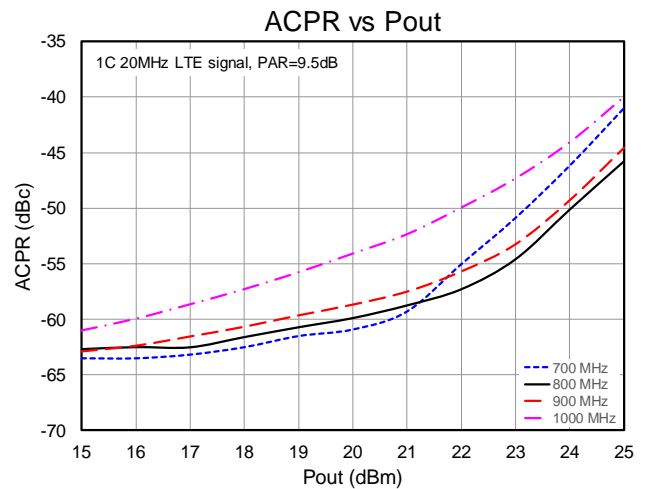
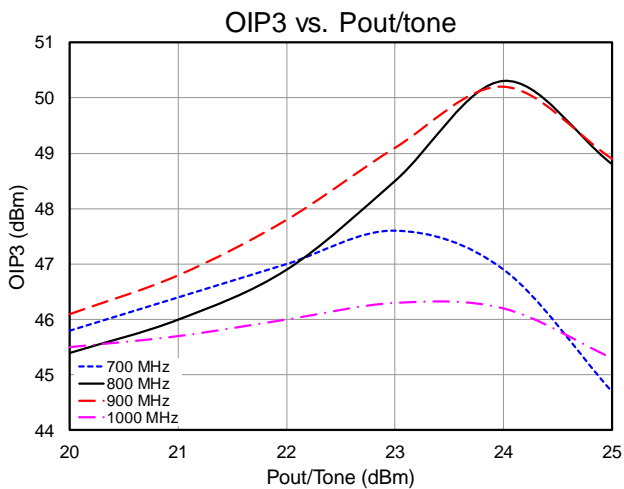
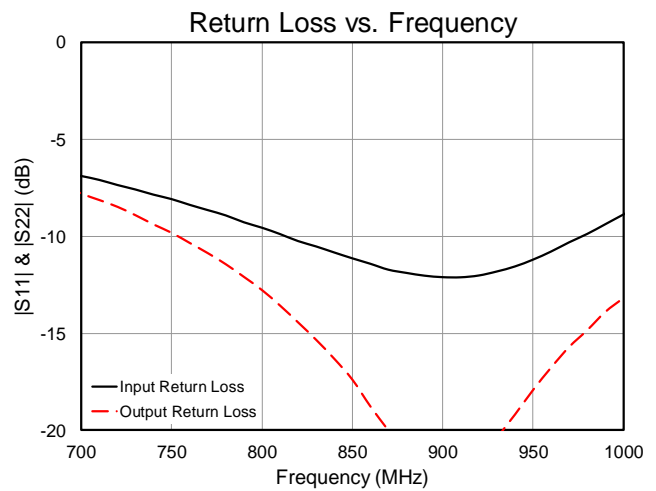
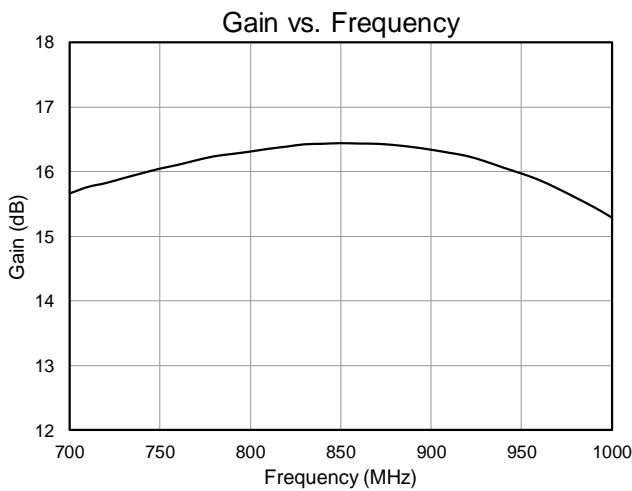


### Typical Performance

Test Conditions:  $V_{CC}=+5\text{ V}$ ,  $\text{Temp.}=+25^{\circ}\text{C}$ ,  $50\Omega$  System

Parameter	Conditions	Typical Value				Units
Frequency		700	800	900	1000	MHz
Gain		15.7	16.3	16.3	15.4	dB
Input Return Loss		7	9.5	12	8.5	dB
Output Return Loss		8	12.5	25	13	dB
Output P1dB		+32.1	+33.5	+33.4	+32.1	dBm
Output IP3	$P_{out}= +23\text{ dBm/tone}$ , $\Delta f= 1\text{ MHz}$	+47.6	+48.5	+49.2	+46.5	dBm
Channel Power at ACLR=-50dBc	1C, 20MHz LTE, PAR=9.5dB	+23.2	+24	+23.9	+22	dBm
Quiescent Collector Current, $I_{CQ}$		495				mA

### Performance Plot

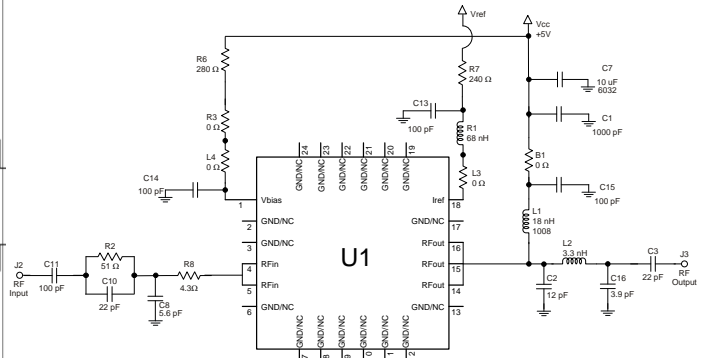
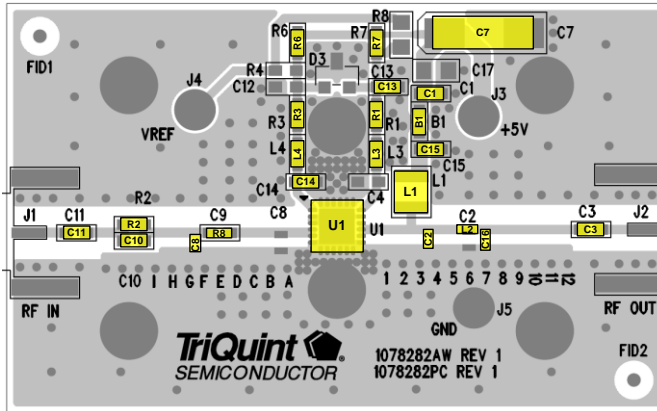


# TQP7M9106

## 700-1000 MHz Reference Design



### Evaluation Board



**Notes:**

1. All components are of 0603 size unless stated on the schematic.
2. The recommended component values are dependent upon the frequency of operation.
3. Critical component placement locations:
  - Distance between U1 left pkg edge to R8 right edge: 250 mil
  - Distance between U1 left pkg edge to C8 right edge: 345 mil
  - Distance between U1 right pkg edge to C16 left edge: 355 mil
  - Distance between U1 right pkg edge to L2 left edge: 285 mil
  - Distance between U1 right pkg edge to C2 left edge: 190 mil

### Bill of Material

Reference Des.	Value	Description	Manuf.	Part Number
n/a	n/a	Printed Circuit Board	Qorvo	
U1	n/a	2 W High Linearity Amplifier	Qorvo	TQP7M9106
C1	1000 pF	CAP, 0603, 5%, 50V, NPO	various	
C11, C13, C14, C15	100 pF	CAP, 0603, 5%, 50V, NPO	various	
C3,10	22 pF	CAP, 0603, 5%, 50V, NPO/COG	various	
C8	5.6 pF	CAP, 0603, ± 0.1 pF, 200V, NPO/COG	AVX	06032U5R6BAT2A
C2	12 pF	CAP, 0603, 2%, 50V, NPO/COG	AVX	06035A120GAT2A
C16	3.9 pF	CAP, 0603, ± 0.1 pF, 200V, NPO/COG	AVX	06032U3R9BAT2A
C7	10 uF	CAP, 6032, 20%, 50V, Tantalum	various	
R6	280 Ω	RES, 0603, 1%, 1/16W. CHIP.	various	
R7	240 Ω	RES, 0603, 1%, 1/10W, Chip	various	
R2	51 Ω	RES, 0603, 5%, 1/16W, Chip	various	
B1, L3, L4, R3	0 Ω	RES, 0603, 5%, 1/16W, Chip	various	
R8	4.3 Ω	RES, 0603, 5%, 1/16W, chip	various	
R1	68 nH	IND, 0603, 5%	various	
L1	18 nH	IND, 1008, 5%, Ceramic	Coilcraft	1008HQ-18NXJL
L2	3.3 nH	IND, 0603, 5%	Toko	LL1608-FSL3N3J
L5	8.2 nH	IND, 0603, 5%	Toko	LL1608-FSL8N2J