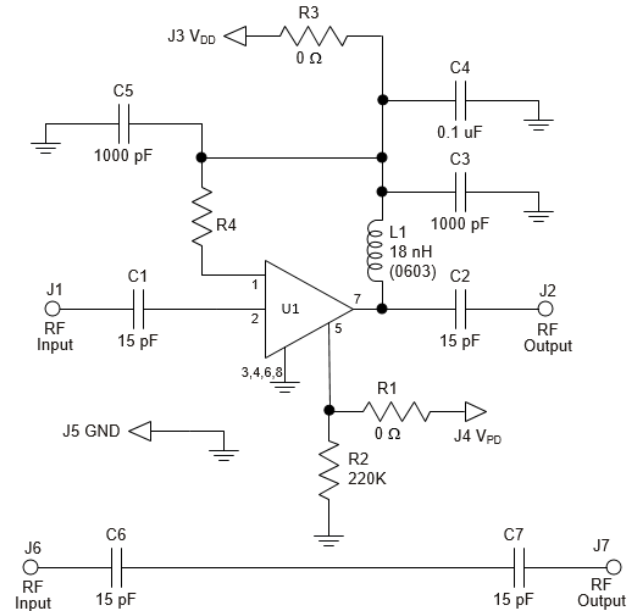
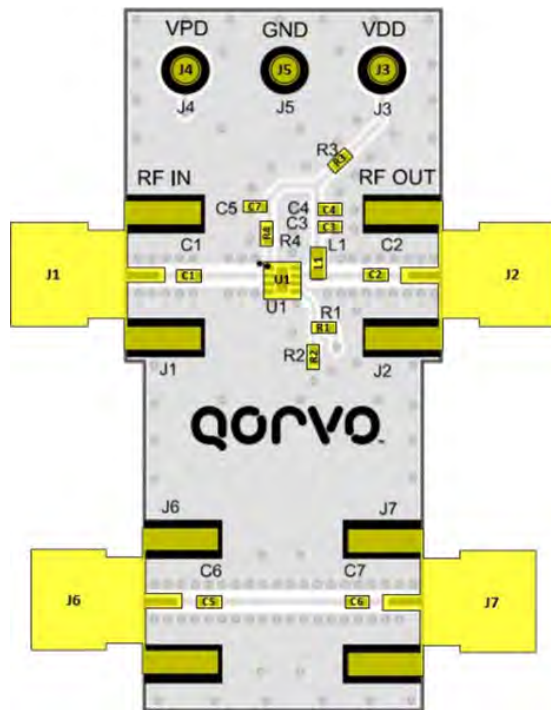


Evaluation Board – QPL9058EVB01



Notes:

1. See Evaluation Board PCB Information section for material and stack-up.
2. All components are of 0402 size unless otherwise mentioned.
3. For TDD Applications: R1 = 0 Ω and R2 = 220K.
4. For FDD Applications: R2 = 220K 'OR' Pin 5 tied to ground. R1 = DNP/Omitted
5. A through line is included on the evaluation board to de-embed the board losses.
6. R4 sets the current draw. Can be changed for the desired bias point.

Bill of Material – QPL9058EVB01

Reference Des.	Value	Description	Manuf.	Part Number
N/A	N/A	Printed Circuit Board	Qorvo	
U1	n/a	Ultra Low Noise QPL9058 LNA	Qorvo	QPL9058
R1, R3	0 Ω	Resistor, chip, 0402, 1%, 1/10W	various	
R2	220 K Ω	Resistor, chip, 0402, 5%, 1/16W	various	
R4	3.83 K Ω	Resistor, Chip, 0402, 1%, 1/16W	various	
C1, C2, C6, C7	15 pF	Cap., Chip, 0402, 2%, 50V, HI-Q	Murata	GJM1555C1H150JB01D
C3, C5	1000 pF	Cap., Chip, 0402, 10%, 50V, X7R	Murata	GRM155R71H102KA01D
C4	0.1 uF	Cap., Chip, 0402, 10%, 50V, X5R	various	
L1	18 nH	Inductor, coil, 0603, 5%	Coilcraft	0603CS-18NXJL

Typical Performance – QPL9058EVB01

Test conditions unless otherwise noted: $V_{DD} = +5\text{ V}$, $I_{DD} = 55\text{ mA}$ (typ.), Temp = $+25^\circ\text{C}$

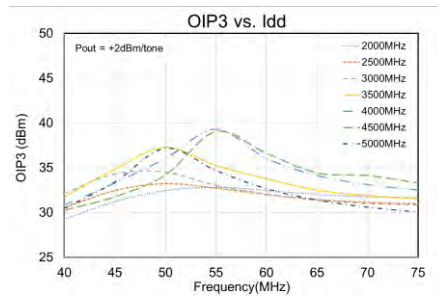
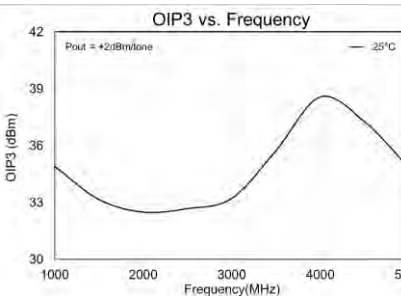
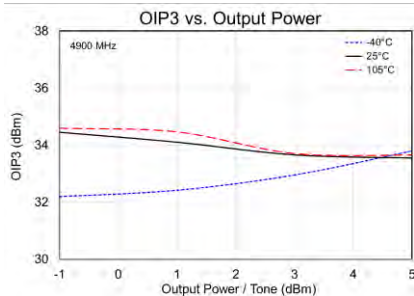
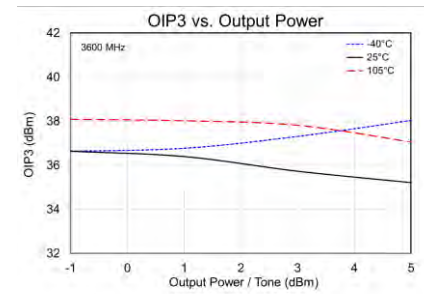
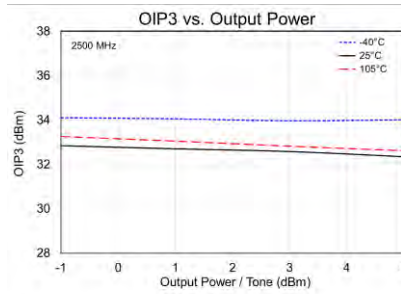
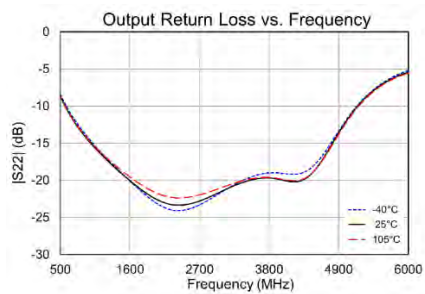
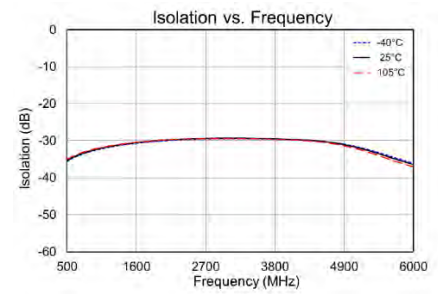
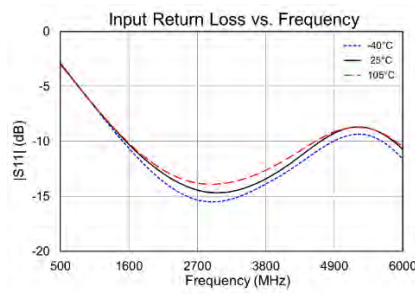
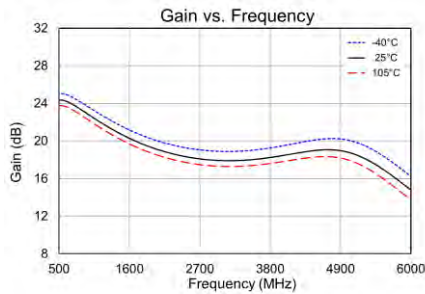
Parameter	Conditions	Typical Values			Units
Frequency		2500	3600	4900	MHz
Gain		18.2	18.0	18.9	dB
Input Return Loss		14.3	14.7	9.8	dB
Output Return Loss		23.1	20.0	13.5	dB
Output P1dB		20.6	20.5	16.6	dBm
OIP3	$P_{out}=+2\text{ dBm/ tone}$, $\Delta f=1\text{ MHz}$	32.6	36.0	33.9	dBm
Noise figure ⁽¹⁾		0.47	0.62	0.56	dB

Notes:

1. Input trace loss de-embedded from NF data

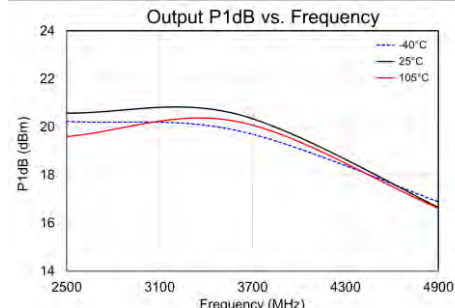
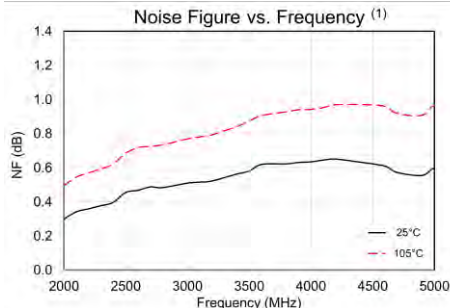
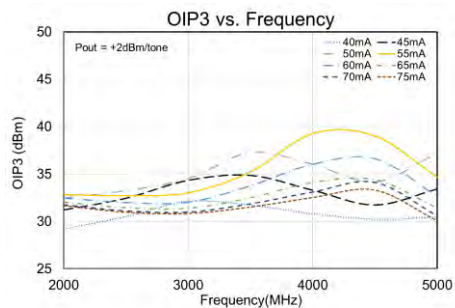
Performance Plots – QPL9058EVB01

Test conditions unless otherwise noted: $V_{DD} = +5\text{ V}$, $I_{DD} = 55\text{ mA}$.



Performance Plots – QPL9058EVB01 Continued

Test conditions unless otherwise noted: $V_{DD} = +5\text{ V}$, $I_{DD} = 55\text{ mA}$.



Notes:

1. Input trace loss de-embedded from NF. NF at cold temp is better than 0.3dB causing measurement uncertainties. Therefore, not shown on the plot