.46	17.13	42.70	2.23	2.04
30.00	1500.10	1470.10	5.64	19.04	39.57	2.09	1.93
30.00	1550.10	1520.10	5.69	19.36	37.06	2.02	2.14
30.00	1600.10	1570.10	5.85	20.85	36.64	2.05	2.02
30.00	1650.10	1620.10	5.90	20.98	36.49	2.09	2.10
30.00	1700.10	1670.10	6.07	21.41	37.60	2.11	2.05
30.00	1850.10	1820.10	6.25	24.12	37.29	1.82	1.88
30.00	2000.10	1970.10	6.21	31.70	37.29	1.42	1.84
30.00	2440.10	2410.10	6.27	27.83	33.46	2.30	1.26
30.00	3100.10	3070.10	5.87	22.23	32.51	1.88	1.34
30.00	3460.10	3430.10	6.17	26.15	37.13	2.32	1.53
30.00	3800.10	3770.10	7.23	28.76	33.36	1.98	1.77
30.00	3850.10	3820.10	7.37	30.91	33.59	1.96	1.78
30.00	3900.10	3870.10	7.80	33.77	33.19	2.12	1.92
30.00	3950.10	3920.10	8.25	35.67	33.61	2.46	2.02
30.00	4000.10	3970.10	8.23	35.04	33.37	2.70	2.18
30.00	4100.10	4070.10	8.39	34.66	35.92	3.43	2.56

Electrical Schematic



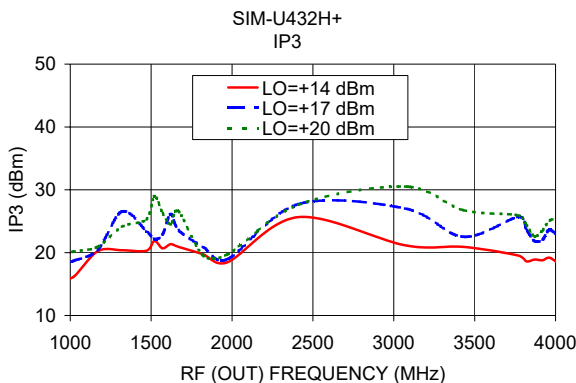
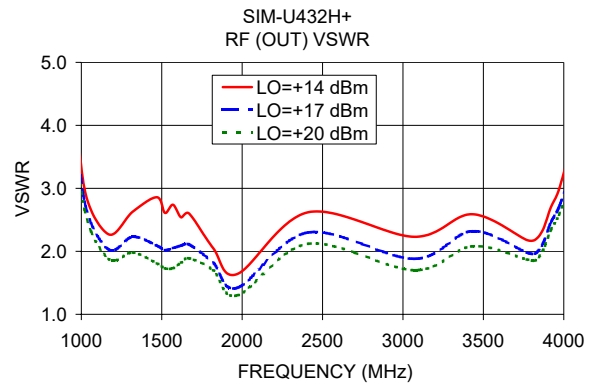
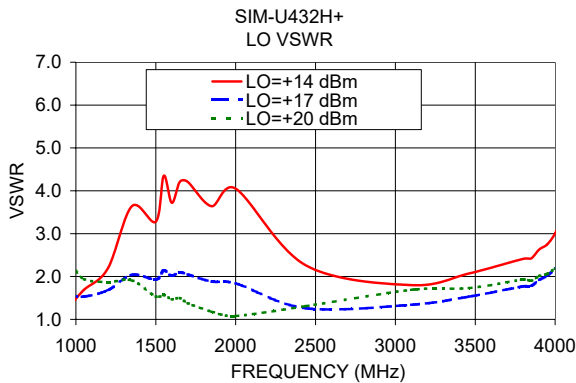
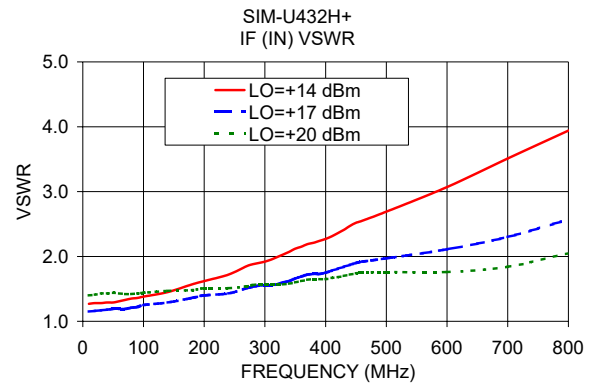
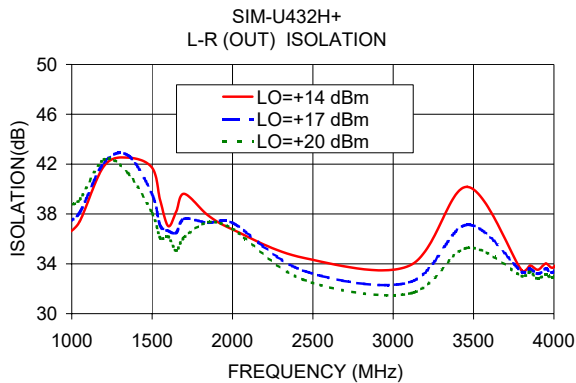
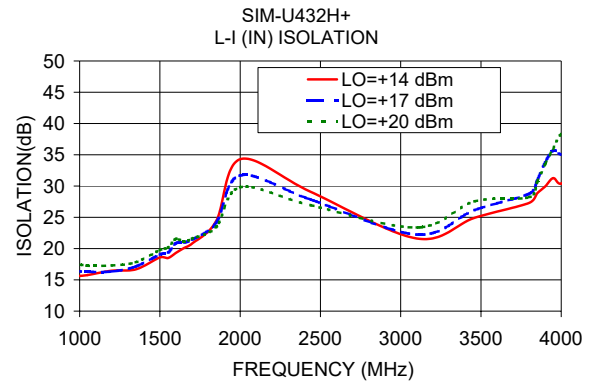
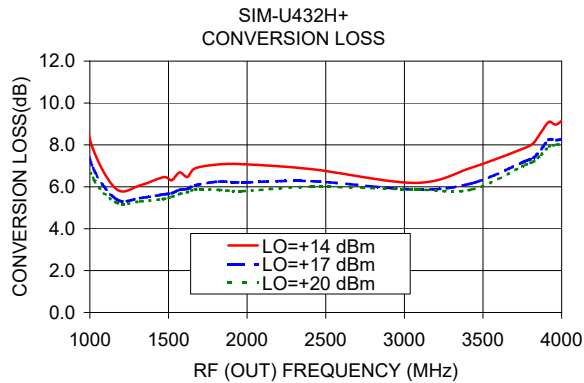
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