



MMIC SURFACE MOUNT

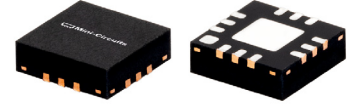
# Power Amplifier

**PMA3-73-1W+**

50Ω 300 to 7500 MHz 1 W Output Power

## THE BIG DEAL

- High P1dB, Typ. +31.7 dBm
- High P<sub>SAT</sub>, Typ. +33.5 dBm
- Low Noise Figure, Typ. 2.5 dB
- High OIP3, Typ. +37 dBm
- Single Supply Voltage, +12 V @ 190 mA
- 3x3 mm 12-Lead QFN-Style Package

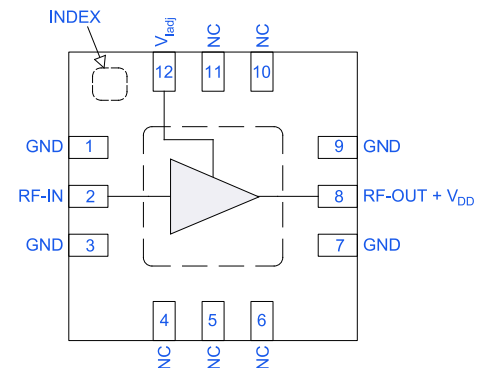


Generic photo used for illustration purposes only

## APPLICATIONS

- Test and Measurement Equipment
- Radar, EW, and ECM Defense Systems
- 5G Sub6, MIMO Wireless Infrastructure Systems
- Microwave Radio & VSAT

## FUNCTIONAL DIAGRAM



## PRODUCT OVERVIEW

The PMA3-73-1W+ is a GaAs MMIC Power Amplifier operating from 300 to 7500 MHz. The amplifier provides 20.1 dB of gain, +33.5 dBm saturated output power, and achieves +37 dBm output IP3, while operating from a single +12 V power supply. In addition, it is internally matched to 50 Ohms and comes in a 3x3 mm 12-Lead QFN-style package. These characteristics make it ideally suited for wideband test instrumentation and defense systems that require high operating output power, while maintaining very low distortion characteristics.

## KEY FEATURES

| Feature                          | Advantages                                                                                                                                                                                                                                     |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High P1dB Typ. +31.7 dBm         | Flat gain and output power make this device excellent for wideband systems from 300 to 7500 MHz that require at least 1 W of operating output power over the full band.                                                                        |
| Low Noise Figure Typ. 2.5 dB     | High operating output power accompanied by low noise figure enables a significant signal to noise ratio advantage for systems requiring high dynamic range.                                                                                    |
| High OIP3 Typ. +37 dBm           | High operating OIP3, as well as low 2nd and 3rd harmonic responses, provide very low in-band distortion products, which are typically needed for high fidelity measurement systems.                                                            |
| 3x3 mm 12-Lead QFN-Style Package | Small footprint saves space in dense layouts while providing low inductance, repeatable transitions, and excellent thermal contact to the PCB. Industry standard packaging allows for ease of assembly in high volume manufacturing processes. |





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## Power Amplifier

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50Ω 300 to 7500 MHz 1 W Output Power

ELECTRICAL SPECIFICATIONS<sup>1</sup> AT +25°C,  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{OPEN}$ , UNLESS NOTED OTHERWISE

| Parameter                                                           | Condition (MHz) | Min. | Typ.  | Max. | Units |
|---------------------------------------------------------------------|-----------------|------|-------|------|-------|
| Frequency Range                                                     |                 | 300  |       | 7500 | MHz   |
| Gain                                                                | 300             | 20.0 | 21.3  |      | dB    |
|                                                                     | 2000            | 20.0 | 21.3  |      |       |
|                                                                     | 4000            | 18.2 | 20.1  |      |       |
|                                                                     | 6000            | 17.5 | 19.3  |      |       |
|                                                                     | 7500            | 16.4 | 19.8  |      |       |
| Isolation                                                           | 300 - 7500      |      | 29    |      | dB    |
| Input Return Loss                                                   | 300             |      | 12    |      | dB    |
|                                                                     | 2000            |      | 13    |      |       |
|                                                                     | 4000            |      | 12    |      |       |
|                                                                     | 6000            |      | 8     |      |       |
|                                                                     | 7500            |      | 14    |      |       |
| Output Return Loss                                                  | 300             |      | 8     |      | dB    |
|                                                                     | 2000            |      | 14    |      |       |
|                                                                     | 4000            |      | 12    |      |       |
|                                                                     | 6000            |      | 9     |      |       |
|                                                                     | 7500            |      | 18    |      |       |
| Output Power at 1 dB Compression ( $P_{1dB}$ )                      | 300             |      | +30.3 |      | dBm   |
|                                                                     | 2000            |      | +32.1 |      |       |
|                                                                     | 4000            |      | +31.7 |      |       |
|                                                                     | 6000            |      | +29.0 |      |       |
|                                                                     | 7500            |      | +25.3 |      |       |
| Output Power at Saturation ( $P_{SAT}$ ) <sup>2</sup>               | 300             |      | +30.5 |      | dBm   |
|                                                                     | 2000            |      | +32.4 |      |       |
|                                                                     | 4000            |      | +33.5 |      |       |
|                                                                     | 6000            |      | +32.2 |      |       |
|                                                                     | 7500            |      | +31.2 |      |       |
| Output Third-Order Intercept<br>( $P_{OUT} = +18\text{ dBm/Tone}$ ) | 300             |      | +36   |      | dBm   |
|                                                                     | 2000            |      | +38   |      |       |
|                                                                     | 4000            |      | +37   |      |       |
|                                                                     | 6000            |      | +36   |      |       |
|                                                                     | 7500            |      | +36   |      |       |
| 2nd Harmonics<br>( $P_{OUT} = +18\text{ dBm}$ )                     | 300             |      | -30   |      | dBc   |
|                                                                     | 2000            |      | -24   |      |       |
|                                                                     | 4000            |      | -28   |      |       |
|                                                                     | 6000            |      | -44   |      |       |
|                                                                     | 7500            |      | -57   |      |       |
| 3rd Harmonics<br>( $P_{OUT} = +18\text{ dBm}$ )                     | 300             |      | -45   |      | dBc   |
|                                                                     | 2000            |      | -45   |      |       |
|                                                                     | 4000            |      | -53   |      |       |
|                                                                     | 6000            |      | -52   |      |       |
|                                                                     | 7500            |      | -44   |      |       |





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| Parameter                                          | Condition (MHz) | Min. | Typ.  | Max.  | Units                        |
|----------------------------------------------------|-----------------|------|-------|-------|------------------------------|
| Noise Figure                                       | 300             |      | 3.8   |       | dB                           |
|                                                    | 2000            |      | 2.8   |       |                              |
|                                                    | 4000            |      | 2.5   |       |                              |
|                                                    | 6000            |      | 2.3   |       |                              |
|                                                    | 7500            |      | 2.8   |       |                              |
| Device Operating Voltage ( $V_{DD}$ )              |                 | +10  | +12   | +12.5 | V                            |
| Device Operating Current ( $I_{DD}$ ) <sup>3</sup> |                 |      | 190   |       | mA                           |
| DC Current Variation vs. Temperature <sup>4</sup>  |                 |      | -96   |       | $\mu\text{A}/^\circ\text{C}$ |
| DC Current Variation vs. $V_{DD}$ <sup>5</sup>     |                 |      | 0.024 |       | mA/mV                        |
| DC Current Variation vs. $V_{Iadj}$ <sup>6</sup>   |                 |      | 0.057 |       | mA/mV                        |

1. Tested on Mini-Circuits Characterization Test Board TB-PMA3-73-1WC+. See Figure 2. Board loss de-embedded.

2.  $P_{SAT}$  defined as when the Output Power changes 0.1 dB per 1 dB change in Input Power.

3. Current at  $P_{IN} = -25\text{ dBm}$ . Increases to ~550 mA at P1dB.

4.  $(\text{Current at } +85^\circ\text{C} - \text{Current at } -55^\circ\text{C}) / (140^\circ\text{C})$ .

5.  $(\text{Current at } V_{DD} = +12.5\text{ V} - \text{Current at } V_{DD} = +10\text{ V}) / (+2.5\text{ V})$ .  $V_{Iadj}$  kept open.

6.  $(\text{Current at } V_{Iadj} = +1.8\text{ V} - \text{Current at } V_{Iadj} = +0.8\text{ V}) / (+1.0\text{ V})$ .  $V_{DD}$  kept constant.



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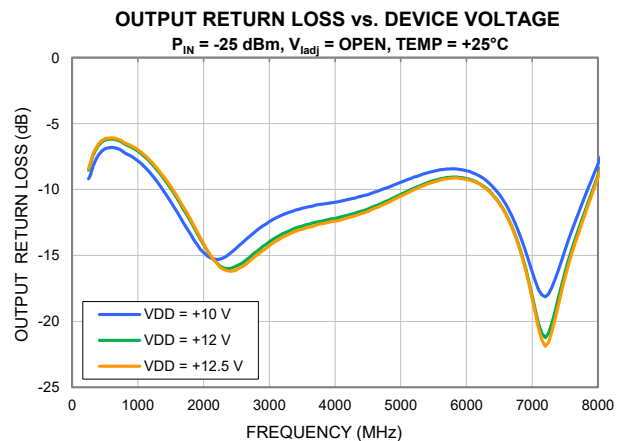
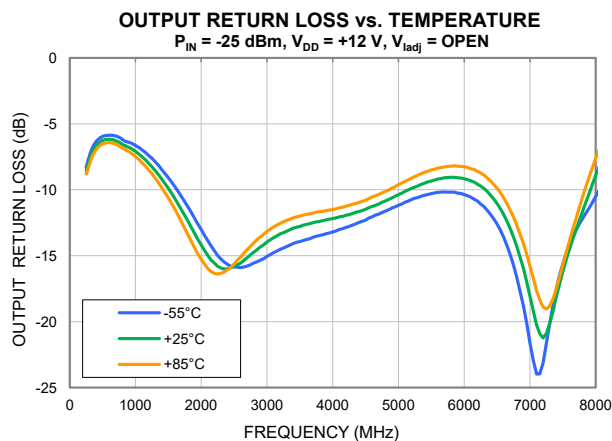
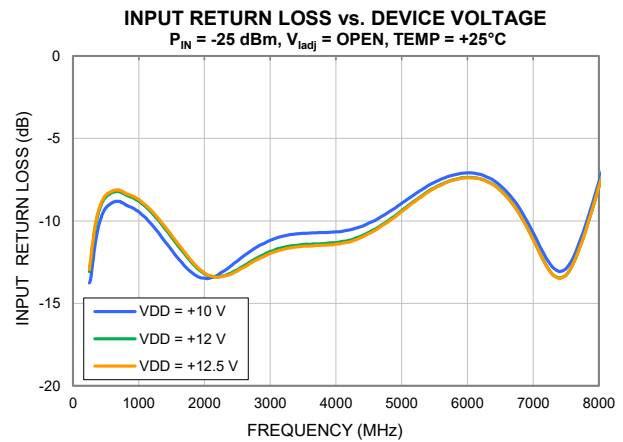
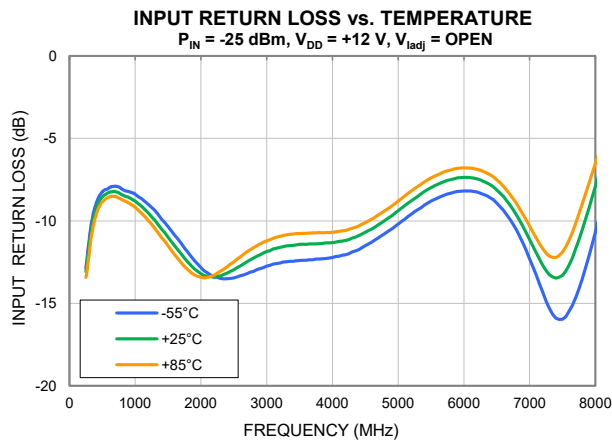
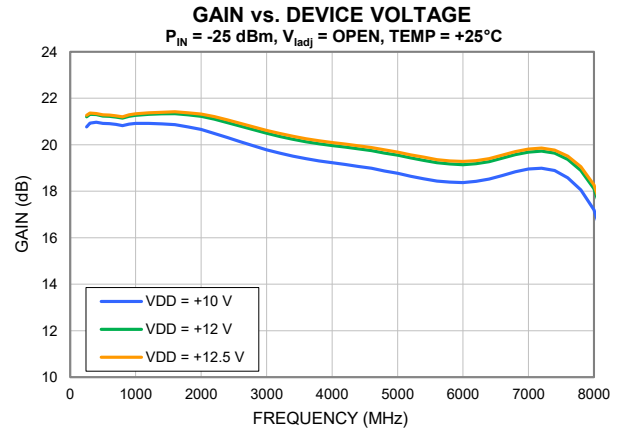
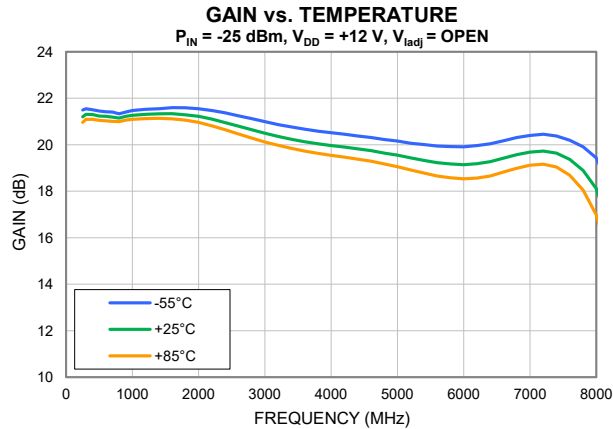
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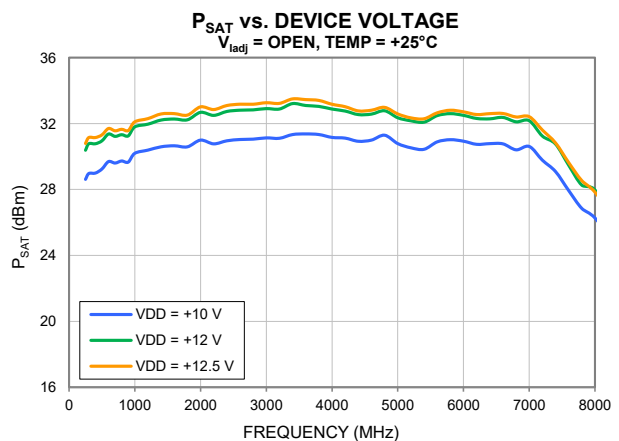
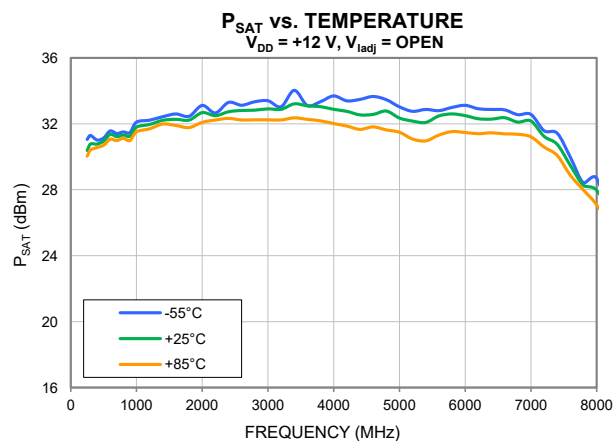
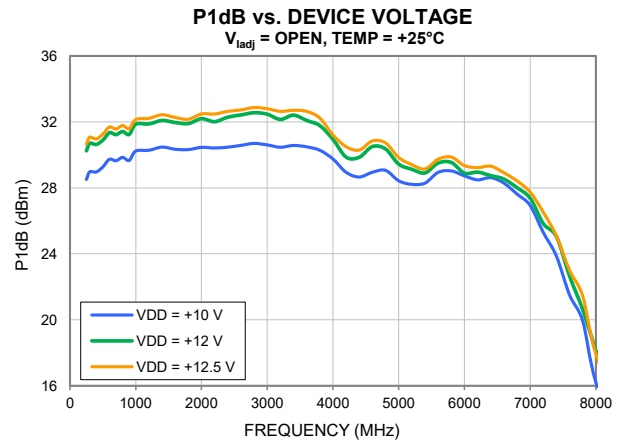
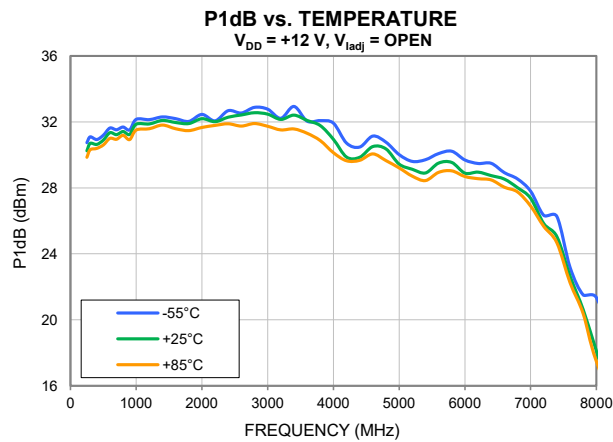
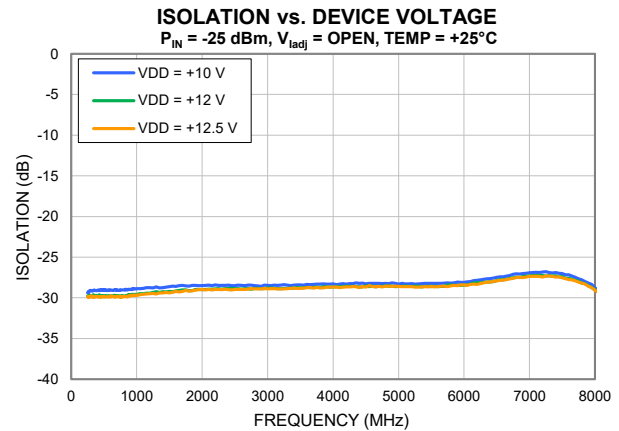
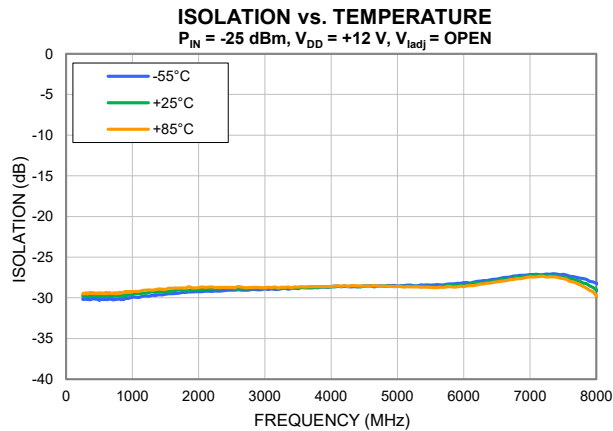
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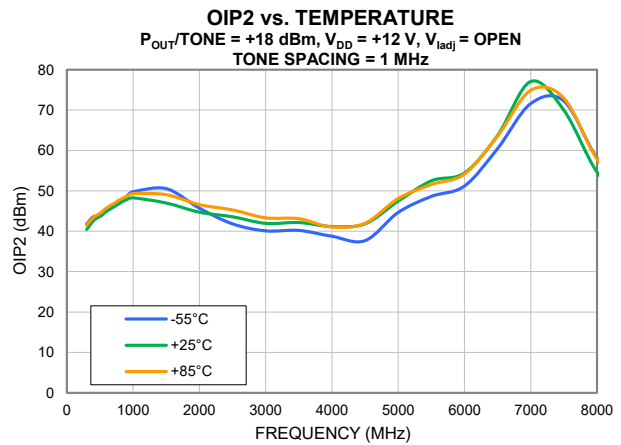
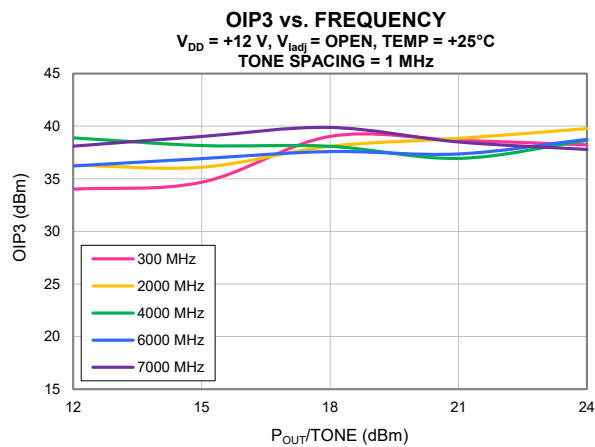
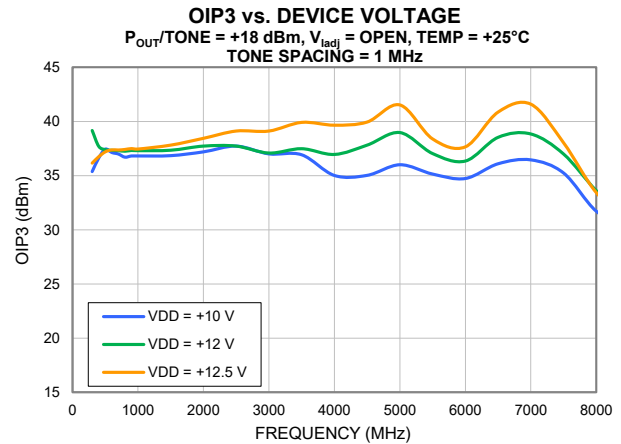
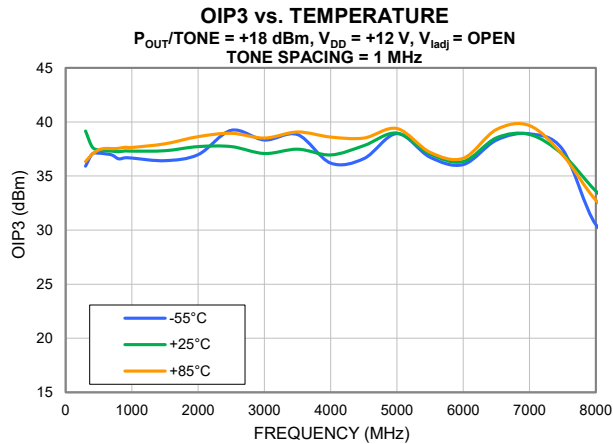
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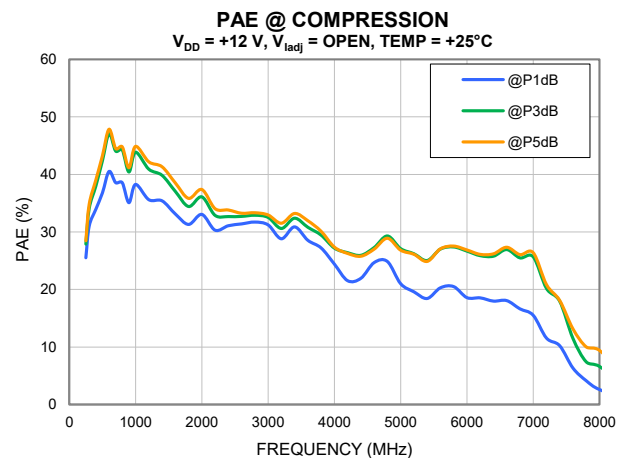
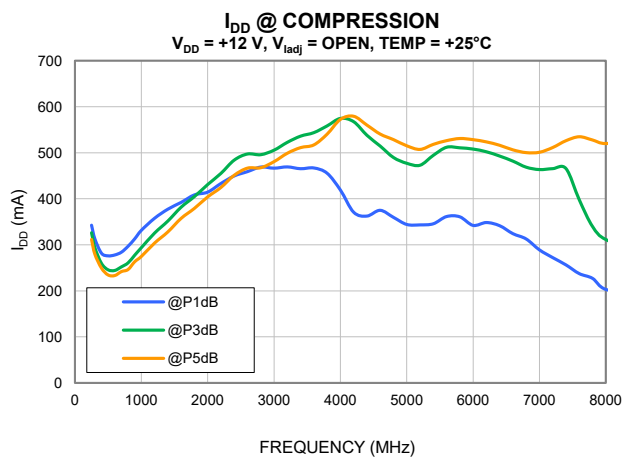
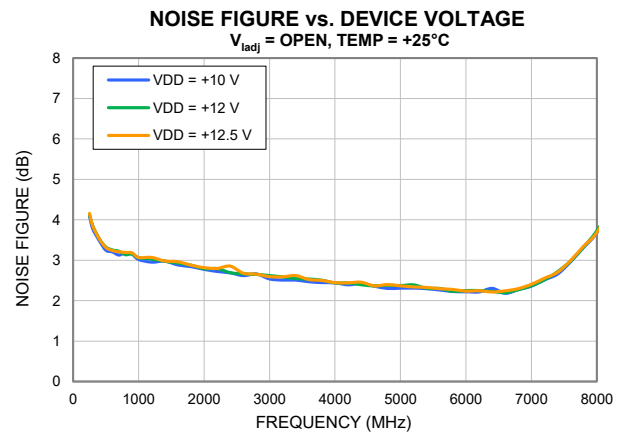
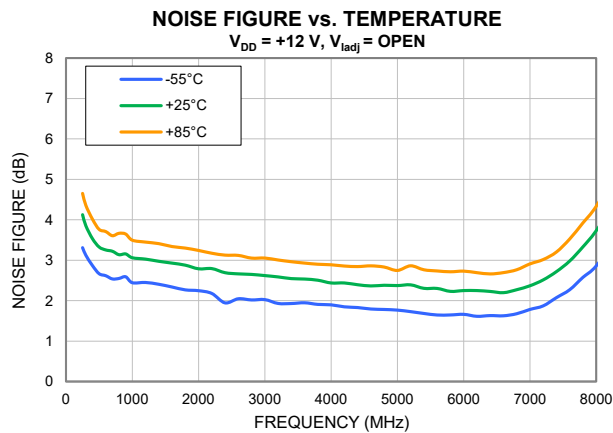
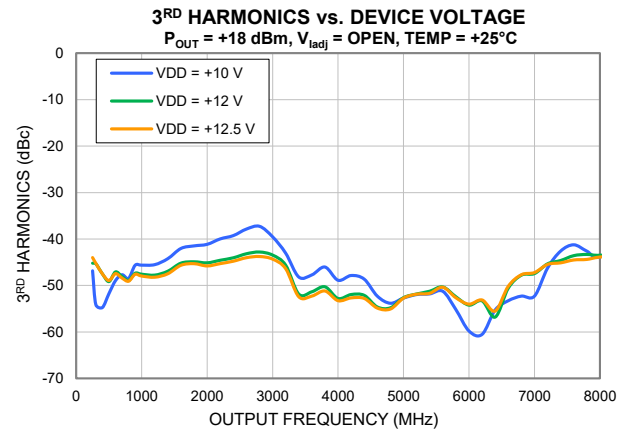
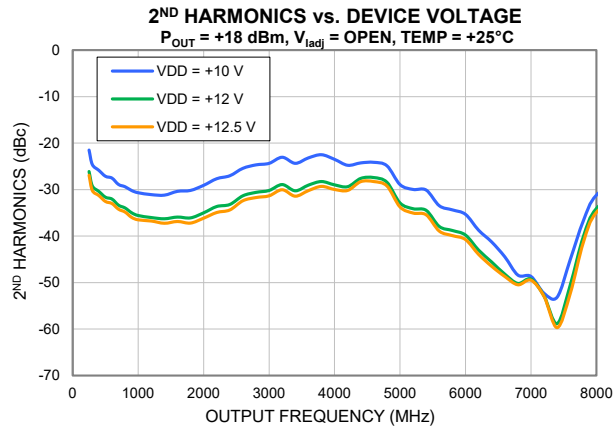
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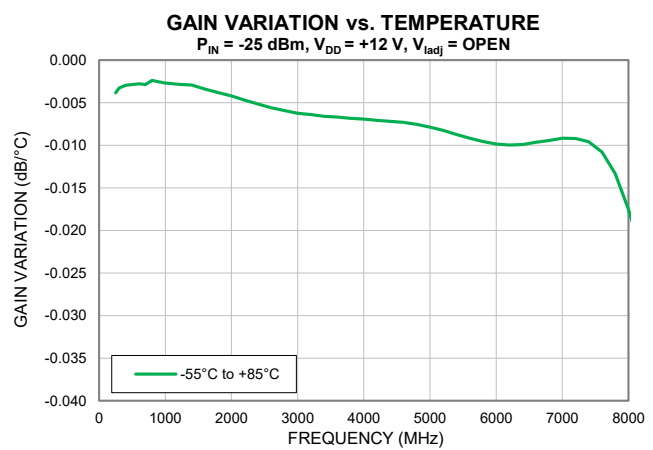
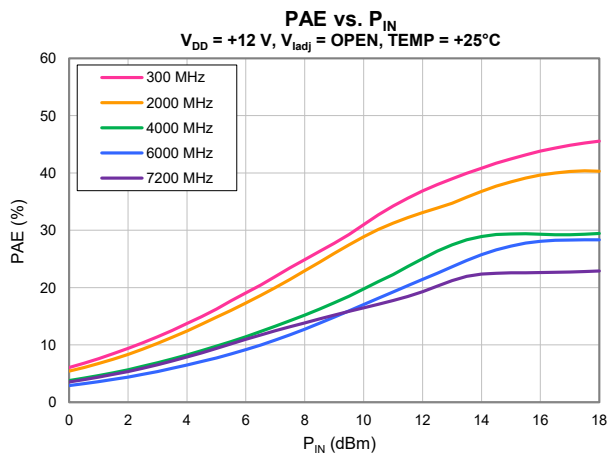
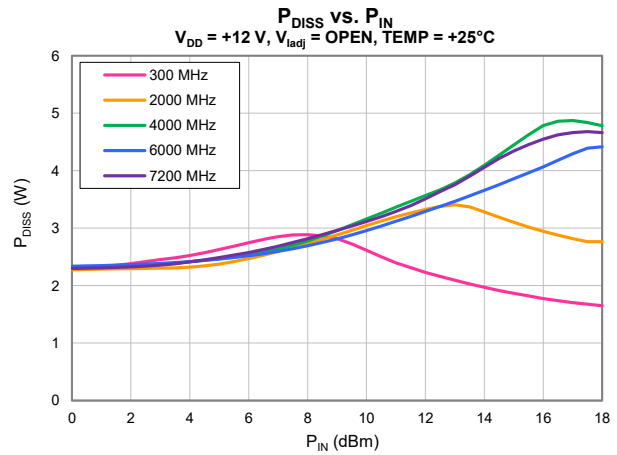
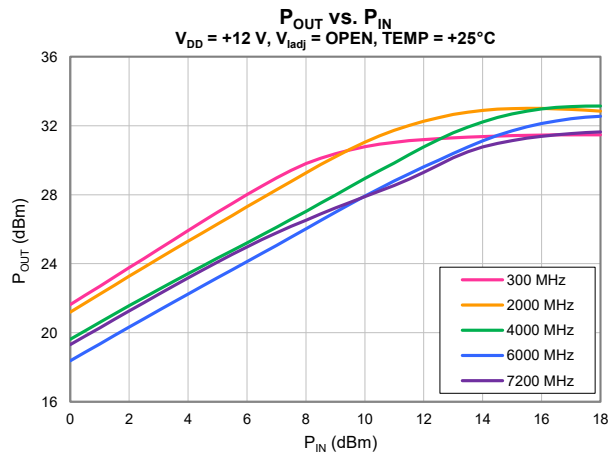
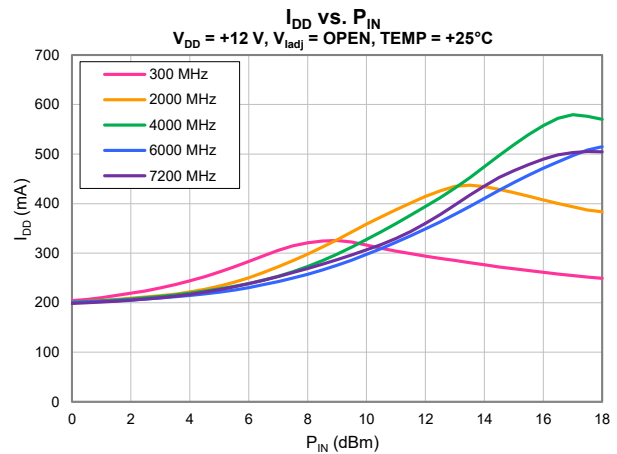
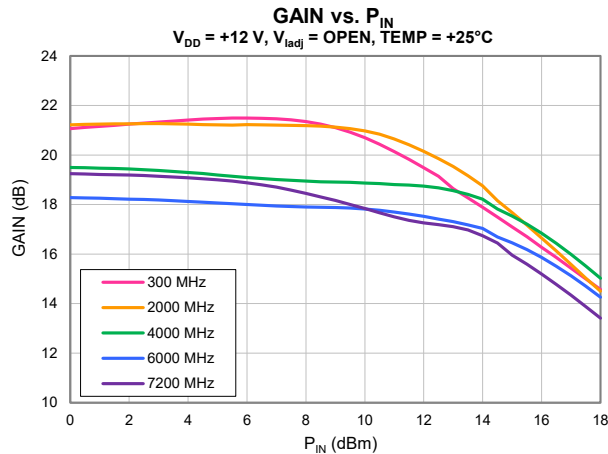
## TYPICAL PERFORMANCE GRAPHS



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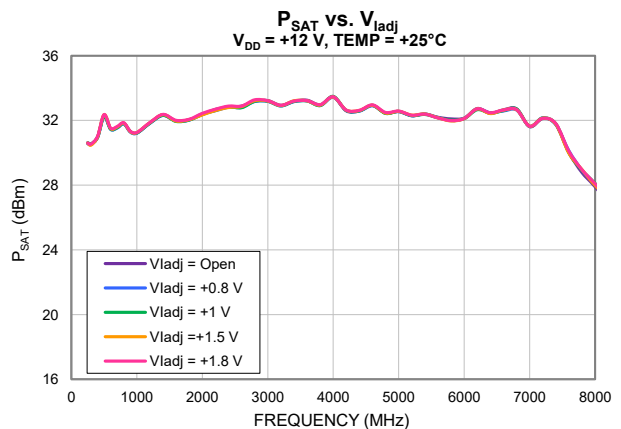
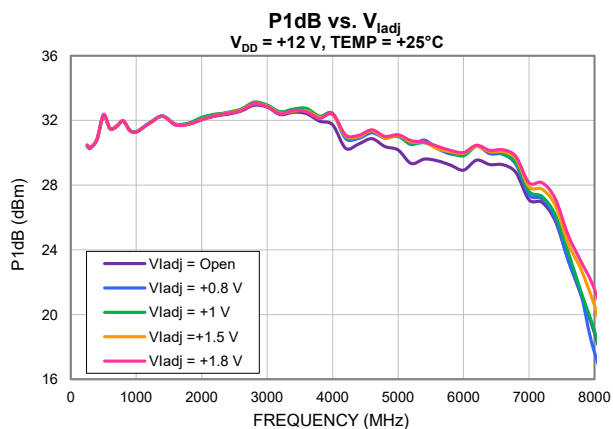
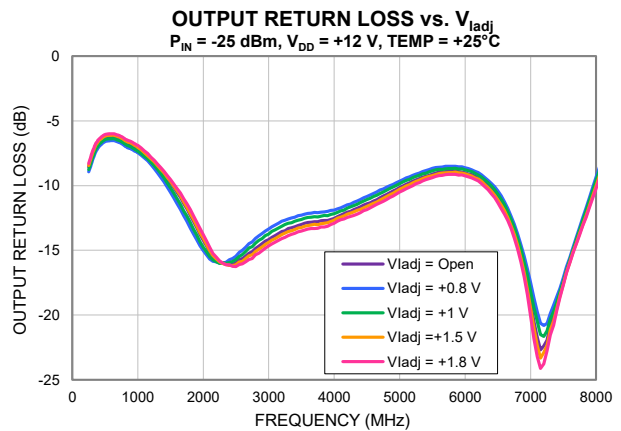
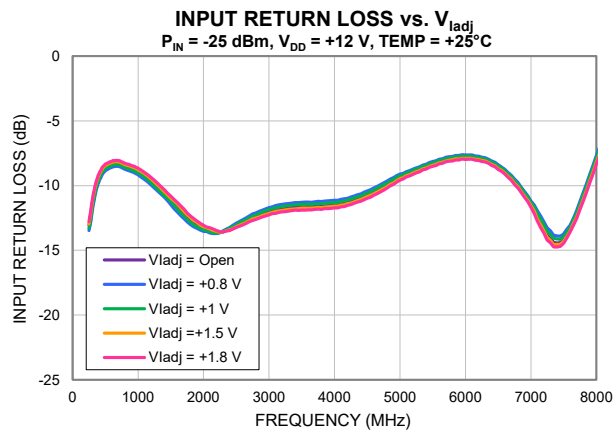
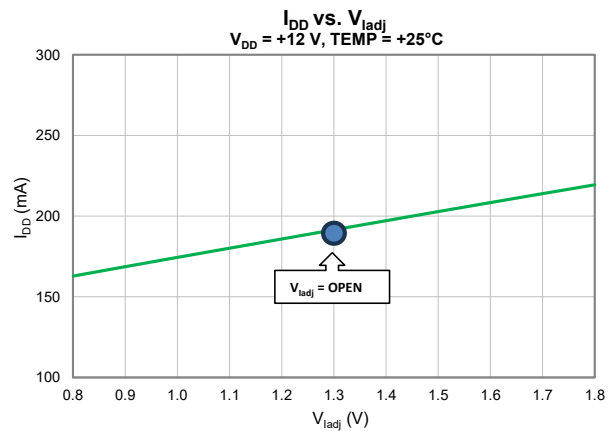
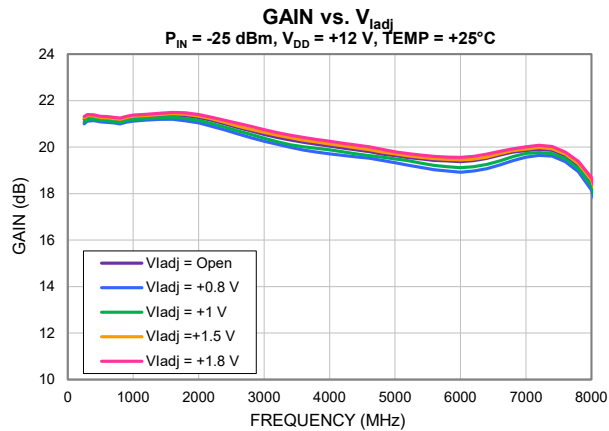
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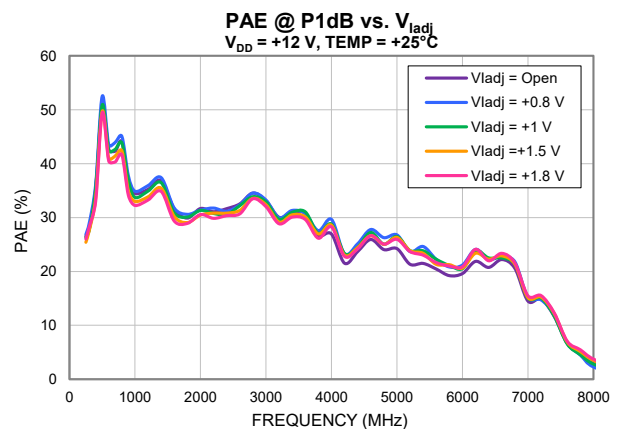
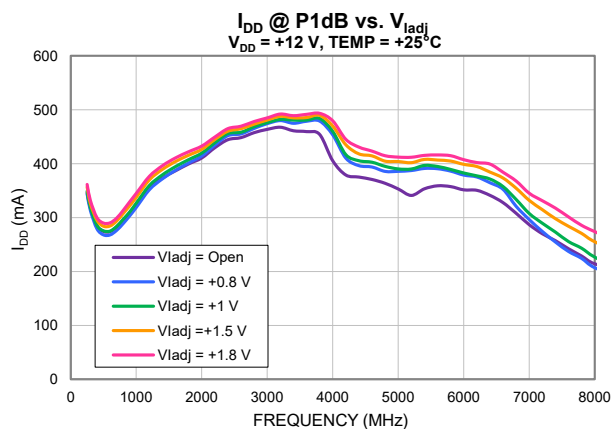
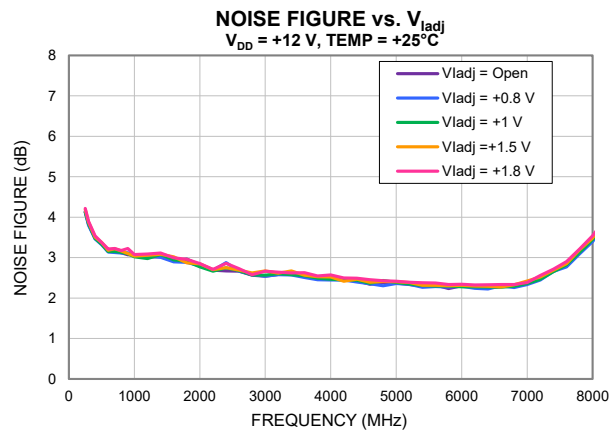
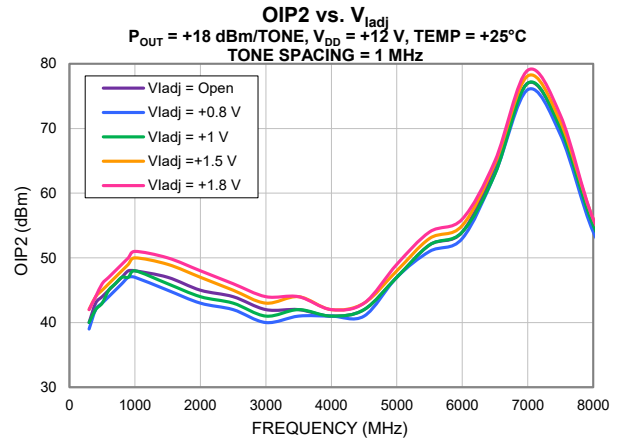
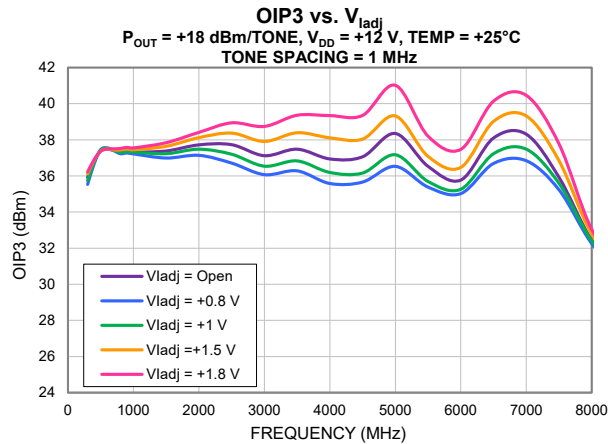
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## ABSOLUTE MAXIMUM RATINGS<sup>7</sup>

| Parameter                           | Ratings         |
|-------------------------------------|-----------------|
| Operating Temperature (ground lead) | -55°C to +85°C  |
| Storage Temperature                 | -65°C to +150°C |
| Junction Temperature <sup>8</sup>   | +175°C          |
| Total Power Dissipation             | 5.5 W           |
| Input Power (CW), $V_{DD} = +12$ V  | +24 dBm         |
| DC Voltage at RF-OUT + $V_{DD}$     | +18 V           |
| DC Voltage at $V_{ladj}$            | +6 V            |

7. Permanent damage may occur if any of these limits are exceeded. Maximum ratings are not intended for continuous normal operation.

8. Peak temperature on top of Die.

## THERMAL RESISTANCE

| Parameter                                         | Ratings  |
|---------------------------------------------------|----------|
| Thermal Resistance ( $\Theta_{JC}$ ) <sup>9</sup> | 12.9°C/W |

9.  $\Theta_{JC}$  = (Hot Spot Temperature on Die - Temperature at Ground Lead)/Dissipated Power

## ESD RATING

|     | Class | Voltage Range   | Reference Standard          |
|-----|-------|-----------------|-----------------------------|
| HBM | 1A    | 250 V to <500 V | ANSI/ESDA/JEDEC JS-001-2023 |
| CDM | C3    | > 1000 V        | ANSI/ESDA/JEDEC JS-001-2022 |



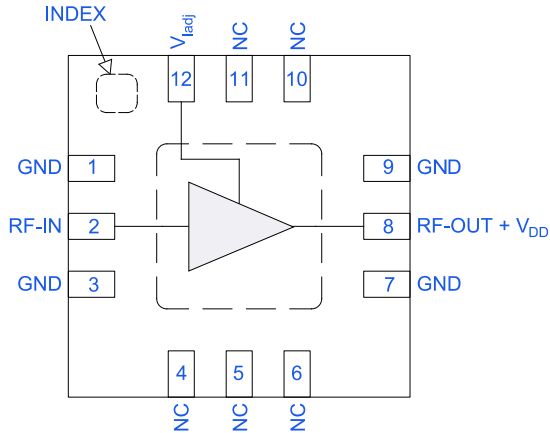
ESD HANDLING PRECAUTION: This device is designed to be Class 1A for HBM. Static charges may easily produce potentials higher than this with improper handling and can discharge into DUT and damage it. As a preventive measure Industry standard ESD handling precautions should be used at all times to protect the device from ESD damage.

## MSL RATING

Moisture Sensitivity: MSL1 in accordance with IPC/JEDEC J-STD-020E/JEDEC J-STD-033C



## FUNCTIONAL DIAGRAM

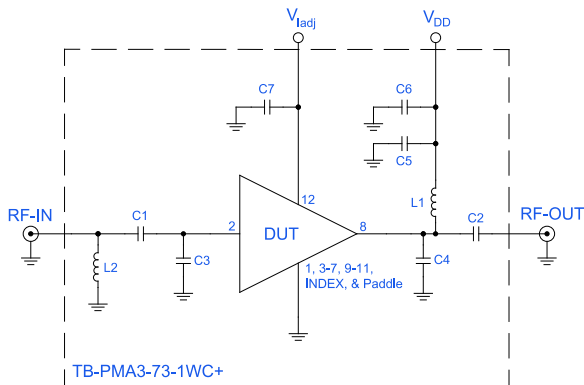


**Figure 1. PMA3-73-1W+ Functional Diagram**

## PAD DESCRIPTION

| Function                 | Pad Number                  | Description (Refer to Figure 2)                                                             |
|--------------------------|-----------------------------|---------------------------------------------------------------------------------------------|
| RF-IN                    | 2                           | RF-IN Pad connects to RF Input port.                                                        |
| RF-OUT + V <sub>DD</sub> | 8                           | RF-OUT Pad connects to RF Output port.<br>V <sub>DD</sub> is applied via external bias tee. |
| V <sub>Iadj</sub>        | 12                          | Voltage Adjust Pad to set I <sub>DD</sub> current level.                                    |
| NC                       | 4-6, 10-11                  | Not used internally. Connected to ground on test board.                                     |
| GND                      | 1, 3, 7, 9, Index, & Paddle | Connects to ground.                                                                         |

## CHARACTERIZATION TEST BOARD



**Figure 2. PMA3-73-1W+ Evaluation and Characterization Circuit**

### Electrical Parameters and Conditions

Gain, Return Loss, Output Power at 1 dB Compression (P1dB), Output IP3 (OIP3), and Noise Figure measured using N5245A PNA-X Microwave Network Analyzer.

Conditions:

1. Gain and Return Loss:  $P_{IN} = -25$  dBm
2. Output IP3 (OIP3): Two tones, spaced 1 MHz apart, +18 dBm/Tone at output.

| Component  | Value   | Size | Part Number        | Manufacturer |
|------------|---------|------|--------------------|--------------|
| C1, C2, C5 | 1000 pF | 0402 | GRM1555C1H102JA01D | Murata       |
| C3, C4     | 0.4 pF  | 0402 | GJM1555C1HR40WB01D | Murata       |
| C6, C7     | 0.1 μF  | 0402 | GRM155R71H104KE14J | Murata       |
| L1         | 20 nH   | 0402 | 0402HP-20NXGRW     | Coilcraft    |
| L2         | 25 nH   | 0402 | 0402HP-25NXJRW     | Coilcraft    |



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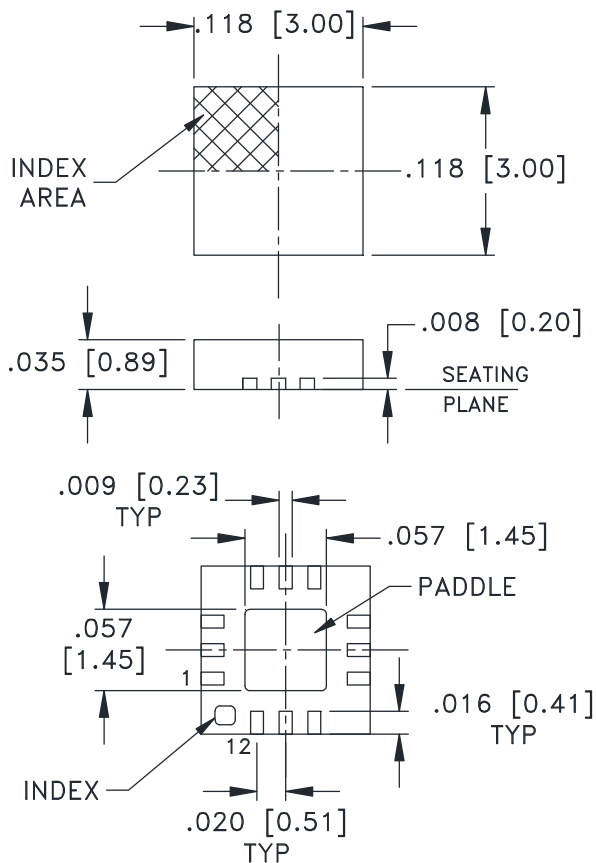
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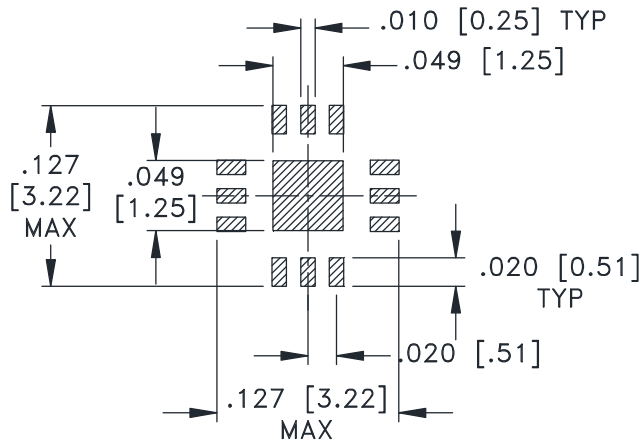
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## CASE STYLE DRAWING



## PCB Land Pattern

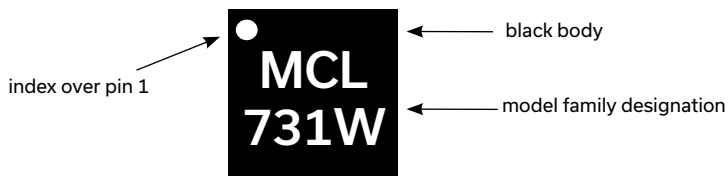


SUGGESTED LAYOUT,  
TOLERANCE TO BE WITHIN  $\pm .002$

Weight: .02 Grams

Dimensions are in inches [mm]. Tolerances in inches: 2 Pl.  $\pm .01$ ; 3 Pl.  $\pm .004$  inches

## PRODUCT MARKING



Marking may contain other features or characters for internal lot control

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[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

PAGE 13 OF 14



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MMIC SURFACE MOUNT

# Power Amplifier

**PMA3-73-1W+**

50Ω 300 to 7500 MHz 1 W Output Power

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD

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|                                       |                                                                |
|---------------------------------------|----------------------------------------------------------------|
| Performance Data & Graphs             | Data                                                           |
|                                       | Graphs                                                         |
|                                       | S-Parameter (S2P Files) Data Set (.zip file)                   |
| Case Style                            | DQ1225 Plastic package, exposed paddle, lead finish: Matte-Tin |
| RoHS Status                           | Compliant                                                      |
| Tape & Reel                           | F66                                                            |
| Standard quantities available on reel | 7" reels with 20, 50, 100, 200, 500, 1K, 2K, or 3K devices     |
| Suggested Layout for PCB Design       | PL-813                                                         |
| Evaluation Board                      | TB-PMA3-73-1WC+                                                |
|                                       | Gerber File                                                    |
| Environmental Ratings                 | ENV08T1                                                        |

## NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{\text{adj}} = \text{Open}$  @ Temperature = +25°CNote: Nominal conditions when  $V_{\text{adj}}$  is varied and  $V_{DD}$  is kept constant (+12 V).

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | $I_{DD}$<br>@P1dB | PAE<br>@P1dB | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|-------------------|--------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (mA)              | (%)          | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.37 | 53.92     | 0.11                    | 0.04                     | 1.55      | 0.02    | -33.84                 | -13.08                 | -28.77         | 31.02           | 210.21            | 0.00         | 300   | 35.92          | 40.00          |
| 50    | 2.80   | 49.21     | 0.39                    | 0.45                     | 1.79      | 0.18    | 21.48                  | 22.02                  | 22.12          | 12.02           | 427.86            | 0.61         | 400   | 36.83          | 43.00          |
| 100   | 14.26  | 37.05     | 1.86                    | 2.08                     | 1.40      | 0.55    | 27.98                  | 28.32                  | 28.42          | 7.64            | 481.25            | 10.53        | 500   | 37.38          | 44.00          |
| 150   | 18.21  | 32.90     | 5.49                    | 6.21                     | 1.47      | 0.98    | 28.65                  | 28.94                  | 28.89          | 9.77            | 436.32            | 13.79        | 600   | 37.48          | 45.00          |
| 200   | 20.66  | 30.44     | 11.39                   | 8.16                     | 1.28      | 0.87    | 30.48                  | 30.71                  | 30.59          | 4.80            | 394.06            | 23.74        | 700   | 37.41          | 46.00          |
| 250   | 21.19  | 29.89     | 13.08                   | 8.56                     | 1.26      | 0.80    | 30.41                  | 30.60                  | 30.56          | 4.13            | 346.25            | 26.52        | 800   | 37.33          | 47.00          |
| 300   | 21.30  | 29.75     | 11.43                   | 7.76                     | 1.25      | 0.72    | 30.32                  | 30.53                  | 30.52          | 3.83            | 317.25            | 27.81        | 900   | 37.37          | 48.00          |
| 400   | 21.30  | 29.70     | 9.34                    | 6.68                     | 1.24      | 0.63    | 30.84                  | 30.99                  | 30.96          | 3.48            | 284.88            | 35.47        | 1000  | 37.32          | 48.00          |
| 500   | 21.23  | 29.75     | 8.53                    | 6.27                     | 1.24      | 0.60    | 32.30                  | 32.40                  | 32.32          | 3.36            | 274.14            | 50.83        | 1500  | 37.38          | 47.00          |
| 600   | 21.22  | 29.75     | 8.29                    | 6.20                     | 1.24      | 0.60    | 31.49                  | 31.57                  | 31.49          | 3.18            | 273.79            | 42.57        | 2000  | 37.72          | 45.00          |
| 700   | 21.19  | 29.67     | 8.23                    | 6.30                     | 1.25      | 0.60    | 31.62                  | 31.71                  | 31.57          | 3.18            | 282.56            | 42.32        | 2500  | 37.73          | 44.00          |
| 800   | 21.15  | 29.75     | 8.46                    | 6.59                     | 1.27      | 0.62    | 31.96                  | 31.99                  | 31.83          | 3.12            | 295.18            | 44.03        | 3000  | 37.12          | 42.00          |
| 900   | 21.23  | 29.68     | 8.63                    | 6.82                     | 1.26      | 0.63    | 31.38                  | 31.46                  | 31.33          | 3.07            | 308.79            | 36.61        | 3500  | 37.48          | 42.00          |
| 1000  | 21.28  | 29.54     | 8.85                    | 7.13                     | 1.26      | 0.65    | 31.30                  | 31.39                  | 31.23          | 3.07            | 324.73            | 34.46        | 4000  | 36.94          | 41.00          |
| 1200  | 21.31  | 29.44     | 9.61                    | 8.03                     | 1.28      | 0.69    | 31.82                  | 31.98                  | 31.85          | 3.01            | 355.20            | 35.23        | 4500  | 37.06          | 42.00          |
| 1400  | 21.35  | 29.27     | 10.59                   | 9.15                     | 1.29      | 0.74    | 32.25                  | 32.48                  | 32.35          | 3.02            | 373.18            | 36.83        | 5000  | 38.35          | 47.00          |
| 1600  | 21.39  | 29.10     | 11.52                   | 10.53                    | 1.30      | 0.78    | 31.72                  | 32.07                  | 31.98          | 2.92            | 386.69            | 31.58        | 5500  | 36.53          | 52.00          |
| 1800  | 21.35  | 29.04     | 12.59                   | 12.28                    | 1.31      | 0.83    | 31.77                  | 32.13                  | 32.05          | 2.97            | 399.38            | 29.89        | 6000  | 35.77          | 54.00          |
| 2000  | 21.27  | 28.96     | 13.25                   | 14.23                    | 1.32      | 0.86    | 32.04                  | 32.49                  | 32.37          | 2.81            | 410.46            | 31.67        | 6500  | 38.10          | 64.00          |
| 2200  | 21.15  | 28.90     | 13.57                   | 15.67                    | 1.33      | 0.88    | 32.27                  | 32.81                  | 32.68          | 2.69            | 429.48            | 31.07        | 7000  | 38.31          | 77.00          |
| 2400  | 21.00  | 28.94     | 13.40                   | 16.14                    | 1.34      | 0.89    | 32.39                  | 32.93                  | 32.82          | 2.67            | 444.36            | 31.64        | 7500  | 35.92          | 70.00          |
| 2600  | 20.84  | 28.90     | 12.88                   | 15.64                    | 1.36      | 0.89    | 32.58                  | 33.04                  | 32.89          | 2.67            | 448.21            | 32.52        | 8000  | 32.44          | 55.00          |
| 2800  | 20.69  | 28.86     | 12.42                   | 14.85                    | 1.37      | 0.89    | 32.94                  | 33.38                  | 33.19          | 2.57            | 457.41            | 34.53        | 8500  | 30.52          | 46.00          |
| 3000  | 20.55  | 28.81     | 12.05                   | 14.17                    | 1.38      | 0.89    | 32.82                  | 33.33                  | 33.23          | 2.54            | 463.47            | 33.10        |       |                |                |
| 3200  | 20.42  | 28.81     | 11.80                   | 13.56                    | 1.38      | 0.88    | 32.36                  | 33.04                  | 32.94          | 2.59            | 467.43            | 30.03        |       |                |                |
| 3400  | 20.31  | 28.77     | 11.68                   | 13.18                    | 1.39      | 0.88    | 32.51                  | 33.30                  | 33.19          | 2.59            | 460.88            | 30.87        |       |                |                |
| 3600  | 20.20  | 28.72     | 11.63                   | 12.85                    | 1.39      | 0.87    | 32.42                  | 33.36                  | 33.25          | 2.57            | 459.32            | 30.80        |       |                |                |
| 3800  | 20.12  | 28.64     | 11.59                   | 12.72                    | 1.40      | 0.87    | 31.96                  | 32.99                  | 32.97          | 2.50            | 454.06            | 26.71        |       |                |                |
| 4000  | 20.04  | 28.66     | 11.49                   | 12.54                    | 1.40      | 0.87    | 31.73                  | 33.42                  | 33.46          | 2.51            | 405.10            | 26.94        |       |                |                |
| 4200  | 19.96  | 28.58     | 11.31                   | 12.05                    | 1.40      | 0.87    | 30.28                  | 32.52                  | 32.59          | 2.44            | 378.81            | 21.52        |       |                |                |
| 4400  | 19.88  | 28.55     | 11.00                   | 11.65                    | 1.41      | 0.87    | 30.55                  | 32.50                  | 32.59          | 2.43            | 375.01            | 23.68        |       |                |                |
| 4600  | 19.80  | 28.61     | 10.55                   | 11.19                    | 1.40      | 0.88    | 30.87                  | 32.71                  | 32.93          | 2.34            | 370.52            | 25.92        |       |                |                |
| 4800  | 19.70  | 28.53     | 10.00                   | 10.70                    | 1.40      | 0.87    | 30.38                  | 32.20                  | 32.46          | 2.38            | 363.42            | 24.05        |       |                |                |
| 5000  | 19.63  | 28.56     | 9.38                    | 10.14                    | 1.39      | 0.87    | 30.18                  | 32.25                  | 32.55          | 2.37            | 352.93            | 24.23        |       |                |                |
| 5200  | 19.55  | 28.59     | 8.96                    | 9.65                     | 1.39      | 0.87    | 29.34                  | 31.98                  | 32.30          | 2.34            | 340.97            | 21.32        |       |                |                |
| 5400  | 19.49  | 28.55     | 8.57                    | 9.29                     | 1.39      | 0.87    | 29.61                  | 32.16                  | 32.39          | 2.30            | 353.23            | 21.48        |       |                |                |
| 5600  | 19.43  | 28.54     | 8.18                    | 8.96                     | 1.37      | 0.86    | 29.51                  | 32.06                  | 32.20          | 2.32            | 358.79            | 20.44        |       |                |                |
| 5800  | 19.40  | 28.50     | 7.96                    | 8.92                     | 1.37      | 0.85    | 29.24                  | 31.87                  | 32.09          | 2.24            | 357.34            | 19.22        |       |                |                |
| 6000  | 19.38  | 28.30     | 7.86                    | 9.02                     | 1.36      | 0.84    | 28.93                  | 31.93                  | 32.14          | 2.30            | 351.30            | 19.61        |       |                |                |
| 6200  | 19.42  | 28.17     | 7.92                    | 9.44                     | 1.36      | 0.85    | 29.55                  | 32.42                  | 32.74          | 2.28            | 350.46            | 21.87        |       |                |                |
| 6400  | 19.51  | 27.92     | 8.32                    | 10.29                    | 1.35      | 0.84    | 29.27                  | 32.18                  | 32.44          | 2.25            | 341.13            | 20.74        |       |                |                |
| 6600  | 19.66  | 27.68     | 8.97                    | 11.85                    | 1.35      | 0.85    | 29.26                  | 32.33                  | 32.66          | 2.28            | 327.61            | 22.21        |       |                |                |
| 6800  | 19.79  | 27.39     | 10.02                   | 14.48                    | 1.34      | 0.85    | 28.77                  | 32.30                  | 32.72          | 2.29            | 307.83            | 20.58        |       |                |                |
| 7000  | 19.86  | 27.22     | 11.48                   | 19.10                    | 1.35      | 0.86    | 27.09                  | 31.18                  | 31.61          | 2.39            | 286.69            | 14.50        |       |                |                |
| 7200  | 19.90  | 27.18     | 13.31                   | 22.40                    | 1.35      | 0.86    | 26.93                  | 31.65                  | 32.12          | 2.50            | 269.90            | 14.93        |       |                |                |
| 7400  | 19.86  | 27.26     | 14.43                   | 19.36                    | 1.35      | 0.87    | 25.79                  | 31.05                  | 31.78          | 2.69            | 257.02            | 11.67        |       |                |                |
| 7600  | 19.62  | 27.43     | 13.48                   | 15.86                    | 1.38      | 0.89    | 23.36                  | 28.42                  | 30.02          | 2.85            | 242.09            | 6.64         |       |                |                |
| 7800  | 19.21  | 27.84     | 10.98                   | 12.90                    | 1.39      | 0.94    | 21.14                  | 25.62                  | 28.78          | 3.15            | 228.57            | 4.64         |       |                |                |
| 8000  | 18.47  | 28.71     | 8.12                    | 9.90                     | 1.43      | 0.96    | 18.86                  | 23.99                  | 27.90          | 3.45            | 214.13            | 2.92         |       |                |                |
| 8500  | 14.41  | 32.84     | 2.87                    | 3.71                     | 1.58      | 0.81    | 12.48                  | 20.58                  | 25.53          | 4.52            | 198.76            | 0.71         |       |                |                |
| 9000  | 8.29   | 39.60     | 1.51                    | 1.54                     | 2.23      | 0.48    | 10.37                  | 18.99                  | 23.86          | 5.90            | 199.26            | 0.31         |       |                |                |
| 9500  | 2.58   | 45.87     | 0.87                    | 0.92                     | 3.46      | 0.34    | 9.13                   | 18.17                  | 21.62          | 7.22            | 196.64            | 0.09         |       |                |                |
| 10000 | -2.48  | 50.88     | 0.77                    | 0.76                     | 6.70      | 0.29    | 6.86                   | 14.75                  | 14.93          | 8.30            | 199.44            | -1.00        |       |                |                |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12 V, V<sub>adj</sub> = +0.8 V @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | I <sub>DD</sub><br>@P1dB | PAE<br>@P1dB | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|--------------------------|--------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (mA)                     | (%)          | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.35 | 58.41     | 0.11                    | 0.05                     | 2.49      | 0.02    | -44.45                 | -31.20                 | -31.87         | 31.52           | 170.41                   | -0.01        | 300   | 35.53          | 39.00          |
| 50    | 2.15   | 48.76     | 0.39                    | 0.43                     | 1.76      | 0.17    | 21.86                  | 21.99                  | 22.01          | 12.03           | 444.52                   | 0.37         | 400   | 36.67          | 42.00          |
| 100   | 13.68  | 36.87     | 1.79                    | 1.96                     | 1.40      | 0.53    | 28.09                  | 28.33                  | 28.31          | 7.65            | 484.74                   | 10.46        | 500   | 37.45          | 43.00          |
| 150   | 17.83  | 32.85     | 5.24                    | 6.09                     | 1.49      | 0.98    | 28.73                  | 28.89                  | 28.82          | 9.74            | 432.50                   | 13.71        | 600   | 37.55          | 44.00          |
| 200   | 20.39  | 30.17     | 11.03                   | 8.12                     | 1.28      | 0.87    | 30.44                  | 30.59                  | 30.48          | 4.79            | 390.24                   | 23.74        | 700   | 37.40          | 45.00          |
| 250   | 21.00  | 29.60     | 13.48                   | 8.93                     | 1.26      | 0.81    | 30.48                  | 30.58                  | 30.63          | 4.12            | 343.71                   | 26.83        | 800   | 37.23          | 46.00          |
| 300   | 21.12  | 29.37     | 11.98                   | 8.20                     | 1.25      | 0.74    | 30.33                  | 30.48                  | 30.55          | 3.80            | 312.91                   | 28.85        | 900   | 37.27          | 47.00          |
| 400   | 21.14  | 29.37     | 9.73                    | 7.06                     | 1.24      | 0.65    | 30.81                  | 30.99                  | 30.94          | 3.46            | 279.06                   | 36.09        | 1000  | 37.22          | 47.00          |
| 500   | 21.08  | 29.37     | 8.85                    | 6.61                     | 1.23      | 0.61    | 32.26                  | 32.35                  | 32.24          | 3.32            | 267.81                   | 52.49        | 1500  | 36.99          | 45.00          |
| 600   | 21.07  | 29.32     | 8.58                    | 6.53                     | 1.24      | 0.60    | 31.49                  | 31.53                  | 31.45          | 3.14            | 267.71                   | 43.43        | 2000  | 37.14          | 43.00          |
| 700   | 21.04  | 29.34     | 8.52                    | 6.64                     | 1.24      | 0.61    | 31.63                  | 31.69                  | 31.53          | 3.12            | 276.09                   | 43.95        | 2500  | 36.71          | 42.00          |
| 800   | 21.00  | 29.36     | 8.75                    | 6.92                     | 1.26      | 0.63    | 31.97                  | 31.95                  | 31.79          | 3.11            | 288.72                   | 45.05        | 3000  | 36.07          | 40.00          |
| 900   | 21.07  | 29.23     | 8.93                    | 7.18                     | 1.26      | 0.64    | 31.42                  | 31.43                  | 31.28          | 3.12            | 303.08                   | 37.69        | 3500  | 36.28          | 41.00          |
| 1000  | 21.12  | 29.17     | 9.18                    | 7.47                     | 1.26      | 0.66    | 31.30                  | 31.38                  | 31.21          | 3.05            | 318.65                   | 34.88        | 4000  | 35.58          | 41.00          |
| 1200  | 21.16  | 29.06     | 9.97                    | 8.38                     | 1.27      | 0.70    | 31.85                  | 31.96                  | 31.82          | 3.04            | 351.47                   | 35.92        | 4500  | 35.66          | 41.00          |
| 1400  | 21.19  | 28.93     | 10.91                   | 9.71                     | 1.29      | 0.75    | 32.28                  | 32.44                  | 32.31          | 3.01            | 371.77                   | 37.39        | 5000  | 36.53          | 47.00          |
| 1600  | 21.20  | 28.78     | 12.06                   | 11.40                    | 1.30      | 0.79    | 31.77                  | 32.05                  | 31.96          | 2.90            | 387.67                   | 31.74        | 5500  | 35.38          | 51.00          |
| 1800  | 21.13  | 28.70     | 13.00                   | 13.28                    | 1.31      | 0.83    | 31.82                  | 32.10                  | 32.02          | 2.88            | 401.26                   | 30.58        | 6000  | 35.02          | 53.00          |
| 2000  | 21.04  | 28.64     | 13.53                   | 15.03                    | 1.32      | 0.86    | 32.14                  | 32.51                  | 32.41          | 2.79            | 414.12                   | 31.37        | 6500  | 36.69          | 63.00          |
| 2200  | 20.89  | 28.64     | 13.70                   | 15.89                    | 1.34      | 0.88    | 32.31                  | 32.73                  | 32.60          | 2.68            | 434.27                   | 31.75        | 7000  | 36.84          | 76.00          |
| 2400  | 20.74  | 28.53     | 13.24                   | 15.74                    | 1.34      | 0.89    | 32.50                  | 32.97                  | 32.82          | 2.87            | 451.89                   | 31.16        | 7500  | 35.23          | 69.00          |
| 2600  | 20.57  | 28.61     | 12.63                   | 14.99                    | 1.35      | 0.89    | 32.69                  | 33.00                  | 32.81          | 2.67            | 455.07                   | 32.36        | 8000  | 32.25          | 54.00          |
| 2800  | 20.41  | 28.66     | 12.11                   | 14.08                    | 1.36      | 0.89    | 33.09                  | 33.37                  | 33.17          | 2.58            | 465.26                   | 34.53        | 8500  | 30.32          | 46.00          |
| 3000  | 20.25  | 28.57     | 11.71                   | 13.36                    | 1.37      | 0.89    | 32.93                  | 33.31                  | 33.18          | 2.54            | 474.12                   | 33.24        |       |                |                |
| 3200  | 20.12  | 28.54     | 11.45                   | 12.76                    | 1.38      | 0.88    | 32.52                  | 33.00                  | 32.90          | 2.58            | 479.77                   | 29.97        |       |                |                |
| 3400  | 19.99  | 28.47     | 11.32                   | 12.43                    | 1.39      | 0.87    | 32.66                  | 33.29                  | 33.16          | 2.57            | 474.79                   | 31.31        |       |                |                |
| 3600  | 19.88  | 28.43     | 11.27                   | 12.16                    | 1.39      | 0.87    | 32.61                  | 33.34                  | 33.21          | 2.51            | 478.56                   | 30.70        |       |                |                |
| 3800  | 19.79  | 28.46     | 11.23                   | 12.05                    | 1.39      | 0.86    | 32.22                  | 32.99                  | 32.92          | 2.45            | 478.89                   | 27.56        |       |                |                |
| 4000  | 19.71  | 28.36     | 11.13                   | 11.90                    | 1.40      | 0.86    | 32.42                  | 33.46                  | 33.43          | 2.45            | 453.23                   | 29.66        |       |                |                |
| 4200  | 19.64  | 28.41     | 10.98                   | 11.49                    | 1.40      | 0.86    | 30.88                  | 32.54                  | 32.62          | 2.45            | 410.11                   | 23.29        |       |                |                |
| 4400  | 19.58  | 28.36     | 10.64                   | 11.07                    | 1.40      | 0.86    | 30.90                  | 32.56                  | 32.58          | 2.40            | 396.20                   | 25.13        |       |                |                |
| 4600  | 19.52  | 28.39     | 10.18                   | 10.61                    | 1.40      | 0.87    | 31.24                  | 32.78                  | 32.91          | 2.35            | 393.66                   | 27.77        |       |                |                |
| 4800  | 19.43  | 28.36     | 9.66                    | 10.13                    | 1.40      | 0.87    | 30.91                  | 32.26                  | 32.45          | 2.30            | 385.50                   | 26.26        |       |                |                |
| 5000  | 19.34  | 28.33     | 9.12                    | 9.66                     | 1.39      | 0.86    | 31.04                  | 32.34                  | 32.55          | 2.36            | 385.66                   | 26.78        |       |                |                |
| 5200  | 19.23  | 28.42     | 8.72                    | 9.20                     | 1.39      | 0.86    | 30.51                  | 32.05                  | 32.29          | 2.34            | 387.10                   | 23.67        |       |                |                |
| 5400  | 19.12  | 28.43     | 8.35                    | 8.84                     | 1.38      | 0.85    | 30.78                  | 32.25                  | 32.40          | 2.27            | 391.01                   | 24.62        |       |                |                |
| 5600  | 19.03  | 28.40     | 7.97                    | 8.59                     | 1.37      | 0.85    | 30.26                  | 32.04                  | 32.18          | 2.28            | 390.51                   | 22.23        |       |                |                |
| 5800  | 18.97  | 28.31     | 7.75                    | 8.51                     | 1.37      | 0.84    | 29.93                  | 31.90                  | 31.99          | 2.27            | 386.10                   | 20.83        |       |                |                |
| 6000  | 18.92  | 28.15     | 7.64                    | 8.63                     | 1.36      | 0.83    | 29.91                  | 31.98                  | 32.12          | 2.29            | 378.70                   | 21.19        |       |                |                |
| 6200  | 18.97  | 27.99     | 7.73                    | 9.00                     | 1.35      | 0.83    | 30.42                  | 32.65                  | 32.71          | 2.24            | 375.19                   | 24.09        |       |                |                |
| 6400  | 19.07  | 27.77     | 8.11                    | 9.83                     | 1.35      | 0.84    | 29.95                  | 32.29                  | 32.48          | 2.22            | 364.49                   | 22.20        |       |                |                |
| 6600  | 19.23  | 27.56     | 8.75                    | 11.26                    | 1.34      | 0.85    | 29.91                  | 32.39                  | 32.59          | 2.30            | 352.22                   | 22.78        |       |                |                |
| 6800  | 19.42  | 27.26     | 9.76                    | 13.73                    | 1.34      | 0.85    | 29.28                  | 32.36                  | 32.65          | 2.26            | 320.75                   | 21.79        |       |                |                |
| 7000  | 19.57  | 27.06     | 11.19                   | 17.52                    | 1.35      | 0.86    | 27.40                  | 31.30                  | 31.64          | 2.33            | 296.18                   | 15.16        |       |                |                |
| 7200  | 19.65  | 26.97     | 12.78                   | 20.80                    | 1.36      | 0.86    | 27.14                  | 31.66                  | 32.17          | 2.45            | 274.17                   | 14.72        |       |                |                |
| 7400  | 19.61  | 27.00     | 13.88                   | 18.61                    | 1.35      | 0.87    | 25.95                  | 31.09                  | 31.73          | 2.66            | 254.51                   | 11.97        |       |                |                |
| 7600  | 19.38  | 27.30     | 13.06                   | 15.57                    | 1.38      | 0.90    | 23.32                  | 29.02                  | 30.12          | 2.77            | 237.03                   | 6.69         |       |                |                |
| 7800  | 18.94  | 27.78     | 10.55                   | 12.46                    | 1.40      | 0.94    | 21.15                  | 25.80                  | 28.92          | 3.10            | 224.17                   | 4.48         |       |                |                |
| 8000  | 18.15  | 28.51     | 7.70                    | 9.36                     | 1.42      | 0.95    | 17.65                  | 24.23                  | 28.06          | 3.40            | 206.91                   | 2.28         |       |                |                |
| 8500  | 13.81  | 33.12     | 2.69                    | 3.45                     | 1.58      | 0.78    | 12.02                  | 21.53                  | 25.92          | 4.48            | 184.24                   | 0.66         |       |                |                |
| 9000  | 7.61   | 39.75     | 1.47                    | 1.46                     | 2.33      | 0.47    | 9.72                   | 19.97                  | 24.00          | 5.84            | 181.27                   | 0.32         |       |                |                |
| 9500  | 1.87   | 46.35     | 0.85                    | 0.89                     | 3.51      | 0.33    | 8.55                   | 19.32                  | 21.69          | 7.23            | 183.75                   | 0.05         |       |                |                |
| 10000 | -3.03  | 51.71     | 0.76                    | 0.75                     | 8.24      | 0.29    | 6.52                   | 15.24                  | 15.02          | 8.47            | 191.83                   | -0.60        |       |                |                |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12 V, V<sub>adj</sub> = +1 V @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | I <sub>DD</sub><br>@P1dB | PAE<br>@P1dB | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|--------------------------|--------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (mA)                     | (%)          | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.68 | 53.86     | 0.10                    | 0.04                     | 1.55      | 0.02    | -45.94                 | -35.46                 | -39.03         | 32.03           | 189.38                   | 0.00         | 300   | 35.74          | 40.00          |
| 50    | 2.44   | 48.62     | 0.39                    | 0.44                     | 1.74      | 0.18    | 21.81                  | 21.97                  | 21.99          | 12.09           | 451.32                   | 0.47         | 400   | 36.77          | 42.00          |
| 100   | 13.96  | 36.95     | 1.82                    | 2.02                     | 1.42      | 0.54    | 28.01                  | 28.31                  | 28.34          | 7.65            | 489.42                   | 10.25        | 500   | 37.44          | 43.00          |
| 150   | 18.01  | 32.88     | 5.35                    | 6.14                     | 1.47      | 0.98    | 28.72                  | 28.92                  | 28.88          | 9.65            | 439.78                   | 13.79        | 600   | 37.53          | 45.00          |
| 200   | 20.52  | 30.37     | 11.20                   | 8.15                     | 1.29      | 0.87    | 30.48                  | 30.60                  | 30.51          | 4.82            | 396.13                   | 23.27        | 700   | 37.43          | 46.00          |
| 250   | 21.08  | 29.67     | 13.31                   | 8.77                     | 1.26      | 0.80    | 30.37                  | 30.60                  | 30.61          | 4.14            | 349.04                   | 26.27        | 800   | 37.31          | 47.00          |
| 300   | 21.20  | 29.51     | 11.74                   | 8.00                     | 1.25      | 0.73    | 30.28                  | 30.53                  | 30.55          | 3.84            | 318.30                   | 27.62        | 900   | 37.34          | 47.00          |
| 400   | 21.21  | 29.50     | 9.56                    | 6.88                     | 1.24      | 0.64    | 30.84                  | 31.02                  | 30.98          | 3.48            | 285.20                   | 35.23        | 1000  | 37.32          | 48.00          |
| 500   | 21.15  | 29.53     | 8.71                    | 6.46                     | 1.24      | 0.61    | 32.28                  | 32.38                  | 32.26          | 3.33            | 275.32                   | 50.86        | 1500  | 37.23          | 46.00          |
| 600   | 21.14  | 29.54     | 8.44                    | 6.38                     | 1.24      | 0.60    | 31.48                  | 31.55                  | 31.46          | 3.15            | 274.77                   | 42.38        | 2000  | 37.48          | 44.00          |
| 700   | 21.10  | 29.52     | 8.38                    | 6.49                     | 1.25      | 0.61    | 31.66                  | 31.68                  | 31.56          | 3.15            | 283.41                   | 42.67        | 2500  | 37.20          | 43.00          |
| 800   | 21.07  | 29.47     | 8.61                    | 6.77                     | 1.26      | 0.63    | 31.97                  | 31.97                  | 31.81          | 3.13            | 296.64                   | 43.85        | 3000  | 36.54          | 41.00          |
| 900   | 21.14  | 29.37     | 8.79                    | 7.02                     | 1.26      | 0.64    | 31.41                  | 31.41                  | 31.32          | 3.10            | 310.28                   | 36.85        | 3500  | 36.83          | 42.00          |
| 1000  | 21.19  | 29.23     | 9.03                    | 7.34                     | 1.26      | 0.65    | 31.29                  | 31.37                  | 31.22          | 3.02            | 326.67                   | 33.72        | 4000  | 36.19          | 41.00          |
| 1200  | 21.22  | 29.22     | 9.80                    | 8.20                     | 1.27      | 0.70    | 31.83                  | 31.97                  | 31.84          | 2.98            | 359.34                   | 34.90        | 4500  | 36.16          | 42.00          |
| 1400  | 21.26  | 29.05     | 10.78                   | 9.41                     | 1.29      | 0.75    | 32.27                  | 32.47                  | 32.32          | 3.08            | 379.22                   | 36.46        | 5000  | 37.17          | 47.00          |
| 1600  | 21.29  | 28.98     | 11.85                   | 11.02                    | 1.30      | 0.79    | 31.77                  | 32.04                  | 31.94          | 2.94            | 394.47                   | 30.87        | 5500  | 35.69          | 52.00          |
| 1800  | 21.23  | 28.81     | 12.83                   | 12.86                    | 1.31      | 0.83    | 31.84                  | 32.14                  | 32.03          | 2.91            | 407.33                   | 30.08        | 6000  | 35.26          | 54.00          |
| 2000  | 21.15  | 28.81     | 13.41                   | 14.77                    | 1.32      | 0.86    | 32.19                  | 32.50                  | 32.37          | 2.77            | 419.46                   | 31.31        | 6500  | 37.23          | 63.00          |
| 2200  | 21.01  | 28.76     | 13.67                   | 15.88                    | 1.33      | 0.88    | 32.39                  | 32.78                  | 32.62          | 2.67            | 438.82                   | 30.75        | 7000  | 37.48          | 77.00          |
| 2400  | 20.86  | 28.69     | 13.31                   | 15.95                    | 1.34      | 0.89    | 32.47                  | 32.94                  | 32.85          | 2.74            | 455.73                   | 30.54        | 7500  | 35.59          | 70.00          |
| 2600  | 20.70  | 28.69     | 12.73                   | 15.32                    | 1.35      | 0.89    | 32.68                  | 33.00                  | 32.79          | 2.68            | 458.14                   | 32.19        | 8000  | 32.40          | 55.00          |
| 2800  | 20.54  | 28.69     | 12.26                   | 14.45                    | 1.36      | 0.89    | 33.13                  | 33.37                  | 33.19          | 2.57            | 468.36                   | 33.86        | 8500  | 30.46          | 46.00          |
| 3000  | 20.38  | 28.69     | 11.87                   | 13.74                    | 1.37      | 0.89    | 32.95                  | 33.31                  | 33.19          | 2.56            | 475.94                   | 32.90        |       |                |                |
| 3200  | 20.23  | 28.67     | 11.60                   | 13.14                    | 1.38      | 0.88    | 32.53                  | 33.01                  | 32.91          | 2.60            | 482.04                   | 29.67        |       |                |                |
| 3400  | 20.10  | 28.71     | 11.48                   | 12.75                    | 1.39      | 0.88    | 32.70                  | 33.29                  | 33.17          | 2.58            | 480.66                   | 30.96        |       |                |                |
| 3600  | 20.01  | 28.63     | 11.44                   | 12.47                    | 1.40      | 0.87    | 32.75                  | 33.35                  | 33.21          | 2.55            | 480.74                   | 31.05        |       |                |                |
| 3800  | 19.94  | 28.49     | 11.39                   | 12.36                    | 1.40      | 0.87    | 32.27                  | 32.99                  | 32.92          | 2.49            | 483.77                   | 27.06        |       |                |                |
| 4000  | 19.88  | 28.44     | 11.30                   | 12.17                    | 1.40      | 0.87    | 32.43                  | 33.47                  | 33.49          | 2.47            | 459.65                   | 28.78        |       |                |                |
| 4200  | 19.80  | 28.48     | 11.12                   | 11.75                    | 1.40      | 0.86    | 30.97                  | 32.56                  | 32.62          | 2.45            | 416.57                   | 23.30        |       |                |                |
| 4400  | 19.71  | 28.47     | 10.80                   | 11.32                    | 1.41      | 0.87    | 31.00                  | 32.55                  | 32.60          | 2.44            | 405.30                   | 24.50        |       |                |                |
| 4600  | 19.64  | 28.45     | 10.33                   | 10.85                    | 1.40      | 0.87    | 31.37                  | 32.76                  | 32.94          | 2.36            | 402.53                   | 27.22        |       |                |                |
| 4800  | 19.56  | 28.46     | 9.81                    | 10.37                    | 1.40      | 0.87    | 30.95                  | 32.31                  | 32.44          | 2.44            | 394.83                   | 25.05        |       |                |                |
| 5000  | 19.49  | 28.48     | 9.24                    | 9.85                     | 1.39      | 0.87    | 31.01                  | 32.35                  | 32.56          | 2.38            | 390.13                   | 26.47        |       |                |                |
| 5200  | 19.41  | 28.44     | 8.83                    | 9.39                     | 1.39      | 0.86    | 30.56                  | 32.07                  | 32.30          | 2.35            | 389.96                   | 23.86        |       |                |                |
| 5400  | 19.31  | 28.42     | 8.44                    | 9.05                     | 1.38      | 0.86    | 30.62                  | 32.22                  | 32.37          | 2.31            | 396.57                   | 23.83        |       |                |                |
| 5600  | 19.22  | 28.46     | 8.04                    | 8.75                     | 1.38      | 0.85    | 30.34                  | 32.06                  | 32.16          | 2.29            | 394.67                   | 22.25        |       |                |                |
| 5800  | 19.16  | 28.40     | 7.83                    | 8.68                     | 1.37      | 0.85    | 30.02                  | 31.92                  | 32.02          | 2.30            | 389.16                   | 21.11        |       |                |                |
| 6000  | 19.11  | 28.26     | 7.74                    | 8.79                     | 1.36      | 0.84    | 29.82                  | 31.94                  | 32.11          | 2.28            | 382.58                   | 20.51        |       |                |                |
| 6200  | 19.15  | 28.08     | 7.81                    | 9.18                     | 1.35      | 0.84    | 30.40                  | 32.51                  | 32.67          | 2.28            | 377.29                   | 23.85        |       |                |                |
| 6400  | 19.25  | 27.87     | 8.19                    | 10.03                    | 1.35      | 0.84    | 30.09                  | 32.25                  | 32.46          | 2.28            | 371.41                   | 22.51        |       |                |                |
| 6600  | 19.41  | 27.65     | 8.85                    | 11.47                    | 1.34      | 0.85    | 29.93                  | 32.41                  | 32.61          | 2.27            | 357.46                   | 22.50        |       |                |                |
| 6800  | 19.59  | 27.36     | 9.88                    | 14.05                    | 1.34      | 0.86    | 29.38                  | 32.38                  | 32.71          | 2.29            | 333.45                   | 21.34        |       |                |                |
| 7000  | 19.73  | 27.14     | 11.31                   | 18.21                    | 1.35      | 0.86    | 27.62                  | 31.32                  | 31.63          | 2.36            | 307.47                   | 15.06        |       |                |                |
| 7200  | 19.77  | 27.07     | 13.02                   | 21.65                    | 1.35      | 0.86    | 27.30                  | 31.82                  | 32.15          | 2.47            | 289.36                   | 15.05        |       |                |                |
| 7400  | 19.72  | 27.11     | 14.11                   | 19.06                    | 1.36      | 0.87    | 26.17                  | 31.13                  | 31.78          | 2.65            | 272.92                   | 11.77        |       |                |                |
| 7600  | 19.49  | 27.36     | 13.24                   | 15.72                    | 1.38      | 0.90    | 23.83                  | 28.96                  | 29.99          | 2.82            | 255.37                   | 6.54         |       |                |                |
| 7800  | 19.07  | 27.79     | 10.72                   | 12.68                    | 1.39      | 0.94    | 21.33                  | 25.99                  | 28.91          | 3.14            | 243.03                   | 4.55         |       |                |                |
| 8000  | 18.30  | 28.63     | 7.88                    | 9.61                     | 1.43      | 0.95    | 18.97                  | 24.29                  | 28.10          | 3.45            | 226.59                   | 2.83         |       |                |                |
| 8500  | 14.10  | 33.18     | 2.77                    | 3.55                     | 1.59      | 0.79    | 12.20                  | 21.60                  | 25.90          | 4.53            | 197.11                   | 0.73         |       |                |                |
| 9000  | 7.91   | 39.87     | 1.49                    | 1.49                     | 2.32      | 0.47    | 10.36                  | 20.15                  | 23.93          | 5.92            | 195.55                   | 0.32         |       |                |                |
| 9500  | 2.16   | 45.80     | 0.85                    | 0.89                     | 3.48      | 0.33    | 9.04                   | 19.59                  | 21.79          | 7.22            | 196.61                   | 0.07         |       |                |                |
| 10000 | -2.81  | 50.49     | 0.75                    | 0.75                     | 6.91      | 0.29    | 5.88                   | 15.34                  | 15.24          | 8.48            | 196.66                   | -0.89        |       |                |                |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12 V, V<sub>adj</sub> = +1.5 V @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | I <sub>DD</sub><br>@P1dB | PAE<br>@P1dB | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|--------------------------|--------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (mA)                     | (%)          | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.28 | 52.53     | 0.11                    | 0.03                     | 1.52      | 0.01    | -41.66                 | -31.71                 | -35.47         | 31.56           | 215.11                   | 0.00         | 300   | 36.11          | 42.00          |
| 50    | 2.94   | 49.44     | 0.39                    | 0.45                     | 1.80      | 0.18    | 21.58                  | 22.17                  | 22.15          | 11.96           | 440.10                   | 0.67         | 400   | 36.87          | 44.00          |
| 100   | 14.40  | 37.12     | 1.88                    | 2.12                     | 1.42      | 0.56    | 27.88                  | 28.24                  | 28.26          | 7.64            | 493.81                   | 9.87         | 500   | 37.37          | 45.00          |
| 150   | 18.32  | 32.95     | 5.54                    | 6.25                     | 1.47      | 0.98    | 28.60                  | 28.88                  | 28.81          | 9.46            | 447.44                   | 13.20        | 600   | 37.48          | 46.00          |
| 200   | 20.74  | 30.55     | 11.47                   | 8.15                     | 1.29      | 0.87    | 30.47                  | 30.61                  | 30.51          | 4.85            | 403.47                   | 22.81        | 700   | 37.44          | 47.00          |
| 250   | 21.25  | 30.01     | 12.96                   | 8.46                     | 1.26      | 0.79    | 30.41                  | 30.66                  | 30.61          | 4.19            | 356.63                   | 25.40        | 800   | 37.44          | 48.00          |
| 300   | 21.34  | 29.87     | 11.30                   | 7.64                     | 1.25      | 0.72    | 30.36                  | 30.61                  | 30.48          | 3.88            | 325.92                   | 27.50        | 900   | 37.49          | 49.00          |
| 400   | 21.34  | 29.82     | 9.24                    | 6.58                     | 1.24      | 0.63    | 30.79                  | 31.02                  | 30.98          | 3.51            | 294.92                   | 33.61        | 1000  | 37.45          | 50.00          |
| 500   | 21.27  | 29.87     | 8.45                    | 6.18                     | 1.24      | 0.60    | 32.30                  | 32.42                  | 32.36          | 3.38            | 283.86                   | 49.69        | 1500  | 37.64          | 49.00          |
| 600   | 21.26  | 29.87     | 8.22                    | 6.11                     | 1.24      | 0.59    | 31.50                  | 31.59                  | 31.50          | 3.18            | 284.29                   | 40.98        | 2000  | 38.12          | 47.00          |
| 700   | 21.23  | 29.85     | 8.17                    | 6.22                     | 1.25      | 0.60    | 31.68                  | 31.74                  | 31.60          | 3.22            | 293.35                   | 41.44        | 2500  | 38.37          | 45.00          |
| 800   | 21.19  | 29.78     | 8.39                    | 6.49                     | 1.27      | 0.62    | 31.98                  | 32.01                  | 31.84          | 3.16            | 307.35                   | 42.38        | 3000  | 37.91          | 43.00          |
| 900   | 21.27  | 29.77     | 8.54                    | 6.72                     | 1.27      | 0.63    | 31.39                  | 31.50                  | 31.31          | 3.10            | 321.73                   | 34.89        | 3500  | 38.39          | 44.00          |
| 1000  | 21.32  | 29.64     | 8.77                    | 7.04                     | 1.26      | 0.64    | 31.29                  | 31.40                  | 31.25          | 3.04            | 337.31                   | 32.97        | 4000  | 38.11          | 42.00          |
| 1200  | 21.35  | 29.50     | 9.51                    | 7.93                     | 1.27      | 0.69    | 31.81                  | 31.99                  | 31.87          | 3.06            | 369.75                   | 33.84        | 4500  | 38.04          | 43.00          |
| 1400  | 21.40  | 29.35     | 10.47                   | 9.01                     | 1.29      | 0.74    | 32.26                  | 32.50                  | 32.36          | 3.09            | 389.31                   | 35.44        | 5000  | 39.32          | 48.00          |
| 1600  | 21.43  | 29.24     | 11.43                   | 10.40                    | 1.30      | 0.78    | 31.74                  | 32.09                  | 31.96          | 3.02            | 403.87                   | 30.19        | 5500  | 37.08          | 53.00          |
| 1800  | 21.41  | 29.13     | 12.48                   | 12.14                    | 1.31      | 0.82    | 31.77                  | 32.16                  | 32.05          | 2.87            | 415.58                   | 29.07        | 6000  | 36.47          | 55.00          |
| 2000  | 21.34  | 29.05     | 13.19                   | 14.09                    | 1.32      | 0.86    | 32.07                  | 32.52                  | 32.34          | 2.84            | 426.35                   | 30.45        | 6500  | 39.02          | 64.60          |
| 2200  | 21.21  | 28.90     | 13.53                   | 15.65                    | 1.33      | 0.88    | 32.30                  | 32.81                  | 32.61          | 2.70            | 444.71                   | 30.81        | 7000  | 39.32          | 78.12          |
| 2400  | 21.07  | 28.97     | 13.42                   | 16.15                    | 1.35      | 0.89    | 32.46                  | 32.93                  | 32.80          | 2.75            | 460.13                   | 30.81        | 7500  | 36.84          | 71.01          |
| 2600  | 20.91  | 28.92     | 12.96                   | 15.85                    | 1.35      | 0.89    | 32.64                  | 33.05                  | 32.86          | 2.69            | 464.70                   | 31.31        | 8000  | 32.77          | 56.00          |
| 2800  | 20.76  | 28.92     | 12.51                   | 15.09                    | 1.37      | 0.89    | 33.04                  | 33.38                  | 33.22          | 2.62            | 473.20                   | 33.54        | 8500  | 30.75          | 47.00          |
| 3000  | 20.63  | 28.90     | 12.15                   | 14.39                    | 1.38      | 0.89    | 32.88                  | 33.32                  | 33.21          | 2.67            | 480.81                   | 32.37        |       |                |                |
| 3200  | 20.51  | 28.83     | 11.91                   | 13.78                    | 1.38      | 0.88    | 32.45                  | 33.01                  | 32.92          | 2.62            | 487.61                   | 29.15        |       |                |                |
| 3400  | 20.40  | 28.79     | 11.79                   | 13.40                    | 1.39      | 0.88    | 32.58                  | 33.30                  | 33.21          | 2.67            | 484.87                   | 30.49        |       |                |                |
| 3600  | 20.30  | 28.80     | 11.74                   | 13.09                    | 1.39      | 0.87    | 32.58                  | 33.31                  | 33.22          | 2.56            | 485.43                   | 30.11        |       |                |                |
| 3800  | 20.22  | 28.77     | 11.70                   | 12.95                    | 1.40      | 0.87    | 32.19                  | 33.00                  | 32.95          | 2.53            | 489.52                   | 26.95        |       |                |                |
| 4000  | 20.14  | 28.71     | 11.59                   | 12.67                    | 1.40      | 0.87    | 32.34                  | 33.40                  | 33.45          | 2.52            | 469.57                   | 28.57        |       |                |                |
| 4200  | 20.05  | 28.64     | 11.39                   | 12.20                    | 1.41      | 0.87    | 31.04                  | 32.56                  | 32.64          | 2.42            | 434.90                   | 23.03        |       |                |                |
| 4400  | 19.97  | 28.62     | 11.08                   | 11.84                    | 1.40      | 0.87    | 31.00                  | 32.55                  | 32.62          | 2.47            | 417.99                   | 24.45        |       |                |                |
| 4600  | 19.89  | 28.65     | 10.63                   | 11.37                    | 1.40      | 0.88    | 31.36                  | 32.78                  | 32.94          | 2.39            | 414.32                   | 26.62        |       |                |                |
| 4800  | 19.79  | 28.55     | 10.09                   | 10.84                    | 1.39      | 0.88    | 30.91                  | 32.28                  | 32.46          | 2.41            | 404.50                   | 25.03        |       |                |                |
| 5000  | 19.71  | 28.63     | 9.46                    | 10.28                    | 1.40      | 0.88    | 31.07                  | 32.35                  | 32.56          | 2.40            | 403.79                   | 26.30        |       |                |                |
| 5200  | 19.63  | 28.62     | 9.03                    | 9.79                     | 1.39      | 0.87    | 30.68                  | 32.06                  | 32.33          | 2.38            | 401.70                   | 23.84        |       |                |                |
| 5400  | 19.56  | 28.60     | 8.64                    | 9.37                     | 1.38      | 0.87    | 30.65                  | 32.22                  | 32.40          | 2.32            | 407.77                   | 23.36        |       |                |                |
| 5600  | 19.50  | 28.52     | 8.24                    | 9.08                     | 1.37      | 0.86    | 30.24                  | 32.04                  | 32.16          | 2.32            | 406.59                   | 21.31        |       |                |                |
| 5800  | 19.48  | 28.52     | 8.01                    | 8.99                     | 1.36      | 0.86    | 30.07                  | 31.88                  | 31.97          | 2.30            | 404.70                   | 21.25        |       |                |                |
| 6000  | 19.45  | 28.38     | 7.91                    | 9.09                     | 1.36      | 0.85    | 29.97                  | 31.90                  | 32.12          | 2.32            | 398.62                   | 20.62        |       |                |                |
| 6200  | 19.48  | 28.20     | 7.98                    | 9.50                     | 1.35      | 0.85    | 30.39                  | 32.47                  | 32.72          | 2.30            | 394.61                   | 23.37        |       |                |                |
| 6400  | 19.57  | 28.01     | 8.37                    | 10.43                    | 1.35      | 0.85    | 30.07                  | 32.22                  | 32.43          | 2.29            | 384.29                   | 22.28        |       |                |                |
| 6600  | 19.72  | 27.73     | 9.04                    | 11.93                    | 1.35      | 0.85    | 30.08                  | 32.39                  | 32.64          | 2.28            | 373.27                   | 22.88        |       |                |                |
| 6800  | 19.85  | 27.47     | 10.09                   | 14.59                    | 1.35      | 0.86    | 29.64                  | 32.34                  | 32.66          | 2.33            | 354.30                   | 21.33        |       |                |                |
| 7000  | 19.91  | 27.31     | 11.55                   | 19.51                    | 1.35      | 0.86    | 27.90                  | 31.31                  | 31.65          | 2.42            | 331.72                   | 15.12        |       |                |                |
| 7200  | 19.98  | 27.25     | 13.48                   | 22.90                    | 1.35      | 0.86    | 27.75                  | 31.74                  | 32.14          | 2.52            | 314.53                   | 15.24        |       |                |                |
| 7400  | 19.93  | 27.26     | 14.54                   | 19.55                    | 1.36      | 0.87    | 26.76                  | 31.18                  | 31.76          | 2.69            | 297.84                   | 12.22        |       |                |                |
| 7600  | 19.70  | 27.56     | 13.52                   | 15.95                    | 1.38      | 0.89    | 24.37                  | 29.12                  | 29.97          | 2.85            | 283.74                   | 6.91         |       |                |                |
| 7800  | 19.29  | 28.05     | 11.07                   | 13.03                    | 1.41      | 0.94    | 22.74                  | 26.40                  | 28.96          | 3.20            | 270.50                   | 5.14         |       |                |                |
| 8000  | 18.57  | 28.70     | 8.22                    | 10.06                    | 1.42      | 0.96    | 20.55                  | 24.56                  | 27.99          | 3.48            | 255.07                   | 3.50         |       |                |                |
| 8500  | 14.54  | 33.15     | 2.92                    | 3.77                     | 1.59      | 0.82    | 14.42                  | 21.79                  | 25.86          | 4.60            | 229.95                   | 0.93         |       |                |                |
| 9000  | 8.44   | 39.62     | 1.53                    | 1.55                     | 2.20      | 0.49    | 11.89                  | 20.37                  | 23.98          | 5.97            | 228.88                   | 0.41         |       |                |                |
| 9500  | 2.69   | 46.01     | 0.86                    | 0.91                     | 3.49      | 0.34    | 10.24                  | 19.49                  | 21.85          | 7.31            | 226.04                   | 0.11         |       |                |                |
| 10000 | -2.37  | 50.57     | 0.75                    | 0.76                     | 6.22      | 0.29    | 7.87                   | 15.76                  | 15.57          | 8.57            | 216.45                   | -0.88        |       |                |                |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12 V, V<sub>adj</sub> = +1.8 V @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input Return Loss | Output Return Loss | Stability |         | 1dB Comp. Output | 3dB Comp. Output | Psat Output | Noise Figure | I <sub>DD</sub> @P1dB | PAE @P1dB | FREQ  | OIP3 Output | OIP2 Output |
|-------|--------|-----------|-------------------|--------------------|-----------|---------|------------------|------------------|-------------|--------------|-----------------------|-----------|-------|-------------|-------------|
| (MHz) | (dB)   | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)            | (dBm)            | (dBm)       | (dB)         | (mA)                  | (%)       | (MHz) | (dBm)       | (dBm)       |
| 10    | -26.00 | 53.30     | 0.11              | 0.04               | 1.71      | 0.02    | -21.32           | -37.97           | -40.07      | 31.72        | 230.76                | -2.89     | 300   | 36.22       | 42.00       |
| 50    | 3.13   | 49.15     | 0.39              | 0.46               | 1.77      | 0.18    | 21.49            | 22.14            | 22.15       | 11.97        | 469.38                | 0.73      | 400   | 36.90       | 44.00       |
| 100   | 14.59  | 37.08     | 1.91              | 2.16               | 1.41      | 0.57    | 27.74            | 28.21            | 28.25       | 7.65         | 497.76                | 9.92      | 500   | 37.37       | 46.00       |
| 150   | 18.45  | 33.14     | 5.62              | 6.28               | 1.48      | 0.98    | 28.60            | 28.88            | 28.87       | 9.40         | 452.41                | 13.32     | 600   | 37.49       | 47.00       |
| 200   | 20.84  | 30.60     | 11.58             | 8.15               | 1.29      | 0.86    | 30.45            | 30.68            | 30.54       | 4.87         | 408.16                | 22.52     | 700   | 37.50       | 48.00       |
| 250   | 21.32  | 30.09     | 12.79             | 8.31               | 1.26      | 0.79    | 30.48            | 30.64            | 30.60       | 4.21         | 361.35                | 26.01     | 800   | 37.52       | 49.00       |
| 300   | 21.41  | 30.04     | 11.12             | 7.49               | 1.25      | 0.72    | 30.33            | 30.59            | 30.54       | 3.90         | 331.37                | 28.18     | 900   | 37.58       | 50.00       |
| 400   | 21.39  | 29.97     | 9.11              | 6.44               | 1.24      | 0.63    | 30.79            | 31.10            | 31.02       | 3.54         | 299.67                | 33.02     | 1000  | 37.55       | 51.00       |
| 500   | 21.32  | 29.98     | 8.34              | 6.06               | 1.24      | 0.60    | 32.38            | 32.51            | 32.36       | 3.38         | 289.70                | 49.43     | 1500  | 37.84       | 50.00       |
| 600   | 21.31  | 30.01     | 8.12              | 6.00               | 1.25      | 0.59    | 31.52            | 31.62            | 31.52       | 3.21         | 290.11                | 40.45     | 2000  | 38.41       | 48.00       |
| 700   | 21.28  | 30.01     | 8.06              | 6.11               | 1.25      | 0.60    | 31.64            | 31.74            | 31.63       | 3.22         | 298.77                | 40.33     | 2500  | 38.94       | 46.00       |
| 800   | 21.25  | 29.91     | 8.28              | 6.37               | 1.27      | 0.62    | 31.98            | 32.02            | 31.86       | 3.18         | 313.14                | 41.62     | 3000  | 38.74       | 44.00       |
| 900   | 21.33  | 29.89     | 8.44              | 6.60               | 1.26      | 0.62    | 31.39            | 31.47            | 31.34       | 3.23         | 329.13                | 34.10     | 3500  | 39.36       | 44.00       |
| 1000  | 21.38  | 29.78     | 8.67              | 6.90               | 1.26      | 0.64    | 31.28            | 31.42            | 31.26       | 3.08         | 344.70                | 32.24     | 4000  | 39.34       | 42.00       |
| 1200  | 21.41  | 29.66     | 9.38              | 7.81               | 1.28      | 0.69    | 31.82            | 32.00            | 31.88       | 3.09         | 376.35                | 33.24     | 4500  | 39.35       | 43.00       |
| 1400  | 21.45  | 29.47     | 10.33             | 8.90               | 1.29      | 0.73    | 32.26            | 32.52            | 32.38       | 3.11         | 396.12                | 34.84     | 5000  | 41.02       | 49.00       |
| 1600  | 21.49  | 29.33     | 11.31             | 10.24              | 1.30      | 0.78    | 31.73            | 32.07            | 32.01       | 3.00         | 410.60                | 29.35     | 5500  | 38.20       | 54.00       |
| 1800  | 21.47  | 29.21     | 12.34             | 11.83              | 1.31      | 0.82    | 31.76            | 32.15            | 32.07       | 2.96         | 422.04                | 28.91     | 6000  | 37.47       | 56.00       |
| 2000  | 21.40  | 29.17     | 13.06             | 13.80              | 1.33      | 0.85    | 32.04            | 32.55            | 32.44       | 2.85         | 432.45                | 30.55     | 6500  | 40.14       | 65.01       |
| 2200  | 21.29  | 29.08     | 13.46             | 15.51              | 1.33      | 0.88    | 32.28            | 32.80            | 32.69       | 2.71         | 449.27                | 29.85     | 7000  | 40.46       | 79.00       |
| 2400  | 21.15  | 29.03     | 13.47             | 16.11              | 1.34      | 0.89    | 32.45            | 32.97            | 32.89       | 2.86         | 464.90                | 30.35     | 7500  | 37.77       | 72.00       |
| 2600  | 21.02  | 29.07     | 13.04             | 16.03              | 1.36      | 0.90    | 32.59            | 33.07            | 32.89       | 2.73         | 469.36                | 30.68     | 8000  | 33.04       | 56.00       |
| 2800  | 20.89  | 29.04     | 12.62             | 15.35              | 1.37      | 0.90    | 33.03            | 33.43            | 33.28       | 2.58         | 478.04                | 33.48     | 8500  | 30.85       | 48.00       |
| 3000  | 20.75  | 28.91     | 12.27             | 14.67              | 1.37      | 0.89    | 32.85            | 33.32            | 33.22       | 2.67         | 484.75                | 32.01     |       |             |             |
| 3200  | 20.62  | 28.95     | 12.03             | 14.09              | 1.38      | 0.89    | 32.41            | 33.01            | 32.94       | 2.64         | 491.89                | 28.84     |       |             |             |
| 3400  | 20.51  | 28.90     | 11.91             | 13.69              | 1.39      | 0.88    | 32.63            | 33.29            | 33.20       | 2.62         | 488.83                | 30.07     |       |             |             |
| 3600  | 20.41  | 28.85     | 11.89             | 13.35              | 1.39      | 0.87    | 32.53            | 33.26            | 33.23       | 2.63         | 491.33                | 29.64     |       |             |             |
| 3800  | 20.33  | 28.79     | 11.83             | 13.20              | 1.40      | 0.88    | 32.13            | 32.97            | 32.97       | 2.54         | 493.23                | 26.16     |       |             |             |
| 4000  | 20.25  | 28.83     | 11.72             | 12.92              | 1.41      | 0.88    | 32.41            | 33.37            | 33.47       | 2.57         | 479.31                | 28.26     |       |             |             |
| 4200  | 20.17  | 28.66     | 11.53             | 12.46              | 1.40      | 0.87    | 31.10            | 32.57            | 32.64       | 2.50         | 444.92                | 22.79     |       |             |             |
| 4400  | 20.09  | 28.69     | 11.21             | 12.08              | 1.40      | 0.88    | 31.08            | 32.56            | 32.63       | 2.49         | 430.53                | 24.20     |       |             |             |
| 4600  | 20.01  | 28.71     | 10.76             | 11.59              | 1.40      | 0.88    | 31.42            | 32.79            | 32.96       | 2.45         | 423.11                | 26.63     |       |             |             |
| 4800  | 19.90  | 28.70     | 10.21             | 11.07              | 1.39      | 0.88    | 31.02            | 32.27            | 32.49       | 2.43         | 414.58                | 25.06     |       |             |             |
| 5000  | 19.80  | 28.68     | 9.58              | 10.49              | 1.39      | 0.88    | 31.12            | 32.36            | 32.58       | 2.42         | 412.01                | 25.95     |       |             |             |
| 5200  | 19.72  | 28.70     | 9.14              | 10.00              | 1.38      | 0.88    | 30.75            | 32.08            | 32.33       | 2.39         | 411.75                | 23.68     |       |             |             |
| 5400  | 19.66  | 28.64     | 8.73              | 9.54               | 1.38      | 0.87    | 30.67            | 32.24            | 32.39       | 2.38         | 415.26                | 23.01     |       |             |             |
| 5600  | 19.60  | 28.63     | 8.32              | 9.23               | 1.37      | 0.87    | 30.41            | 31.99            | 32.16       | 2.37         | 416.03                | 21.64     |       |             |             |
| 5800  | 19.57  | 28.55     | 8.09              | 9.13               | 1.37      | 0.86    | 30.15            | 31.84            | 31.99       | 2.33         | 414.65                | 21.00     |       |             |             |
| 6000  | 19.55  | 28.41     | 7.99              | 9.25               | 1.36      | 0.85    | 30.02            | 31.90            | 32.12       | 2.34         | 407.26                | 20.87     |       |             |             |
| 6200  | 19.61  | 28.23     | 8.06              | 9.65               | 1.35      | 0.85    | 30.47            | 32.49            | 32.72       | 2.32         | 401.91                | 24.10     |       |             |             |
| 6400  | 19.70  | 28.08     | 8.45              | 10.63              | 1.35      | 0.85    | 30.15            | 32.20            | 32.48       | 2.33         | 399.12                | 21.98     |       |             |             |
| 6600  | 19.82  | 27.79     | 9.11              | 12.21              | 1.35      | 0.85    | 30.19            | 32.40            | 32.65       | 2.34         | 383.95                | 23.36     |       |             |             |
| 6800  | 19.93  | 27.56     | 10.18             | 14.90              | 1.35      | 0.86    | 29.77            | 32.36            | 32.67       | 2.33         | 367.69                | 21.58     |       |             |             |
| 7000  | 20.01  | 27.32     | 11.69             | 20.14              | 1.34      | 0.86    | 28.15            | 31.31            | 31.64       | 2.39         | 344.98                | 15.48     |       |             |             |
| 7200  | 20.07  | 27.28     | 13.67             | 23.76              | 1.35      | 0.86    | 28.15            | 31.77            | 32.13       | 2.56         | 331.12                | 15.52     |       |             |             |
| 7400  | 20.02  | 27.31     | 14.75             | 19.71              | 1.36      | 0.87    | 27.17            | 31.14            | 31.80       | 2.72         | 317.39                | 12.33     |       |             |             |
| 7600  | 19.79  | 27.58     | 13.59             | 15.97              | 1.38      | 0.89    | 24.88            | 29.18            | 30.09       | 2.90         | 301.09                | 7.04      |       |             |             |
| 7800  | 19.38  | 27.99     | 11.21             | 13.09              | 1.39      | 0.94    | 23.23            | 27.12            | 28.95       | 3.22         | 285.48                | 5.47      |       |             |             |
| 8000  | 18.68  | 28.85     | 8.37              | 10.26              | 1.43      | 0.97    | 21.56            | 25.06            | 28.09       | 3.54         | 273.83                | 3.74      |       |             |             |
| 8500  | 14.74  | 33.02     | 2.99              | 3.87               | 1.57      | 0.83    | 15.64            | 22.12            | 25.84       | 4.61         | 248.45                | 1.24      |       |             |             |
| 9000  | 8.65   | 39.46     | 1.55              | 1.58               | 2.23      | 0.49    | 13.07            | 20.51            | 23.95       | 6.04         | 249.40                | 0.50      |       |             |             |
| 9500  | 2.87   | 45.86     | 0.86              | 0.92               | 3.41      | 0.34    | 11.43            | 20.12            | 21.91       | 7.35         | 236.21                | 0.14      |       |             |             |
| 10000 | -2.17  | 51.35     | 0.74              | 0.76               | 7.15      | 0.29    | 9.50             | 15.91            | 15.75       | 8.51         | 240.01                | -1.29     |       |             |             |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{Open}$  @ Temperature =  $+25^\circ\text{C}$ Note: Nominal conditions when  $V_{DD}$  is varied and  $V_{Iadj}$  is kept constant (open).

| FREQ  | Gain   | Isolation | Input Return Loss | Output Return Loss | Stability |         | 1dB Comp. Output | 3dB Comp. Output | Psat Output | Noise Figure | 2nd Harmonics | 3rd Harmonics | FREQ  | OIP3 Output | OIP2 Output |
|-------|--------|-----------|-------------------|--------------------|-----------|---------|------------------|------------------|-------------|--------------|---------------|---------------|-------|-------------|-------------|
| (MHz) | (dB)   | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)            | (dBm)            | (dBm)       | (dB)         | (dBc)         | (dBc)         | (MHz) | (dBm)       | (dBm)       |
| 10    | -25.94 | 53.41     | 0.05              | 0.06               | 1.13      | 0.03    | -10.42           | -38.12           | -11.13      | 33.41        | -18.12        | -19.86        | 300   | 39.16       | 40.42       |
| 50    | 2.77   | 49.27     | 0.41              | 0.44               | 1.81      | 0.18    | 20.86            | 21.51            | 21.44       | 12.13        | -11.02        | -20.78        | 400   | 37.70       | 42.58       |
| 100   | 14.30  | 36.74     | 1.87              | 2.08               | 1.38      | 0.55    | 27.61            | 28.18            | 28.29       | 7.43         | -14.33        | -33.81        | 500   | 37.39       | 43.74       |
| 150   | 18.32  | 32.97     | 5.54              | 6.36               | 1.48      | 0.99    | 28.94            | 29.20            | 29.15       | 6.73         | -19.14        | -50.77        | 600   | 37.33       | 44.95       |
| 200   | 20.68  | 30.44     | 11.38             | 8.27               | 1.29      | 0.87    | 29.88            | 30.15            | 30.16       | 4.86         | -23.47        | -46.80        | 700   | 37.30       | 45.93       |
| 250   | 21.20  | 29.77     | 13.07             | 8.54               | 1.25      | 0.79    | 30.25            | 30.45            | 30.38       | 4.13         | -26.11        | -45.21        | 800   | 37.25       | 46.97       |
| 300   | 21.31  | 29.83     | 11.46             | 7.74               | 1.26      | 0.72    | 30.70            | 30.86            | 30.77       | 3.85         | -29.22        | -45.32        | 900   | 37.32       | 47.80       |
| 400   | 21.30  | 29.76     | 9.35              | 6.67               | 1.24      | 0.64    | 30.64            | 30.79            | 30.77       | 3.53         | -31.64        | -49.16        | 1000  | 37.30       | 48.27       |
| 500   | 21.24  | 29.88     | 8.55              | 6.25               | 1.25      | 0.61    | 30.90            | 31.03            | 30.95       | 3.33         | -33.36        | -48.06        | 1500  | 37.34       | 46.99       |
| 600   | 21.22  | 29.76     | 8.28              | 6.17               | 1.24      | 0.60    | 31.34            | 31.46            | 31.36       | 3.25         | -33.95        | -48.92        | 2000  | 37.72       | 44.72       |
| 700   | 21.19  | 29.75     | 8.23              | 6.28               | 1.25      | 0.60    | 31.23            | 31.32            | 31.22       | 3.22         | -34.99        | -47.37        | 2500  | 37.72       | 43.58       |
| 800   | 21.15  | 29.76     | 8.42              | 6.56               | 1.27      | 0.63    | 31.42            | 31.48            | 31.32       | 3.14         | -35.58        | -47.58        | 3000  | 37.08       | 41.95       |
| 900   | 21.23  | 29.73     | 8.58              | 6.78               | 1.27      | 0.64    | 31.24            | 31.36            | 31.25       | 3.16         | -36.02        | -47.77        | 3500  | 37.48       | 42.16       |
| 1000  | 21.27  | 29.59     | 8.80              | 7.09               | 1.27      | 0.65    | 31.86            | 31.95            | 31.80       | 3.06         | -36.28        | -46.93        | 4000  | 36.95       | 41.17       |
| 1200  | 21.31  | 29.42     | 9.51              | 7.98               | 1.28      | 0.69    | 31.88            | 32.09            | 31.96       | 3.03         | -35.91        | -45.20        | 4500  | 37.81       | 41.83       |
| 1400  | 21.33  | 29.26     | 10.48             | 9.21               | 1.29      | 0.74    | 32.09            | 32.32            | 32.21       | 2.97         | -36.09        | -44.90        | 5000  | 38.97       | 47.44       |
| 1600  | 21.34  | 29.15     | 11.52             | 10.68              | 1.30      | 0.79    | 31.96            | 32.36            | 32.27       | 2.93         | -35.00        | -45.13        | 5500  | 37.03       | 52.49       |
| 1800  | 21.29  | 29.12     | 12.50             | 12.40              | 1.32      | 0.83    | 31.90            | 32.30            | 32.23       | 2.88         | -33.64        | -44.58        | 6000  | 36.34       | 54.43       |
| 2000  | 21.22  | 28.99     | 13.21             | 14.18              | 1.33      | 0.86    | 32.20            | 32.77            | 32.68       | 2.79         | -33.21        | -44.05        | 6500  | 38.53       | 63.72       |
| 2200  | 21.10  | 28.91     | 13.41             | 15.55              | 1.34      | 0.88    | 32.01            | 32.61            | 32.49       | 2.79         | -31.33        | -43.18        | 7000  | 38.84       | 77.08       |
| 2400  | 20.96  | 28.83     | 13.16             | 15.99              | 1.34      | 0.89    | 32.29            | 32.85            | 32.73       | 2.69         | -30.60        | -42.80        | 7500  | 36.99       | 69.97       |
| 2600  | 20.80  | 28.93     | 12.72             | 15.55              | 1.37      | 0.90    | 32.42            | 32.97            | 32.81       | 2.66         | -30.19        | -43.46        | 8000  | 33.61       | 54.66       |
| 2800  | 20.65  | 28.84     | 12.25             | 14.73              | 1.37      | 0.90    | 32.56            | 32.99            | 32.83       | 2.65         | -28.92        | -45.63        | 8500  | 31.00       | 46.38       |
| 3000  | 20.49  | 28.77     | 11.86             | 13.97              | 1.37      | 0.89    | 32.47            | 33.03            | 32.91       | 2.62         | -30.26        | -51.86        |       |             |             |
| 3200  | 20.36  | 28.86     | 11.61             | 13.35              | 1.39      | 0.89    | 32.15            | 32.91            | 32.88       | 2.59         | -29.04        | -51.36        |       |             |             |
| 3400  | 20.24  | 28.81     | 11.48             | 12.91              | 1.40      | 0.88    | 32.41            | 33.26            | 33.21       | 2.55         | -28.27        | -50.28        |       |             |             |
| 3600  | 20.13  | 28.73     | 11.42             | 12.63              | 1.40      | 0.88    | 32.09            | 33.11            | 33.09       | 2.53         | -28.99        | -52.80        |       |             |             |
| 3800  | 20.04  | 28.74     | 11.38             | 12.40              | 1.41      | 0.88    | 31.78            | 33.03            | 33.04       | 2.51         | -29.38        | -51.95        |       |             |             |
| 4000  | 19.97  | 28.66     | 11.32             | 12.20              | 1.41      | 0.87    | 30.94            | 32.81            | 32.88       | 2.44         | -27.60        | -52.12        |       |             |             |
| 4200  | 19.90  | 28.55     | 11.19             | 11.94              | 1.40      | 0.87    | 29.87            | 32.63            | 32.76       | 2.44         | -27.42        | -54.63        |       |             |             |
| 4400  | 19.82  | 28.65     | 10.89             | 11.65              | 1.42      | 0.88    | 29.86            | 32.33            | 32.54       | 2.39         | -28.42        | -54.80        |       |             |             |
| 4600  | 19.75  | 28.53     | 10.49             | 11.27              | 1.41      | 0.87    | 30.51            | 32.35            | 32.57       | 2.36         | -32.88        | -52.62        |       |             |             |
| 4800  | 19.64  | 28.54     | 9.97              | 10.85              | 1.41      | 0.88    | 30.36            | 32.45            | 32.78       | 2.38         | -34.12        | -51.83        |       |             |             |
| 5000  | 19.55  | 28.58     | 9.38              | 10.37              | 1.40      | 0.88    | 29.44            | 32.00            | 32.35       | 2.37         | -34.47        | -51.24        |       |             |             |
| 5200  | 19.43  | 28.59     | 8.79              | 9.90               | 1.40      | 0.87    | 29.13            | 31.82            | 32.17       | 2.39         | -36.28        | -50.43        |       |             |             |
| 5400  | 19.33  | 28.60     | 8.23              | 9.49               | 1.39      | 0.87    | 28.91            | 31.83            | 32.08       | 2.30         | -37.36        | -51.48        |       |             |             |
| 5600  | 19.23  | 28.63     | 7.80              | 9.20               | 1.40      | 0.87    | 29.50            | 32.29            | 32.48       | 2.30         | -39.33        | -53.75        |       |             |             |
| 5800  | 19.17  | 28.42     | 7.50              | 9.06               | 1.37      | 0.86    | 29.54            | 32.35            | 32.60       | 2.23         | -39.26        | -54.37        |       |             |             |
| 6000  | 19.14  | 28.44     | 7.36              | 9.17               | 1.38      | 0.86    | 28.89            | 32.22            | 32.50       | 2.25         | -43.01        | -53.31        |       |             |             |
| 6200  | 19.19  | 28.12     | 7.45              | 9.57               | 1.36      | 0.86    | 28.95            | 32.03            | 32.31       | 2.25         | -45.97        | -55.15        |       |             |             |
| 6400  | 19.28  | 28.03     | 7.81              | 10.41              | 1.37      | 0.87    | 28.74            | 31.95            | 32.29       | 2.23         | -46.98        | -53.29        |       |             |             |
| 6600  | 19.42  | 27.80     | 8.51              | 11.86              | 1.37      | 0.88    | 28.53            | 32.03            | 32.37       | 2.20         | -49.94        | -48.50        |       |             |             |
| 6800  | 19.57  | 27.46     | 9.63              | 14.27              | 1.36      | 0.88    | 28.01            | 31.67            | 32.11       | 2.27         | -49.54        | -47.87        |       |             |             |
| 7000  | 19.68  | 27.29     | 11.12             | 18.09              | 1.36      | 0.89    | 27.37            | 31.65            | 32.17       | 2.37         | -49.24        | -47.44        |       |             |             |
| 7200  | 19.72  | 27.25     | 12.71             | 21.24              | 1.37      | 0.89    | 25.83            | 30.63            | 31.24       | 2.51         | -52.29        | -45.31        |       |             |             |
| 7400  | 19.64  | 27.29     | 13.48             | 18.14              | 1.38      | 0.89    | 25.04            | 30.12            | 30.76       | 2.72         | -57.25        | -44.10        |       |             |             |
| 7600  | 19.37  | 27.59     | 12.68             | 14.53              | 1.40      | 0.91    | 22.64            | 27.52            | 29.47       | 2.98         | -57.65        | -43.81        |       |             |             |
| 7800  | 18.89  | 28.18     | 10.55             | 11.67              | 1.43      | 0.95    | 20.61            | 24.95            | 28.26       | 3.33         | -47.58        | -44.56        |       |             |             |
| 8000  | 18.11  | 29.02     | 7.93              | 8.94               | 1.47      | 0.97    | 18.12            | 24.10            | 27.97       | 3.73         | -40.13        | -43.32        |       |             |             |
| 8500  | 13.90  | 33.33     | 2.86              | 3.48               | 1.65      | 0.78    | 11.96            | 19.88            | 24.98       | 4.95         | -28.64        | -42.64        |       |             |             |
| 9000  | 7.65   | 39.90     | 1.44              | 1.52               | 2.42      | 0.48    | 9.22             | 18.12            | 23.08       | 6.18         | -16.39        | -3.76         |       |             |             |
| 9500  | 2.38   | 46.09     | 0.85              | 0.99               | 3.71      | 0.36    | 8.82             | 17.67            | 19.87       | 7.28         | -12.51        | -16.94        |       |             |             |
| 10000 | -2.41  | 49.57     | 0.71              | 0.85               | 6.36      | 0.32    | 6.78             | 14.58            | 14.64       | 8.80         | -12.59        | -43.84        |       |             |             |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +10 V, V<sub>iadj</sub> = Open @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input Return Loss | Output Return Loss | Stability |         | 1dB Comp. Output | 3dB Comp. Output | Psat Output | Noise Figure | 2nd Harmonics | 3rd Harmonics | FREQ  | OIP3 Output | OIP2 Output |
|-------|--------|-----------|-------------------|--------------------|-----------|---------|------------------|------------------|-------------|--------------|---------------|---------------|-------|-------------|-------------|
| (MHz) | (dB)   | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)            | (dBm)            | (dBm)       | (dB)         | (dBc)         | (dBc)         | (MHz) | (dBm)       | (dBm)       |
| 10    | -27.54 | 54.92     | 0.07              | 0.06               | 1.68      | 0.03    | -51.12           | -33.70           | -40.98      | 33.74        | -15.23        | -19.55        | 300   | 35.37       | 37.75       |
| 50    | 1.79   | 48.28     | 0.40              | 0.42               | 1.77      | 0.17    | 21.15            | 21.08            | 21.13       | 12.15        | -8.65         | -20.08        | 400   | 36.62       | 39.89       |
| 100   | 13.30  | 36.97     | 1.74              | 1.90               | 1.43      | 0.52    | 26.85            | 27.19            | 27.16       | 7.35         | -10.62        | -25.05        | 500   | 37.44       | 41.04       |
| 150   | 17.53  | 32.58     | 5.07              | 6.10               | 1.49      | 0.98    | 27.12            | 27.32            | 27.27       | 7.01         | -14.38        | -30.32        | 600   | 37.13       | 42.41       |
| 200   | 20.10  | 30.09     | 10.62             | 8.13               | 1.30      | 0.87    | 28.19            | 28.44            | 28.41       | 4.83         | -18.73        | -37.97        | 700   | 36.99       | 43.37       |
| 250   | 20.76  | 29.39     | 13.76             | 9.19               | 1.27      | 0.82    | 28.51            | 28.67            | 28.61       | 4.09         | -21.50        | -46.85        | 800   | 36.70       | 44.53       |
| 300   | 20.93  | 29.10     | 12.55             | 8.55               | 1.25      | 0.75    | 28.97            | 29.07            | 28.97       | 3.78         | -24.62        | -54.11        | 900   | 36.81       | 45.38       |
| 400   | 20.97  | 29.13     | 10.16             | 7.40               | 1.25      | 0.67    | 28.96            | 29.09            | 29.00       | 3.49         | -27.13        | -51.76        | 1000  | 36.81       | 45.44       |
| 500   | 20.92  | 29.09     | 9.23              | 6.92               | 1.24      | 0.63    | 29.27            | 29.35            | 29.24       | 3.25         | -28.90        | -47.70        | 1500  | 36.84       | 43.08       |
| 600   | 20.91  | 29.05     | 8.90              | 6.81               | 1.24      | 0.62    | 29.73            | 29.81            | 29.69       | 3.21         | -29.39        | -48.47        | 2000  | 37.19       | 40.96       |
| 700   | 20.87  | 29.00     | 8.83              | 6.91               | 1.25      | 0.62    | 29.64            | 29.72            | 29.60       | 3.13         | -30.20        | -45.66        | 2500  | 37.72       | 39.59       |
| 800   | 20.82  | 29.01     | 9.03              | 7.22               | 1.27      | 0.65    | 29.85            | 29.88            | 29.73       | 3.19         | -30.68        | -45.63        | 3000  | 37.00       | 38.24       |
| 900   | 20.89  | 28.98     | 9.20              | 7.47               | 1.27      | 0.66    | 29.66            | 29.79            | 29.66       | 3.15         | -31.08        | -45.52        | 3500  | 36.92       | 38.10       |
| 1000  | 20.92  | 28.88     | 9.45              | 7.83               | 1.27      | 0.67    | 30.23            | 30.36            | 30.19       | 3.02         | -31.19        | -44.23        | 4000  | 35.01       | 38.45       |
| 1200  | 20.92  | 28.75     | 10.23             | 8.81               | 1.28      | 0.72    | 30.28            | 30.50            | 30.39       | 2.95         | -30.38        | -42.03        | 4500  | 35.02       | 38.43       |
| 1400  | 20.90  | 28.75     | 11.25             | 10.16              | 1.30      | 0.77    | 30.47            | 30.74            | 30.59       | 2.98         | -30.18        | -41.48        | 5000  | 36.00       | 44.27       |
| 1600  | 20.86  | 28.60     | 12.29             | 11.72              | 1.31      | 0.81    | 30.34            | 30.74            | 30.65       | 2.88         | -29.08        | -41.15        | 5500  | 35.14       | 47.74       |
| 1800  | 20.77  | 28.55     | 13.11             | 13.38              | 1.33      | 0.85    | 30.32            | 30.66            | 30.59       | 2.84         | -27.66        | -39.98        | 6000  | 34.73       | 50.12       |
| 2000  | 20.65  | 28.51     | 13.48             | 14.78              | 1.34      | 0.88    | 30.46            | 31.05            | 30.99       | 2.77         | -27.02        | -39.27        | 6500  | 36.09       | 59.44       |
| 2200  | 20.49  | 28.41     | 13.29             | 15.30              | 1.34      | 0.89    | 30.42            | 30.91            | 30.77       | 2.72         | -25.42        | -37.86        | 7000  | 36.45       | 70.95       |
| 2400  | 20.32  | 28.42     | 12.74             | 14.87              | 1.35      | 0.90    | 30.47            | 31.07            | 30.95       | 2.69         | -24.69        | -37.27        | 7500  | 35.24       | 69.87       |
| 2600  | 20.13  | 28.46     | 12.11             | 14.01              | 1.37      | 0.90    | 30.58            | 31.16            | 31.03       | 2.62         | -24.36        | -39.53        | 8000  | 31.71       | 54.50       |
| 2800  | 19.96  | 28.49     | 11.59             | 13.15              | 1.38      | 0.90    | 30.70            | 31.15            | 31.05       | 2.66         | -23.05        | -43.05        | 8500  | 30.13       | 46.11       |
| 3000  | 19.79  | 28.47     | 11.18             | 12.43              | 1.39      | 0.89    | 30.61            | 31.19            | 31.13       | 2.54         | -24.35        | -48.18        |       |             |             |
| 3200  | 19.64  | 28.43     | 10.92             | 11.91              | 1.40      | 0.88    | 30.46            | 31.12            | 31.11       | 2.51         | -23.18        | -47.72        |       |             |             |
| 3400  | 19.51  | 28.43     | 10.79             | 11.55              | 1.41      | 0.88    | 30.57            | 31.36            | 31.33       | 2.51         | -22.50        | -46.03        |       |             |             |
| 3600  | 19.40  | 28.36     | 10.74             | 11.32              | 1.41      | 0.87    | 30.49            | 31.36            | 31.37       | 2.47         | -23.50        | -48.88        |       |             |             |
| 3800  | 19.30  | 28.31     | 10.71             | 11.13              | 1.42      | 0.87    | 30.28            | 31.31            | 31.33       | 2.45         | -24.77        | -47.85        |       |             |             |
| 4000  | 19.23  | 28.29     | 10.66             | 10.97              | 1.42      | 0.87    | 29.75            | 31.06            | 31.16       | 2.44         | -24.26        | -48.64        |       |             |             |
| 4200  | 19.15  | 28.30     | 10.56             | 10.77              | 1.43      | 0.87    | 28.95            | 30.94            | 31.12       | 2.39         | -24.14        | -52.30        |       |             |             |
| 4400  | 19.07  | 28.22     | 10.32             | 10.51              | 1.43      | 0.87    | 28.66            | 30.73            | 30.92       | 2.42         | -24.88        | -53.83        |       |             |             |
| 4600  | 18.99  | 28.21     | 9.95              | 10.20              | 1.42      | 0.87    | 28.95            | 30.78            | 31.00       | 2.36         | -28.93        | -52.71        |       |             |             |
| 4800  | 18.87  | 28.22     | 9.47              | 9.85               | 1.42      | 0.87    | 29.06            | 30.89            | 31.29       | 2.30         | -29.97        | -51.96        |       |             |             |
| 5000  | 18.77  | 28.30     | 8.94              | 9.45               | 1.43      | 0.87    | 28.43            | 30.38            | 30.78       | 2.31         | -30.11        | -51.81        |       |             |             |
| 5200  | 18.65  | 28.24     | 8.38              | 9.07               | 1.41      | 0.87    | 28.21            | 30.07            | 30.53       | 2.31         | -31.98        | -51.62        |       |             |             |
| 5400  | 18.54  | 28.23     | 7.87              | 8.75               | 1.41      | 0.87    | 28.29            | 30.10            | 30.44       | 2.30         | -32.99        | -53.60        |       |             |             |
| 5600  | 18.44  | 28.22     | 7.48              | 8.50               | 1.40      | 0.86    | 28.94            | 30.64            | 30.89       | 2.26         | -34.93        | -57.32        |       |             |             |
| 5800  | 18.39  | 28.19     | 7.21              | 8.43               | 1.40      | 0.86    | 29.03            | 30.69            | 31.02       | 2.23         | -34.90        | -59.77        |       |             |             |
| 6000  | 18.37  | 28.08     | 7.10              | 8.57               | 1.40      | 0.86    | 28.73            | 30.59            | 30.93       | 2.22         | -38.73        | -60.52        |       |             |             |
| 6200  | 18.42  | 27.85     | 7.18              | 8.97               | 1.38      | 0.86    | 28.49            | 30.35            | 30.74       | 2.22         | -41.65        | -60.46        |       |             |             |
| 6400  | 18.52  | 27.62     | 7.55              | 9.80               | 1.38      | 0.87    | 28.62            | 30.33            | 30.78       | 2.30         | -42.66        | -53.23        |       |             |             |
| 6600  | 18.68  | 27.43     | 8.23              | 11.14              | 1.39      | 0.88    | 28.29            | 30.33            | 30.77       | 2.18         | -47.08        | -51.97        |       |             |             |
| 6800  | 18.84  | 27.05     | 9.29              | 13.30              | 1.38      | 0.89    | 27.63            | 29.84            | 30.41       | 2.27         | -48.28        | -52.18        |       |             |             |
| 7000  | 18.96  | 26.91     | 10.73             | 16.24              | 1.39      | 0.89    | 26.93            | 29.89            | 30.61       | 2.36         | -48.67        | -52.29        |       |             |             |
| 7200  | 18.99  | 26.82     | 12.27             | 18.15              | 1.39      | 0.89    | 25.30            | 28.97            | 29.78       | 2.52         | -51.81        | -46.90        |       |             |             |
| 7400  | 18.89  | 26.90     | 13.08             | 16.07              | 1.40      | 0.90    | 23.86            | 28.17            | 29.09       | 2.66         | -55.13        | -43.06        |       |             |             |
| 7600  | 18.58  | 27.17     | 12.32             | 13.13              | 1.42      | 0.91    | 21.50            | 26.22            | 27.94       | 2.97         | -49.93        | -41.14        |       |             |             |
| 7800  | 18.06  | 27.78     | 10.20             | 10.52              | 1.45      | 0.94    | 19.92            | 24.29            | 26.85       | 3.32         | -42.74        | -42.12        |       |             |             |
| 8000  | 17.20  | 28.77     | 7.63              | 8.07               | 1.50      | 0.95    | 16.21            | 23.21            | 26.27       | 3.68         | -36.71        | -42.61        |       |             |             |
| 8500  | 12.89  | 33.26     | 2.81              | 3.27               | 1.72      | 0.76    | 10.56            | 20.40            | 23.78       | 4.91         | -26.06        | -38.23        |       |             |             |
| 9000  | 6.73   | 39.64     | 1.44              | 1.49               | 2.55      | 0.48    | 7.87             | 18.94            | 21.86       | 6.17         | -15.25        | -4.27         |       |             |             |
| 9500  | 1.55   | 45.49     | 0.85              | 0.98               | 3.79      | 0.36    | 5.68             | 17.00            | 18.69       | 7.20         | -10.89        | -21.94        |       |             |             |
| 10000 | -3.19  | 49.51     | 0.72              | 0.85               | 6.94      | 0.33    | 6.44             | 13.99            | 14.02       | 8.52         | -10.99        | -41.51        |       |             |             |

## Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12.5 V, V<sub>iadj</sub> = Open @ Temperature = +25°C

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | 2nd<br>Harmonics | 3rd<br>Harmonics | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|------------------|------------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (dBc)            | (dBc)            | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.85 | 53.61     | 0.06                    | 0.09                     | 1.10      | 0.04    | -36.36                 | -33.82                 | -46.77         | 32.86           | -17.69           | -18.56           | 300   | 36.15          | 41.96          |
| 50    | 2.93   | 48.97     | 0.41                    | 0.45                     | 1.74      | 0.18    | 20.69                  | 21.35                  | 21.34          | 12.22           | -11.66           | -21.14           | 400   | 36.74          | 44.00          |
| 100   | 14.46  | 36.98     | 1.89                    | 2.12                     | 1.40      | 0.56    | 27.82                  | 28.30                  | 28.42          | 7.46            | -15.19           | -36.62           | 500   | 37.19          | 45.03          |
| 150   | 18.45  | 32.85     | 5.63                    | 6.40                     | 1.45      | 0.99    | 29.12                  | 29.43                  | 29.46          | 6.65            | -20.13           | -50.85           | 600   | 37.37          | 46.27          |
| 200   | 20.78  | 30.45     | 11.48                   | 8.26                     | 1.28      | 0.87    | 30.32                  | 30.56                  | 30.56          | 4.89            | -24.37           | -44.54           | 700   | 37.36          | 47.21          |
| 250   | 21.27  | 29.87     | 12.95                   | 8.45                     | 1.25      | 0.79    | 30.65                  | 30.82                  | 30.79          | 4.16            | -26.91           | -44.00           | 800   | 37.41          | 48.15          |
| 300   | 21.37  | 29.81     | 11.29                   | 7.61                     | 1.24      | 0.72    | 31.07                  | 31.22                  | 31.15          | 3.85            | -30.20           | -45.22           | 900   | 37.49          | 48.96          |
| 400   | 21.35  | 29.86     | 9.23                    | 6.56                     | 1.24      | 0.63    | 30.97                  | 31.17                  | 31.15          | 3.53            | -32.55           | -48.93           | 1000  | 37.45          | 49.69          |
| 500   | 21.29  | 29.83     | 8.44                    | 6.15                     | 1.24      | 0.60    | 31.26                  | 31.37                  | 31.31          | 3.32            | -34.22           | -48.41           | 1500  | 37.81          | 49.91          |
| 600   | 21.28  | 29.73     | 8.19                    | 6.09                     | 1.23      | 0.59    | 31.69                  | 31.79                  | 31.70          | 3.24            | -34.84           | -49.09           | 2000  | 38.44          | 47.34          |
| 700   | 21.25  | 29.85     | 8.13                    | 6.18                     | 1.25      | 0.60    | 31.57                  | 31.65                  | 31.56          | 3.21            | -35.97           | -47.59           | 2500  | 39.11          | 46.25          |
| 800   | 21.21  | 29.81     | 8.33                    | 6.46                     | 1.27      | 0.62    | 31.78                  | 31.80                  | 31.65          | 3.19            | -36.50           | -47.97           | 3000  | 39.11          | 44.40          |
| 900   | 21.28  | 29.73     | 8.48                    | 6.68                     | 1.26      | 0.63    | 31.59                  | 31.69                  | 31.57          | 3.18            | -36.76           | -48.23           | 3500  | 39.91          | 44.11          |
| 1000  | 21.33  | 29.71     | 8.70                    | 6.99                     | 1.27      | 0.65    | 32.14                  | 32.26                  | 32.10          | 3.07            | -37.24           | -47.47           | 4000  | 39.65          | 41.71          |
| 1200  | 21.37  | 29.50     | 9.41                    | 7.86                     | 1.27      | 0.69    | 32.22                  | 32.41                  | 32.30          | 3.07            | -36.86           | -45.65           | 4500  | 39.94          | 41.80          |
| 1400  | 21.40  | 29.40     | 10.37                   | 9.06                     | 1.29      | 0.74    | 32.43                  | 32.66                  | 32.58          | 2.98            | -37.20           | -45.31           | 5000  | 41.52          | 48.00          |
| 1600  | 21.42  | 29.21     | 11.40                   | 10.54                    | 1.30      | 0.79    | 32.27                  | 32.66                  | 32.60          | 2.96            | -36.15           | -45.79           | 5500  | 38.38          | 51.91          |
| 1800  | 21.38  | 29.17     | 12.41                   | 12.25                    | 1.32      | 0.83    | 32.16                  | 32.57                  | 32.51          | 2.88            | -34.93           | -45.30           | 6000  | 37.65          | 54.23          |
| 2000  | 21.32  | 28.97     | 13.16                   | 14.09                    | 1.32      | 0.86    | 32.48                  | 33.08                  | 33.01          | 2.82            | -34.38           | -44.78           | 6500  | 40.86          | 63.56          |
| 2200  | 21.21  | 28.98     | 13.42                   | 15.59                    | 1.34      | 0.88    | 32.48                  | 33.01                  | 32.85          | 2.80            | -32.39           | -44.02           | 7000  | 41.59          | 75.14          |
| 2400  | 21.07  | 28.98     | 13.24                   | 16.20                    | 1.35      | 0.90    | 32.64                  | 33.22                  | 33.09          | 2.85            | -31.71           | -43.77           | 7500  | 38.03          | 74.17          |
| 2600  | 20.92  | 28.97     | 12.81                   | 15.83                    | 1.36      | 0.90    | 32.73                  | 33.34                  | 33.17          | 2.68            | -31.34           | -44.33           | 8000  | 33.43          | 57.88          |
| 2800  | 20.77  | 28.89     | 12.36                   | 15.02                    | 1.36      | 0.90    | 32.87                  | 33.31                  | 33.17          | 2.66            | -30.04           | -46.39           | 8500  | 30.85          | 48.97          |
| 3000  | 20.62  | 28.90     | 11.97                   | 14.26                    | 1.38      | 0.89    | 32.80                  | 33.37                  | 33.26          | 2.59            | -31.42           | -52.43           |       |                |                |
| 3200  | 20.48  | 28.89     | 11.73                   | 13.62                    | 1.39      | 0.89    | 32.64                  | 33.30                  | 33.22          | 2.59            | -30.22           | -52.28           |       |                |                |
| 3400  | 20.36  | 28.81     | 11.59                   | 13.16                    | 1.39      | 0.88    | 32.70                  | 33.59                  | 33.49          | 2.62            | -29.31           | -51.19           |       |                |                |
| 3600  | 20.26  | 28.74     | 11.53                   | 12.87                    | 1.39      | 0.88    | 32.64                  | 33.54                  | 33.45          | 2.52            | -29.98           | -53.27           |       |                |                |
| 3800  | 20.17  | 28.77     | 11.48                   | 12.60                    | 1.41      | 0.88    | 32.23                  | 33.41                  | 33.40          | 2.50            | -30.18           | -52.67           |       |                |                |
| 4000  | 20.10  | 28.69     | 11.41                   | 12.39                    | 1.41      | 0.87    | 31.21                  | 33.08                  | 33.17          | 2.45            | -28.29           | -52.79           |       |                |                |
| 4200  | 20.03  | 28.65     | 11.28                   | 12.14                    | 1.41      | 0.87    | 30.50                  | 32.90                  | 33.02          | 2.44            | -28.27           | -54.87           |       |                |                |
| 4400  | 19.95  | 28.73     | 10.99                   | 11.84                    | 1.42      | 0.88    | 30.29                  | 32.52                  | 32.77          | 2.46            | -29.22           | -55.07           |       |                |                |
| 4600  | 19.88  | 28.63     | 10.57                   | 11.43                    | 1.41      | 0.88    | 30.85                  | 32.57                  | 32.81          | 2.37            | -33.74           | -52.72           |       |                |                |
| 4800  | 19.78  | 28.57     | 10.05                   | 11.01                    | 1.40      | 0.87    | 30.72                  | 32.69                  | 32.98          | 2.40            | -35.05           | -51.88           |       |                |                |
| 5000  | 19.69  | 28.59     | 9.44                    | 10.50                    | 1.40      | 0.87    | 29.84                  | 32.26                  | 32.58          | 2.37            | -35.43           | -51.68           |       |                |                |
| 5200  | 19.57  | 28.61     | 8.84                    | 10.02                    | 1.39      | 0.87    | 29.40                  | 32.00                  | 32.34          | 2.34            | -37.36           | -50.46           |       |                |                |
| 5400  | 19.47  | 28.63     | 8.27                    | 9.59                     | 1.39      | 0.87    | 29.15                  | 32.02                  | 32.29          | 2.33            | -38.49           | -51.34           |       |                |                |
| 5600  | 19.36  | 28.63     | 7.83                    | 9.29                     | 1.39      | 0.87    | 29.74                  | 32.47                  | 32.65          | 2.30            | -40.45           | -53.28           |       |                |                |
| 5800  | 19.31  | 28.54     | 7.52                    | 9.14                     | 1.38      | 0.86    | 29.87                  | 32.57                  | 32.81          | 2.28            | -40.29           | -53.98           |       |                |                |
| 6000  | 19.28  | 28.39     | 7.39                    | 9.24                     | 1.37      | 0.86    | 29.35                  | 32.46                  | 32.71          | 2.24            | -43.94           | -53.12           |       |                |                |
| 6200  | 19.32  | 28.35     | 7.46                    | 9.60                     | 1.37      | 0.86    | 29.23                  | 32.29                  | 32.55          | 2.24            | -46.90           | -54.40           |       |                |                |
| 6400  | 19.41  | 28.05     | 7.83                    | 10.45                    | 1.36      | 0.87    | 29.32                  | 32.33                  | 32.60          | 2.22            | -47.79           | -52.81           |       |                |                |
| 6600  | 19.55  | 27.83     | 8.54                    | 11.91                    | 1.36      | 0.87    | 28.92                  | 32.33                  | 32.61          | 2.24            | -50.32           | -47.87           |       |                |                |
| 6800  | 19.70  | 27.51     | 9.66                    | 14.36                    | 1.35      | 0.88    | 28.42                  | 32.05                  | 32.40          | 2.30            | -49.78           | -47.64           |       |                |                |
| 7000  | 19.82  | 27.36     | 11.16                   | 18.29                    | 1.36      | 0.88    | 27.74                  | 31.99                  | 32.42          | 2.40            | -49.49           | -47.22           |       |                |                |
| 7200  | 19.86  | 27.44     | 12.72                   | 21.90                    | 1.38      | 0.89    | 26.52                  | 31.10                  | 31.61          | 2.56            | -52.27           | -45.48           |       |                |                |
| 7400  | 19.77  | 27.43     | 13.50                   | 18.69                    | 1.38      | 0.89    | 25.07                  | 30.13                  | 30.82          | 2.70            | -56.86           | -44.55           |       |                |                |
| 7600  | 19.51  | 27.75     | 12.68                   | 14.86                    | 1.40      | 0.91    | 22.99                  | 27.77                  | 29.63          | 3.00            | -60.41           | -44.53           |       |                |                |
| 7800  | 19.05  | 28.20     | 10.57                   | 11.92                    | 1.42      | 0.95    | 21.43                  | 25.29                  | 28.54          | 3.35            | -49.34           | -45.39           |       |                |                |
| 8000  | 18.28  | 29.05     | 7.92                    | 9.09                     | 1.46      | 0.97    | 17.94                  | 23.79                  | 27.84          | 3.69            | -41.36           | -44.39           |       |                |                |
| 8500  | 14.06  | 33.43     | 2.84                    | 3.49                     | 1.64      | 0.78    | 12.66                  | 20.39                  | 25.28          | 5.00            | -29.43           | -43.22           |       |                |                |
| 9000  | 7.77   | 39.86     | 1.43                    | 1.52                     | 2.40      | 0.48    | 10.12                  | 18.66                  | 23.47          | 6.19            | -16.83           | -3.74            |       |                |                |
| 9500  | 2.49   | 45.79     | 0.84                    | 0.98                     | 3.56      | 0.36    | 9.16                   | 17.63                  | 19.70          | 7.30            | -12.94           | -16.68           |       |                |                |
| 10000 | -2.31  | 50.58     | 0.71                    | 0.85                     | 7.00      | 0.33    | 7.82                   | 14.37                  | 14.36          | 8.77            | -13.02           | -44.64           |       |                |                |

## Typical Performance Data

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{Open}$  @ Temperature =  $-55^{\circ}\text{C}$ 

| FREQ  | Gain   | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | 1dB<br>Comp.<br>Output | 3dB<br>Comp.<br>Output | Psat<br>Output | Noise<br>Figure | FREQ  | OIP3<br>Output | OIP2<br>Output |
|-------|--------|-----------|-------------------------|--------------------------|-----------|---------|------------------------|------------------------|----------------|-----------------|-------|----------------|----------------|
| (MHz) | (dB)   | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)                  | (dBm)                  | (dBm)          | (dB)            | (MHz) | (dBm)          | (dBm)          |
| 10    | -26.63 | 47.76     | 0.10                    | 0.05                     | 1.29      | 0.02    | -36.35                 | -11.82                 | -11.04         | 34.17           | 300   | 35.91          | 41.80          |
| 50    | 3.15   | 49.57     | 0.41                    | 0.40                     | 1.73      | 0.16    | 21.77                  | 22.14                  | 22.18          | 10.98           | 400   | 37.03          | 43.60          |
| 100   | 14.81  | 37.00     | 1.89                    | 2.08                     | 1.38      | 0.55    | 29.09                  | 29.57                  | 29.62          | 6.25            | 500   | 37.11          | 43.66          |
| 150   | 18.98  | 32.69     | 5.84                    | 6.73                     | 1.41      | 0.99    | 29.72                  | 30.05                  | 30.13          | 5.77            | 600   | 37.05          | 45.03          |
| 200   | 21.05  | 30.70     | 11.71                   | 8.25                     | 1.28      | 0.86    | 30.47                  | 30.87                  | 30.98          | 3.98            | 700   | 36.94          | 46.13          |
| 250   | 21.50  | 30.17     | 12.87                   | 8.28                     | 1.25      | 0.79    | 30.74                  | 31.00                  | 31.05          | 3.31            | 800   | 36.59          | 47.03          |
| 300   | 21.55  | 30.12     | 11.10                   | 7.41                     | 1.25      | 0.71    | 31.09                  | 31.32                  | 31.29          | 3.12            | 900   | 36.69          | 48.60          |
| 400   | 21.51  | 30.11     | 9.02                    | 6.35                     | 1.23      | 0.62    | 30.93                  | 31.07                  | 31.02          | 2.87            | 1000  | 36.66          | 49.76          |
| 500   | 21.45  | 30.32     | 8.25                    | 5.95                     | 1.25      | 0.60    | 31.19                  | 31.25                  | 31.14          | 2.67            | 1500  | 36.42          | 50.55          |
| 600   | 21.42  | 30.17     | 8.01                    | 5.86                     | 1.24      | 0.58    | 31.63                  | 31.67                  | 31.57          | 2.62            | 2000  | 36.98          | 45.72          |
| 700   | 21.41  | 30.11     | 7.89                    | 5.93                     | 1.24      | 0.58    | 31.52                  | 31.54                  | 31.41          | 2.54            | 2500  | 39.23          | 41.83          |
| 800   | 21.33  | 30.10     | 8.08                    | 6.18                     | 1.26      | 0.61    | 31.69                  | 31.66                  | 31.51          | 2.55            | 3000  | 38.33          | 40.10          |
| 900   | 21.41  | 30.02     | 8.21                    | 6.40                     | 1.26      | 0.62    | 31.51                  | 31.59                  | 31.46          | 2.59            | 3500  | 38.83          | 40.21          |
| 1000  | 21.47  | 29.90     | 8.38                    | 6.64                     | 1.25      | 0.63    | 32.15                  | 32.26                  | 32.10          | 2.44            | 4000  | 36.19          | 38.76          |
| 1200  | 21.52  | 29.77     | 8.99                    | 7.39                     | 1.26      | 0.67    | 32.14                  | 32.37                  | 32.22          | 2.45            | 4500  | 36.61          | 37.67          |
| 1400  | 21.55  | 29.61     | 9.88                    | 8.47                     | 1.28      | 0.72    | 32.30                  | 32.57                  | 32.43          | 2.41            | 5000  | 38.92          | 44.65          |
| 1600  | 21.60  | 29.48     | 10.87                   | 9.79                     | 1.29      | 0.77    | 32.20                  | 32.67                  | 32.60          | 2.34            | 5500  | 36.73          | 48.62          |
| 1800  | 21.59  | 29.34     | 11.89                   | 11.32                    | 1.30      | 0.81    | 32.03                  | 32.50                  | 32.46          | 2.27            | 6000  | 36.06          | 51.19          |
| 2000  | 21.55  | 29.23     | 12.84                   | 13.02                    | 1.31      | 0.84    | 32.46                  | 33.18                  | 33.12          | 2.25            | 6500  | 38.32          | 60.47          |
| 2200  | 21.47  | 29.21     | 13.41                   | 14.61                    | 1.32      | 0.87    | 32.06                  | 32.77                  | 32.66          | 2.18            | 7000  | 38.90          | 71.60          |
| 2400  | 21.37  | 29.09     | 13.51                   | 15.67                    | 1.32      | 0.88    | 32.68                  | 33.43                  | 33.30          | 1.95            | 7500  | 37.44          | 72.26          |
| 2600  | 21.24  | 29.01     | 13.32                   | 15.89                    | 1.33      | 0.89    | 32.54                  | 33.23                  | 33.13          | 2.05            | 8000  | 30.51          | 58.12          |
| 2800  | 21.12  | 28.97     | 13.06                   | 15.56                    | 1.34      | 0.89    | 32.88                  | 33.48                  | 33.34          | 2.02            | 8500  | 29.08          | 49.33          |
| 3000  | 20.99  | 28.91     | 12.74                   | 15.06                    | 1.34      | 0.88    | 32.77                  | 33.48                  | 33.40          | 2.03            |       |                |                |
| 3200  | 20.87  | 28.96     | 12.55                   | 14.53                    | 1.36      | 0.88    | 32.22                  | 33.08                  | 33.04          | 1.93            |       |                |                |
| 3400  | 20.77  | 28.87     | 12.44                   | 14.08                    | 1.36      | 0.88    | 32.94                  | 34.02                  | 34.03          | 1.93            |       |                |                |
| 3600  | 20.67  | 28.79     | 12.39                   | 13.78                    | 1.36      | 0.87    | 32.04                  | 33.14                  | 33.11          | 1.95            |       |                |                |
| 3800  | 20.59  | 28.75     | 12.31                   | 13.46                    | 1.36      | 0.87    | 32.08                  | 33.26                  | 33.34          | 1.91            |       |                |                |
| 4000  | 20.52  | 28.63     | 12.22                   | 13.20                    | 1.36      | 0.86    | 31.92                  | 33.52                  | 33.69          | 1.90            |       |                |                |
| 4200  | 20.45  | 28.59     | 12.06                   | 12.85                    | 1.36      | 0.86    | 30.72                  | 33.10                  | 33.39          | 1.85            |       |                |                |
| 4400  | 20.38  | 28.61     | 11.75                   | 12.48                    | 1.36      | 0.86    | 30.48                  | 33.20                  | 33.48          | 1.83            |       |                |                |
| 4600  | 20.31  | 28.52     | 11.29                   | 12.05                    | 1.35      | 0.86    | 31.14                  | 33.29                  | 33.66          | 1.79            |       |                |                |
| 4800  | 20.23  | 28.58     | 10.77                   | 11.62                    | 1.36      | 0.87    | 30.77                  | 32.82                  | 33.46          | 1.78            |       |                |                |
| 5000  | 20.16  | 28.56     | 10.18                   | 11.17                    | 1.35      | 0.86    | 30.02                  | 32.39                  | 33.03          | 1.77            |       |                |                |
| 5200  | 20.07  | 28.44     | 9.60                    | 10.74                    | 1.33      | 0.86    | 29.60                  | 32.10                  | 32.76          | 1.73            |       |                |                |
| 5400  | 20.00  | 28.43     | 9.05                    | 10.41                    | 1.33      | 0.86    | 29.71                  | 32.38                  | 32.87          | 1.68            |       |                |                |
| 5600  | 19.94  | 28.37     | 8.61                    | 10.21                    | 1.32      | 0.85    | 30.08                  | 32.50                  | 32.80          | 1.65            |       |                |                |
| 5800  | 19.92  | 28.27     | 8.32                    | 10.18                    | 1.31      | 0.85    | 30.22                  | 32.61                  | 33.00          | 1.65            |       |                |                |
| 6000  | 19.91  | 28.11     | 8.19                    | 10.38                    | 1.30      | 0.85    | 29.69                  | 32.68                  | 33.12          | 1.66            |       |                |                |
| 6200  | 19.96  | 27.98     | 8.25                    | 10.85                    | 1.30      | 0.85    | 29.48                  | 32.45                  | 32.91          | 1.61            |       |                |                |
| 6400  | 20.04  | 27.80     | 8.60                    | 11.86                    | 1.29      | 0.85    | 29.49                  | 32.41                  | 32.87          | 1.63            |       |                |                |
| 6600  | 20.18  | 27.50     | 9.35                    | 13.58                    | 1.28      | 0.85    | 28.93                  | 32.36                  | 32.85          | 1.63            |       |                |                |
| 6800  | 20.31  | 27.28     | 10.55                   | 16.59                    | 1.28      | 0.85    | 28.54                  | 31.99                  | 32.56          | 1.68            |       |                |                |
| 7000  | 20.40  | 27.14     | 12.29                   | 21.65                    | 1.28      | 0.85    | 27.80                  | 31.95                  | 32.57          | 1.78            |       |                |                |
| 7200  | 20.45  | 27.14     | 14.35                   | 23.12                    | 1.29      | 0.84    | 26.33                  | 30.91                  | 31.58          | 1.87            |       |                |                |
| 7400  | 20.38  | 27.06     | 15.91                   | 17.54                    | 1.28      | 0.83    | 26.26                  | 30.61                  | 31.43          | 2.08            |       |                |                |
| 7600  | 20.20  | 27.36     | 15.48                   | 14.17                    | 1.29      | 0.84    | 23.18                  | 28.09                  | 29.97          | 2.27            |       |                |                |
| 7800  | 19.91  | 27.64     | 13.54                   | 12.20                    | 1.29      | 0.87    | 21.51                  | 25.57                  | 28.41          | 2.58            |       |                |                |
| 8000  | 19.44  | 28.21     | 10.70                   | 10.53                    | 1.31      | 0.92    | 21.35                  | 25.48                  | 28.70          | 2.86            |       |                |                |
| 8500  | 16.34  | 31.52     | 3.73                    | 4.57                     | 1.38      | 0.86    | 16.29                  | 20.89                  | 23.56          | 3.96            |       |                |                |
| 9000  | 10.22  | 38.05     | 1.25                    | 1.61                     | 1.63      | 0.50    | 9.77                   | 19.25                  | 23.24          | 5.27            |       |                |                |
| 9500  | 4.69   | 43.88     | 0.73                    | 0.88                     | 2.12      | 0.32    | 9.47                   | 18.76                  | 21.96          | 6.15            |       |                |                |
| 10000 | -0.36  | 48.92     | 0.54                    | 0.68                     | 3.26      | 0.27    | 8.60                   | 15.49                  | 16.18          | 7.17            |       |                |                |

## Typical Performance Data

## Definitions:

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{Open}$  @ Temperature = +85°C

| FREQ  | Gain   | Isolation | Input Return Loss | Output Return Loss | Stability |         | 1dB Comp. Output | 3dB Comp. Output | Psat Output | Noise Figure | FREQ  | OIP3 Output | OIP2 Output |
|-------|--------|-----------|-------------------|--------------------|-----------|---------|------------------|------------------|-------------|--------------|-------|-------------|-------------|
| (MHz) | (dB)   | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)            | (dBm)            | (dBm)       | (dB)         | (MHz) | (dBm)       | (dBm)       |
| 10    | -26.91 | 58.57     | 0.10              | 0.09               | 5.01      | 0.04    | -37.63           | -42.46           | -43.13      | 36.03        | 300   | 36.34       | 41.49       |
| 50    | 2.39   | 48.17     | 0.42              | 0.46               | 1.81      | 0.18    | 20.26            | 20.87            | 20.82       | 12.65        | 400   | 37.00       | 43.42       |
| 100   | 13.87  | 36.94     | 1.86              | 2.07               | 1.43      | 0.56    | 26.24            | 26.68            | 26.84       | 7.97         | 500   | 37.42       | 44.45       |
| 150   | 17.87  | 32.64     | 5.35              | 6.06               | 1.46      | 0.97    | 28.03            | 28.33            | 28.39       | 7.08         | 600   | 37.55       | 45.77       |
| 200   | 20.37  | 30.20     | 11.11             | 8.25               | 1.29      | 0.87    | 29.25            | 29.55            | 29.60       | 5.37         | 700   | 37.53       | 46.77       |
| 250   | 20.96  | 29.51     | 13.43             | 8.81               | 1.26      | 0.80    | 29.85            | 30.06            | 30.04       | 4.65         | 800   | 37.56       | 47.79       |
| 300   | 21.09  | 29.36     | 11.96             | 8.05               | 1.25      | 0.73    | 30.31            | 30.48            | 30.41       | 4.35         | 900   | 37.66       | 48.61       |
| 400   | 21.10  | 29.45     | 9.71              | 6.95               | 1.25      | 0.65    | 30.39            | 30.57            | 30.56       | 4.01         | 1000  | 37.64       | 49.32       |
| 500   | 21.05  | 29.43     | 8.86              | 6.51               | 1.24      | 0.61    | 30.60            | 30.77            | 30.70       | 3.76         | 1500  | 37.98       | 49.05       |
| 600   | 21.03  | 29.35     | 8.56              | 6.42               | 1.24      | 0.60    | 31.00            | 31.13            | 31.06       | 3.71         | 2000  | 38.64       | 46.59       |
| 700   | 21.00  | 29.44     | 8.53              | 6.54               | 1.26      | 0.62    | 30.95            | 31.08            | 30.99       | 3.61         | 2500  | 38.95       | 45.28       |
| 800   | 21.00  | 29.38     | 8.72              | 6.84               | 1.27      | 0.63    | 31.19            | 31.25            | 31.12       | 3.67         | 3000  | 38.51       | 43.32       |
| 900   | 21.06  | 29.24     | 8.91              | 7.11               | 1.26      | 0.64    | 30.93            | 31.09            | 30.98       | 3.65         | 3500  | 39.07       | 43.11       |
| 1000  | 21.09  | 29.23     | 9.17              | 7.48               | 1.27      | 0.66    | 31.51            | 31.65            | 31.52       | 3.50         | 4000  | 38.60       | 41.05       |
| 1200  | 21.12  | 29.06     | 9.97              | 8.47               | 1.28      | 0.71    | 31.59            | 31.81            | 31.70       | 3.45         | 4500  | 38.51       | 41.99       |
| 1400  | 21.14  | 28.91     | 10.99             | 9.85               | 1.29      | 0.76    | 31.81            | 32.07            | 31.99       | 3.41         | 5000  | 39.39       | 48.11       |
| 1600  | 21.12  | 28.85     | 12.06             | 11.49              | 1.31      | 0.81    | 31.59            | 31.97            | 31.90       | 3.34         | 5500  | 37.19       | 51.57       |
| 1800  | 21.06  | 28.80     | 12.96             | 13.42              | 1.33      | 0.85    | 31.47            | 31.83            | 31.77       | 3.30         | 6000  | 36.64       | 54.16       |
| 2000  | 20.96  | 28.74     | 13.42             | 15.26              | 1.34      | 0.88    | 31.66            | 32.18            | 32.09       | 3.24         | 6500  | 39.30       | 63.56       |
| 2200  | 20.81  | 28.66     | 13.31             | 16.34              | 1.35      | 0.89    | 31.79            | 32.35            | 32.23       | 3.17         | 7000  | 39.66       | 74.90       |
| 2400  | 20.65  | 28.73     | 12.79             | 16.07              | 1.37      | 0.90    | 31.89            | 32.42            | 32.33       | 3.13         | 7500  | 36.95       | 72.95       |
| 2600  | 20.46  | 28.60     | 12.17             | 15.09              | 1.36      | 0.90    | 31.75            | 32.33            | 32.23       | 3.12         | 8000  | 32.77       | 57.86       |
| 2800  | 20.29  | 28.71     | 11.63             | 14.02              | 1.39      | 0.90    | 31.90            | 32.37            | 32.25       | 3.05         | 8500  | 30.32       | 48.68       |
| 3000  | 20.12  | 28.79     | 11.21             | 13.17              | 1.41      | 0.90    | 31.74            | 32.32            | 32.24       | 3.05         |       |             |             |
| 3200  | 19.97  | 28.79     | 10.94             | 12.55              | 1.42      | 0.89    | 31.51            | 32.25            | 32.23       | 3.01         |       |             |             |
| 3400  | 19.84  | 28.79     | 10.80             | 12.13              | 1.43      | 0.89    | 31.57            | 32.42            | 32.36       | 2.96         |       |             |             |
| 3600  | 19.73  | 28.69     | 10.76             | 11.86              | 1.43      | 0.88    | 31.31            | 32.25            | 32.27       | 2.93         |       |             |             |
| 3800  | 19.63  | 28.62     | 10.71             | 11.67              | 1.44      | 0.88    | 30.87            | 32.16            | 32.18       | 2.90         |       |             |             |
| 4000  | 19.55  | 28.60     | 10.69             | 11.50              | 1.44      | 0.88    | 30.13            | 31.94            | 32.02       | 2.89         |       |             |             |
| 4200  | 19.46  | 28.50     | 10.58             | 11.25              | 1.44      | 0.87    | 29.64            | 31.73            | 31.86       | 2.86         |       |             |             |
| 4400  | 19.38  | 28.52     | 10.31             | 10.97              | 1.45      | 0.87    | 29.67            | 31.52            | 31.66       | 2.84         |       |             |             |
| 4600  | 19.29  | 28.54     | 9.90              | 10.55              | 1.45      | 0.87    | 30.06            | 31.66            | 31.81       | 2.86         |       |             |             |
| 4800  | 19.17  | 28.56     | 9.38              | 10.12              | 1.45      | 0.88    | 29.65            | 31.39            | 31.63       | 2.83         |       |             |             |
| 5000  | 19.05  | 28.59     | 8.80              | 9.61               | 1.44      | 0.87    | 29.21            | 31.30            | 31.49       | 2.75         |       |             |             |
| 5200  | 18.91  | 28.65     | 8.19              | 9.11               | 1.44      | 0.87    | 28.71            | 30.87            | 31.08       | 2.86         |       |             |             |
| 5400  | 18.78  | 28.69     | 7.64              | 8.68               | 1.44      | 0.87    | 28.44            | 30.75            | 30.97       | 2.76         |       |             |             |
| 5600  | 18.66  | 28.75     | 7.21              | 8.36               | 1.44      | 0.86    | 28.94            | 31.22            | 31.32       | 2.73         |       |             |             |
| 5800  | 18.58  | 28.64     | 6.92              | 8.20               | 1.43      | 0.86    | 29.03            | 31.36            | 31.53       | 2.71         |       |             |             |
| 6000  | 18.53  | 28.61     | 6.78              | 8.26               | 1.43      | 0.86    | 28.69            | 31.28            | 31.47       | 2.73         |       |             |             |
| 6200  | 18.57  | 28.39     | 6.87              | 8.59               | 1.42      | 0.86    | 28.56            | 31.19            | 31.40       | 2.69         |       |             |             |
| 6400  | 18.66  | 28.18     | 7.21              | 9.32               | 1.42      | 0.87    | 28.48            | 31.16            | 31.46       | 2.66         |       |             |             |
| 6600  | 18.82  | 27.90     | 7.90              | 10.60              | 1.42      | 0.88    | 28.04            | 31.10            | 31.39       | 2.69         |       |             |             |
| 6800  | 18.99  | 27.65     | 8.94              | 12.66              | 1.43      | 0.89    | 27.76            | 31.07            | 31.37       | 2.76         |       |             |             |
| 7000  | 19.12  | 27.41     | 10.32             | 15.82              | 1.43      | 0.90    | 26.90            | 30.82            | 31.21       | 2.91         |       |             |             |
| 7200  | 19.16  | 27.36     | 11.71             | 18.90              | 1.44      | 0.91    | 25.66            | 30.21            | 30.59       | 3.02         |       |             |             |
| 7400  | 19.04  | 27.44     | 12.23             | 17.49              | 1.46      | 0.92    | 24.67            | 29.78            | 30.08       | 3.20         |       |             |             |
| 7600  | 18.68  | 27.97     | 11.17             | 13.90              | 1.51      | 0.95    | 22.25            | 27.39            | 28.88       | 3.52         |       |             |             |
| 7800  | 18.05  | 28.59     | 9.00              | 10.59              | 1.55      | 0.97    | 20.37            | 25.07            | 27.98       | 3.92         |       |             |             |
| 8000  | 16.98  | 29.77     | 6.54              | 7.65               | 1.62      | 0.97    | 17.48            | 23.66            | 27.08       | 4.33         |       |             |             |
| 8500  | 12.08  | 34.88     | 2.49              | 2.93               | 1.96      | 0.73    | 12.45            | 20.18            | 24.27       | 5.68         |       |             |             |
| 9000  | 5.93   | 41.09     | 1.46              | 1.42               | 3.07      | 0.46    | 9.91             | 18.38            | 21.79       | 7.03         |       |             |             |
| 9500  | 0.72   | 46.69     | 0.90              | 0.98               | 4.81      | 0.36    | 7.46             | 17.65            | 18.33       | 8.13         |       |             |             |
| 10000 | -3.90  | 50.17     | 0.79              | 0.88               | 8.97      | 0.33    | 7.41             | 13.49            | 12.88       | 9.42         |       |             |             |

*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{adj} = \text{Open}$  @ Temperature = +25°C

| FREQ  | OIP3<br>$P_{OUT} = +12\text{ dBm}$ | OIP3<br>$P_{OUT} = +15\text{ dBm}$ | OIP3<br>$P_{OUT} = +18\text{ dBm}$ | OIP3<br>$P_{OUT} = +21\text{ dBm}$ | OIP3<br>$P_{OUT} = +24\text{ dBm}$ |
|-------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| (MHz) | (dBm)                              | (dBm)                              | (dBm)                              | (dBm)                              | (dBm)                              |
| 300   | 34.01                              | 34.67                              | 39.03                              | 38.66                              | 38.23                              |
| 400   | 35.27                              | 34.84                              | 37.91                              | 40.48                              | 39.09                              |
| 500   | 36.20                              | 35.30                              | 37.59                              | 40.04                              | 39.57                              |
| 600   | 36.70                              | 35.53                              | 37.52                              | 39.78                              | 40.27                              |
| 700   | 36.83                              | 35.56                              | 37.46                              | 39.62                              | 40.62                              |
| 800   | 36.74                              | 35.65                              | 37.37                              | 39.30                              | 40.23                              |
| 900   | 36.91                              | 35.70                              | 37.45                              | 39.28                              | 40.85                              |
| 1000  | 36.72                              | 35.62                              | 37.46                              | 39.26                              | 41.13                              |
| 1500  | 36.36                              | 35.71                              | 37.63                              | 38.78                              | 40.09                              |
| 2000  | 36.30                              | 36.10                              | 38.09                              | 38.84                              | 39.77                              |
| 2500  | 37.70                              | 37.05                              | 38.27                              | 40.00                              | 40.20                              |
| 3000  | 37.37                              | 37.02                              | 37.85                              | 38.97                              | 39.83                              |
| 3500  | 38.09                              | 37.74                              | 38.20                              | 38.55                              | 39.59                              |
| 4000  | 38.89                              | 38.16                              | 38.09                              | 36.94                              | 38.65                              |
| 4500  | 37.41                              | 38.07                              | 38.73                              | 37.17                              | 38.17                              |
| 5000  | 37.28                              | 38.05                              | 39.67                              | 38.09                              | 38.66                              |
| 5500  | 36.73                              | 37.33                              | 38.00                              | 37.57                              | 39.03                              |
| 6000  | 36.22                              | 36.92                              | 37.59                              | 37.36                              | 38.75                              |
| 6500  | 38.47                              | 39.17                              | 40.00                              | 38.82                              | 38.81                              |
| 7000  | 38.10                              | 39.02                              | 39.88                              | 38.50                              | 37.79                              |
| 7500  | 33.56                              | 35.09                              | 36.44                              | 36.21                              | 36.46                              |
| 8000  | 30.02                              | 31.81                              | 31.61                              | 32.82                              | 32.82                              |
| 8500  | 28.07                              | 29.01                              | 29.92                              | 30.98                              | 31.16                              |

| Power | OIP3<br>(@300 MHz) | OIP3<br>(@2000 MHz) | OIP3<br>(@4000 MHz) | OIP3<br>(@6000 MHz) | OIP3<br>(@7000 MHz) |
|-------|--------------------|---------------------|---------------------|---------------------|---------------------|
| (dBm) | (dBm)              | (dBm)               | (dBm)               | (dBm)               | (dBm)               |
| 12.00 | 34.01              | 36.30               | 38.89               | 36.22               | 38.10               |
| 15.00 | 34.67              | 36.10               | 38.16               | 36.92               | 39.02               |
| 18.00 | 39.03              | 38.09               | 38.09               | 37.59               | 39.88               |
| 21.00 | 38.66              | 38.84               | 36.94               | 37.36               | 38.50               |
| 24.00 | 38.23              | 39.77               | 38.65               | 38.75               | 37.79               |

## Typical Performance Data

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{Open}$  @ Temperature =  $+25^\circ\text{C}$ 

| FREQ  | P <sub>IN</sub> | P <sub>OUT</sub> | Gain  | FREQ  | P <sub>IN</sub> | P <sub>OUT</sub> | Gain  | FREQ  | P <sub>IN</sub> | P <sub>OUT</sub> | Gain  |
|-------|-----------------|------------------|-------|-------|-----------------|------------------|-------|-------|-----------------|------------------|-------|
| (MHz) | (dBm)           | (dBm)            | (dB)  | (MHz) | (dBm)           | (dBm)            | (dB)  | (MHz) | (dBm)           | (dBm)            | (dB)  |
| 300   | 0               | 21.63            | 21.06 | 2000  | 0               | 21.19            | 21.22 | 4000  | 0               | 19.62            | 19.50 |
| 300   | 0.5             | 22.16            | 21.11 | 2000  | 0.5             | 21.71            | 21.23 | 4000  | 0.5             | 20.11            | 19.48 |
| 300   | 1               | 22.70            | 21.16 | 2000  | 1               | 22.24            | 21.25 | 4000  | 1               | 20.60            | 19.47 |
| 300   | 1.5             | 23.23            | 21.20 | 2000  | 1.5             | 22.75            | 21.26 | 4000  | 1.5             | 21.08            | 19.45 |
| 300   | 2               | 23.76            | 21.25 | 2000  | 2               | 23.27            | 21.26 | 4000  | 2               | 21.56            | 19.43 |
| 300   | 2.5             | 24.30            | 21.29 | 2000  | 2.5             | 23.78            | 21.27 | 4000  | 2.5             | 22.03            | 19.41 |
| 300   | 3               | 24.84            | 21.33 | 2000  | 3               | 24.30            | 21.27 | 4000  | 3               | 22.50            | 19.38 |
| 300   | 3.5             | 25.38            | 21.37 | 2000  | 3.5             | 24.80            | 21.26 | 4000  | 3.5             | 22.97            | 19.34 |
| 300   | 4               | 25.92            | 21.41 | 2000  | 4               | 25.31            | 21.25 | 4000  | 4               | 23.42            | 19.30 |
| 300   | 4.5             | 26.45            | 21.45 | 2000  | 4.5             | 25.81            | 21.23 | 4000  | 4.5             | 23.87            | 19.25 |
| 300   | 5               | 26.98            | 21.48 | 2000  | 5               | 26.31            | 21.22 | 4000  | 5               | 24.32            | 19.20 |
| 300   | 5.5             | 27.50            | 21.49 | 2000  | 5.5             | 26.80            | 21.21 | 4000  | 5.5             | 24.77            | 19.14 |
| 300   | 6               | 28.00            | 21.49 | 2000  | 6               | 27.30            | 21.22 | 4000  | 6               | 25.21            | 19.09 |
| 300   | 6.5             | 28.49            | 21.48 | 2000  | 6.5             | 27.79            | 21.22 | 4000  | 6.5             | 25.66            | 19.05 |
| 300   | 7               | 28.97            | 21.46 | 2000  | 7               | 28.28            | 21.21 | 4000  | 7               | 26.11            | 19.01 |
| 300   | 7.5             | 29.42            | 21.42 | 2000  | 7.5             | 28.77            | 21.20 | 4000  | 7.5             | 26.57            | 18.97 |
| 300   | 8               | 29.80            | 21.35 | 2000  | 8               | 29.26            | 21.18 | 4000  | 8               | 27.04            | 18.95 |
| 300   | 8.5             | 30.11            | 21.25 | 2000  | 8.5             | 29.74            | 21.16 | 4000  | 8.5             | 27.51            | 18.92 |
| 300   | 9               | 30.37            | 21.11 | 2000  | 9               | 30.20            | 21.13 | 4000  | 9               | 27.98            | 18.91 |
| 300   | 9.5             | 30.60            | 20.92 | 2000  | 9.5             | 30.64            | 21.06 | 4000  | 9.5             | 28.47            | 18.89 |
| 300   | 10              | 30.78            | 20.69 | 2000  | 10              | 31.04            | 20.97 | 4000  | 10              | 28.94            | 18.87 |
| 300   | 10.5            | 30.93            | 20.43 | 2000  | 10.5            | 31.41            | 20.84 | 4000  | 10.5            | 29.40            | 18.84 |
| 300   | 11              | 31.04            | 20.13 | 2000  | 11              | 31.73            | 20.64 | 4000  | 11              | 29.84            | 18.81 |
| 300   | 11.5            | 31.13            | 19.82 | 2000  | 11.5            | 32.01            | 20.41 | 4000  | 11.5            | 30.31            | 18.79 |
| 300   | 12              | 31.20            | 19.49 | 2000  | 12              | 32.25            | 20.15 | 4000  | 12              | 30.77            | 18.74 |
| 300   | 12.5            | 31.25            | 19.14 | 2000  | 12.5            | 32.47            | 19.86 | 4000  | 12.5            | 31.20            | 18.67 |
| 300   | 13              | 31.30            | 18.65 | 2000  | 13              | 32.65            | 19.54 | 4000  | 13              | 31.58            | 18.56 |
| 300   | 13.5            | 31.34            | 18.27 | 2000  | 13.5            | 32.79            | 19.17 | 4000  | 13.5            | 31.93            | 18.41 |
| 300   | 14              | 31.37            | 17.89 | 2000  | 14              | 32.89            | 18.76 | 4000  | 14              | 32.22            | 18.21 |
| 300   | 14.5            | 31.40            | 17.49 | 2000  | 14.5            | 32.96            | 18.16 | 4000  | 14.5            | 32.47            | 17.82 |
| 300   | 15              | 31.43            | 17.10 | 2000  | 15              | 32.99            | 17.67 | 4000  | 15              | 32.68            | 17.54 |
| 300   | 15.5            | 31.45            | 16.70 | 2000  | 15.5            | 33.01            | 17.17 | 4000  | 15.5            | 32.84            | 17.21 |
| 300   | 16              | 31.46            | 16.28 | 2000  | 16              | 33.00            | 16.65 | 4000  | 16              | 32.97            | 16.84 |
| 300   | 16.5            | 31.47            | 15.86 | 2000  | 16.5            | 32.98            | 16.13 | 4000  | 16.5            | 33.06            | 16.44 |
| 300   | 17              | 31.47            | 15.43 | 2000  | 17              | 32.94            | 15.59 | 4000  | 17              | 33.11            | 15.99 |
| 300   | 17.5            | 31.47            | 15.00 | 2000  | 17.5            | 32.90            | 15.04 | 4000  | 17.5            | 33.13            | 15.52 |
| 300   | 18              | 31.47            | 14.57 | 2000  | 18              | 32.84            | 14.50 | 4000  | 18              | 33.14            | 15.03 |

*Typical Performance Data*TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{Iadj} = \text{Open}$  @ Temperature =  $+25^{\circ}\text{C}$ 

| FREQ  | P <sub>IN</sub> | P <sub>OUT</sub> | Gain  | FREQ  | P <sub>IN</sub> | P <sub>OUT</sub> | Gain  |
|-------|-----------------|------------------|-------|-------|-----------------|------------------|-------|
| (MHz) | (dBm)           | (dBm)            | (dB)  | (MHz) | (dBm)           | (dBm)            | (dB)  |
| 6000  | 0               | 18.37            | 18.28 | 7200  | 0               | 19.31            | 19.25 |
| 6000  | 0.5             | 18.86            | 18.27 | 7200  | 0.5             | 19.80            | 19.23 |
| 6000  | 1               | 19.35            | 18.25 | 7200  | 1               | 20.29            | 19.22 |
| 6000  | 1.5             | 19.84            | 18.23 | 7200  | 1.5             | 20.78            | 19.21 |
| 6000  | 2               | 20.32            | 18.21 | 7200  | 2               | 21.27            | 19.19 |
| 6000  | 2.5             | 20.81            | 18.20 | 7200  | 2.5             | 21.75            | 19.17 |
| 6000  | 3               | 21.29            | 18.18 | 7200  | 3               | 22.22            | 19.14 |
| 6000  | 3.5             | 21.77            | 18.16 | 7200  | 3.5             | 22.70            | 19.11 |
| 6000  | 4               | 22.24            | 18.12 | 7200  | 4               | 23.17            | 19.08 |
| 6000  | 4.5             | 22.71            | 18.10 | 7200  | 4.5             | 23.63            | 19.04 |
| 6000  | 5               | 23.18            | 18.06 | 7200  | 5               | 24.09            | 19.00 |
| 6000  | 5.5             | 23.65            | 18.03 | 7200  | 5.5             | 24.54            | 18.95 |
| 6000  | 6               | 24.12            | 18.00 | 7200  | 6               | 24.97            | 18.88 |
| 6000  | 6.5             | 24.59            | 17.97 | 7200  | 6.5             | 25.39            | 18.80 |
| 6000  | 7               | 25.06            | 17.94 | 7200  | 7               | 25.79            | 18.70 |
| 6000  | 7.5             | 25.54            | 17.92 | 7200  | 7.5             | 26.16            | 18.58 |
| 6000  | 8               | 26.02            | 17.90 | 7200  | 8               | 26.52            | 18.45 |
| 6000  | 8.5             | 26.50            | 17.89 | 7200  | 8.5             | 26.88            | 18.31 |
| 6000  | 9               | 26.98            | 17.88 | 7200  | 9               | 27.23            | 18.17 |
| 6000  | 9.5             | 27.46            | 17.86 | 7200  | 9.5             | 27.56            | 18.01 |
| 6000  | 10              | 27.92            | 17.82 | 7200  | 10              | 27.89            | 17.84 |
| 6000  | 10.5            | 28.36            | 17.77 | 7200  | 10.5            | 28.21            | 17.67 |
| 6000  | 11              | 28.79            | 17.70 | 7200  | 11              | 28.54            | 17.50 |
| 6000  | 11.5            | 29.21            | 17.62 | 7200  | 11.5            | 28.89            | 17.36 |
| 6000  | 12              | 29.61            | 17.53 | 7200  | 12              | 29.29            | 17.26 |
| 6000  | 12.5            | 30.00            | 17.41 | 7200  | 12.5            | 29.72            | 17.19 |
| 6000  | 13              | 30.39            | 17.31 | 7200  | 13              | 30.14            | 17.11 |
| 6000  | 13.5            | 30.77            | 17.18 | 7200  | 13.5            | 30.50            | 16.97 |
| 6000  | 14              | 31.12            | 17.03 | 7200  | 14              | 30.77            | 16.74 |
| 6000  | 14.5            | 31.44            | 16.69 | 7200  | 14.5            | 30.98            | 16.45 |
| 6000  | 15              | 31.70            | 16.46 | 7200  | 15              | 31.14            | 15.96 |
| 6000  | 15.5            | 31.93            | 16.18 | 7200  | 15.5            | 31.27            | 15.59 |
| 6000  | 16              | 32.13            | 15.87 | 7200  | 16              | 31.38            | 15.20 |
| 6000  | 16.5            | 32.28            | 15.51 | 7200  | 16.5            | 31.47            | 14.78 |
| 6000  | 17              | 32.40            | 15.13 | 7200  | 17              | 31.54            | 14.34 |
| 6000  | 17.5            | 32.49            | 14.71 | 7200  | 17.5            | 31.60            | 13.89 |
| 6000  | 18              | 32.55            | 14.26 | 7200  | 18              | 31.64            | 13.41 |

## Typical Performance Data

## Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{I_{BQ}} = \text{Open}$  @ Temperature = +25°C

| $P_{IN}$ | $P_{OUT}$<br>(@300 MHz) | $P_{OUT}$<br>(@2000 MHz) | $P_{OUT}$<br>(@4000 MHz) | $P_{OUT}$<br>(@6000 MHz) | $P_{OUT}$<br>(@7200 MHz) | $I_{DD}$<br>(@300 MHz) | $I_{DD}$<br>(@2000 MHz) | $I_{DD}$<br>(@4000 MHz) | $I_{DD}$<br>(@6000 MHz) | $I_{DD}$<br>(@7200 MHz) |
|----------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| (dBm)    | (dBm)                   | (dBm)                    | (dBm)                    | (dBm)                    | (dBm)                    | (mA)                   | (mA)                    | (mA)                    | (mA)                    | (mA)                    |
| 0        | 21.63                   | 21.19                    | 19.62                    | 18.37                    | 19.31                    | 204.11                 | 200.58                  | 200.99                  | 200.19                  | 198.49                  |
| 0.5      | 22.16                   | 21.71                    | 20.11                    | 18.86                    | 19.80                    | 206.72                 | 202.51                  | 202.30                  | 201.24                  | 199.76                  |
| 1        | 22.70                   | 22.24                    | 20.60                    | 19.35                    | 20.29                    | 210.18                 | 204.51                  | 203.81                  | 202.46                  | 201.25                  |
| 1.5      | 23.23                   | 22.75                    | 21.08                    | 19.84                    | 20.78                    | 214.41                 | 206.69                  | 205.54                  | 203.87                  | 203.00                  |
| 2        | 23.76                   | 23.27                    | 21.56                    | 20.32                    | 21.27                    | 219.09                 | 209.00                  | 207.59                  | 205.51                  | 205.01                  |
| 2.5      | 24.30                   | 23.78                    | 22.03                    | 20.81                    | 21.75                    | 223.87                 | 211.50                  | 209.94                  | 207.37                  | 207.34                  |
| 3        | 24.84                   | 24.30                    | 22.50                    | 21.29                    | 22.22                    | 229.70                 | 214.28                  | 212.64                  | 209.50                  | 209.98                  |
| 3.5      | 25.38                   | 24.80                    | 22.97                    | 21.77                    | 22.70                    | 236.48                 | 217.41                  | 215.71                  | 211.90                  | 213.02                  |
| 4        | 25.92                   | 25.31                    | 23.42                    | 22.24                    | 23.17                    | 243.89                 | 221.55                  | 219.25                  | 214.68                  | 216.51                  |
| 4.5      | 26.45                   | 25.81                    | 23.87                    | 22.71                    | 23.63                    | 252.51                 | 226.83                  | 223.29                  | 217.85                  | 221.20                  |
| 5        | 26.98                   | 26.31                    | 24.32                    | 23.18                    | 24.09                    | 261.94                 | 233.33                  | 227.84                  | 221.44                  | 226.42                  |
| 5.5      | 27.50                   | 26.80                    | 24.77                    | 23.65                    | 24.54                    | 272.15                 | 241.22                  | 232.94                  | 225.53                  | 232.13                  |
| 6        | 28.00                   | 27.30                    | 25.21                    | 24.12                    | 24.97                    | 283.20                 | 250.46                  | 238.75                  | 230.57                  | 238.36                  |
| 6.5      | 28.49                   | 27.79                    | 25.66                    | 24.59                    | 25.39                    | 294.53                 | 260.89                  | 245.53                  | 236.37                  | 245.09                  |
| 7        | 28.97                   | 28.28                    | 26.11                    | 25.06                    | 25.79                    | 305.55                 | 272.38                  | 253.42                  | 242.68                  | 252.60                  |
| 7.5      | 29.42                   | 28.77                    | 26.57                    | 25.54                    | 26.16                    | 314.63                 | 284.77                  | 262.60                  | 249.62                  | 260.76                  |
| 8        | 29.80                   | 29.26                    | 27.04                    | 26.02                    | 26.52                    | 320.89                 | 298.00                  | 273.15                  | 257.25                  | 269.28                  |
| 8.5      | 30.11                   | 29.74                    | 27.51                    | 26.50                    | 26.88                    | 324.57                 | 312.25                  | 285.06                  | 265.83                  | 277.92                  |
| 9        | 30.37                   | 30.20                    | 27.98                    | 26.98                    | 27.23                    | 325.55                 | 327.28                  | 298.28                  | 275.42                  | 287.00                  |
| 9.5      | 30.60                   | 30.64                    | 28.47                    | 27.46                    | 27.56                    | 322.37                 | 342.82                  | 312.55                  | 285.98                  | 296.61                  |
| 10       | 30.78                   | 31.04                    | 28.94                    | 27.92                    | 27.89                    | 316.43                 | 358.38                  | 327.65                  | 297.34                  | 306.70                  |
| 10.5     | 30.93                   | 31.41                    | 29.40                    | 28.36                    | 28.21                    | 309.98                 | 373.58                  | 343.23                  | 309.36                  | 317.26                  |
| 11       | 31.04                   | 31.73                    | 29.84                    | 28.79                    | 28.54                    | 304.10                 | 387.73                  | 359.54                  | 322.01                  | 329.70                  |
| 11.5     | 31.13                   | 32.01                    | 30.31                    | 29.21                    | 28.89                    | 298.91                 | 401.54                  | 376.69                  | 335.22                  | 343.88                  |
| 12       | 31.20                   | 32.25                    | 30.77                    | 29.61                    | 29.29                    | 293.91                 | 414.33                  | 394.25                  | 348.92                  | 359.94                  |
| 12.5     | 31.25                   | 32.47                    | 31.20                    | 30.00                    | 29.72                    | 289.54                 | 425.77                  | 412.17                  | 363.28                  | 377.95                  |
| 13       | 31.30                   | 32.65                    | 31.58                    | 30.39                    | 30.14                    | 285.21                 | 434.81                  | 431.41                  | 378.48                  | 397.31                  |
| 13.5     | 31.34                   | 32.79                    | 31.93                    | 30.77                    | 30.50                    | 280.56                 | 437.23                  | 452.35                  | 394.37                  | 416.86                  |
| 14       | 31.37                   | 32.89                    | 32.22                    | 31.12                    | 30.77                    | 276.56                 | 434.27                  | 474.56                  | 410.58                  | 435.62                  |
| 14.5     | 31.40                   | 32.96                    | 32.47                    | 31.44                    | 30.98                    | 272.30                 | 428.80                  | 497.10                  | 426.70                  | 452.85                  |
| 15       | 31.43                   | 32.99                    | 32.68                    | 31.70                    | 31.14                    | 268.50                 | 421.99                  | 518.93                  | 442.33                  | 466.55                  |
| 15.5     | 31.45                   | 33.01                    | 32.84                    | 31.93                    | 31.27                    | 264.95                 | 414.82                  | 539.33                  | 457.25                  | 478.67                  |
| 16       | 31.46                   | 33.00                    | 32.97                    | 32.13                    | 31.38                    | 261.25                 | 407.62                  | 557.47                  | 471.35                  | 489.62                  |
| 16.5     | 31.47                   | 32.98                    | 33.06                    | 32.28                    | 31.47                    | 258.07                 | 400.50                  | 572.15                  | 484.45                  | 498.27                  |
| 17       | 31.47                   | 32.94                    | 33.11                    | 32.40                    | 31.54                    | 254.66                 | 393.52                  | 579.55                  | 497.09                  | 503.19                  |
| 17.5     | 31.47                   | 32.90                    | 33.13                    | 32.49                    | 31.60                    | 251.90                 | 386.82                  | 576.51                  | 508.21                  | 505.29                  |
| 18       | 31.47                   | 32.84                    | 33.14                    | 32.55                    | 31.64                    | 249.11                 | 383.35                  | 570.32                  | 514.89                  | 504.42                  |

## Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions**

**Definitions:**

Input Return Loss = S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = S12 (dB)

Output Return Loss = S22 (dB)

TEST CONDITIONS: V<sub>DD</sub> = +12 V, V<sub>iadj</sub> = Open @ Temperature = +25°C

| FREQ  | I <sub>DD</sub><br>@P1dB | I <sub>DD</sub><br>@P3dB | I <sub>DD</sub><br>@P <sub>SAT</sub> | PAE<br>@P1dB | PAE<br>@P3dB | PAE<br>@P <sub>SAT</sub> |
|-------|--------------------------|--------------------------|--------------------------------------|--------------|--------------|--------------------------|
| (MHz) | (mA)                     | (mA)                     | (mA)                                 | (%)          | (%)          | (%)                      |
| 10    | 211.36                   | 192.26                   | 210.98                               | -3.68        | 0.00         | -3.70                    |
| 50    | 444.33                   | 471.35                   | 469.15                               | 0.60         | 0.33         | 0.30                     |
| 100   | 470.32                   | 476.84                   | 461.78                               | 9.82         | 10.77        | 10.95                    |
| 150   | 430.24                   | 422.06                   | 402.31                               | 14.93        | 16.00        | 16.28                    |
| 200   | 390.14                   | 379.23                   | 364.01                               | 20.56        | 22.38        | 23.11                    |
| 250   | 342.63                   | 326.23                   | 311.69                               | 25.51        | 27.89        | 28.46                    |
| 300   | 312.99                   | 293.93                   | 279.74                               | 30.99        | 34.06        | 34.78                    |
| 400   | 281.73                   | 259.64                   | 249.39                               | 33.93        | 37.95        | 39.00                    |
| 500   | 276.06                   | 245.68                   | 234.48                               | 36.78        | 42.38        | 43.23                    |
| 600   | 277.96                   | 244.29                   | 233.27                               | 40.52        | 47.08        | 47.85                    |
| 700   | 283.95                   | 252.08                   | 241.84                               | 38.57        | 44.06        | 44.51                    |
| 800   | 296.81                   | 260.69                   | 246.28                               | 38.55        | 44.24        | 44.79                    |
| 900   | 312.86                   | 277.39                   | 263.21                               | 35.09        | 40.43        | 41.16                    |
| 1000  | 331.33                   | 293.69                   | 274.65                               | 38.26        | 43.86        | 44.88                    |
| 1200  | 357.64                   | 325.48                   | 303.79                               | 35.61        | 40.91        | 42.19                    |
| 1400  | 377.43                   | 351.68                   | 328.06                               | 35.41        | 39.84        | 41.33                    |
| 1600  | 392.13                   | 381.76                   | 357.46                               | 33.13        | 37.06        | 38.53                    |
| 1800  | 408.45                   | 404.72                   | 379.14                               | 31.31        | 34.43        | 35.84                    |
| 2000  | 414.47                   | 430.90                   | 404.11                               | 33.05        | 36.10        | 37.38                    |
| 2200  | 433.28                   | 455.20                   | 424.66                               | 30.30        | 32.88        | 34.05                    |
| 2400  | 449.64                   | 484.00                   | 451.11                               | 31.08        | 32.67        | 33.82                    |
| 2600  | 459.03                   | 497.29                   | 466.60                               | 31.40        | 32.71        | 33.25                    |
| 2800  | 468.94                   | 495.81                   | 467.50                               | 31.72        | 32.90        | 33.34                    |
| 3000  | 466.52                   | 505.58                   | 480.64                               | 31.22        | 32.53        | 32.95                    |
| 3200  | 469.26                   | 522.61                   | 498.93                               | 28.82        | 30.61        | 31.52                    |
| 3400  | 465.35                   | 536.09                   | 511.15                               | 30.88        | 32.39        | 33.22                    |
| 3600  | 466.95                   | 543.69                   | 517.05                               | 28.54        | 30.81        | 31.94                    |
| 3800  | 455.54                   | 558.32                   | 540.39                               | 27.22        | 29.45        | 30.11                    |
| 4000  | 419.11                   | 574.52                   | 572.42                               | 24.41        | 27.19        | 27.37                    |
| 4200  | 370.86                   | 567.48                   | 579.30                               | 21.52        | 26.39        | 26.27                    |
| 4400  | 362.43                   | 538.02                   | 560.13                               | 21.94        | 25.94        | 25.78                    |
| 4600  | 374.98                   | 514.52                   | 540.60                               | 24.68        | 27.29        | 27.01                    |
| 4800  | 359.65                   | 489.75                   | 528.58                               | 24.86        | 29.30        | 28.90                    |
| 5000  | 344.23                   | 477.16                   | 515.17                               | 21.00        | 27.10        | 26.83                    |
| 5200  | 343.31                   | 472.90                   | 507.25                               | 19.60        | 26.21        | 26.12                    |
| 5400  | 345.69                   | 494.37                   | 518.24                               | 18.44        | 25.03        | 24.88                    |
| 5600  | 361.41                   | 511.95                   | 526.28                               | 20.29        | 27.02        | 27.06                    |
| 5800  | 360.82                   | 510.78                   | 530.93                               | 20.50        | 27.39        | 27.54                    |
| 6000  | 342.18                   | 508.02                   | 528.44                               | 18.58        | 26.67        | 26.87                    |
| 6200  | 348.45                   | 502.16                   | 523.61                               | 18.54        | 25.88        | 26.10                    |
| 6400  | 341.52                   | 492.84                   | 516.26                               | 17.98        | 25.79        | 26.19                    |
| 6600  | 324.25                   | 481.84                   | 506.31                               | 18.06        | 26.94        | 27.34                    |
| 6800  | 312.68                   | 468.67                   | 500.29                               | 16.63        | 25.50        | 26.06                    |
| 7000  | 289.02                   | 463.47                   | 501.08                               | 15.51        | 25.68        | 26.39                    |
| 7200  | 272.21                   | 465.49                   | 511.40                               | 11.55        | 20.19        | 20.85                    |
| 7400  | 256.36                   | 465.65                   | 526.23                               | 10.22        | 17.95        | 18.08                    |
| 7600  | 237.43                   | 397.80                   | 534.78                               | 6.33         | 11.48        | 13.14                    |
| 7800  | 227.09                   | 339.79                   | 527.70                               | 4.14         | 7.42         | 10.02                    |
| 8000  | 203.12                   | 311.54                   | 520.06                               | 2.60         | 6.62         | 9.41                     |
| 8500  | 192.97                   | 289.36                   | 529.26                               | 0.62         | 2.41         | 3.85                     |
| 9000  | 192.06                   | 309.40                   | 541.57                               | 0.22         | 0.66         | 0.04                     |
| 9500  | 194.30                   | 348.33                   | 462.55                               | -0.06        | -1.36        | -2.95                    |
| 10000 | 192.13                   | 305.07                   | 315.26                               | -1.08        | -6.83        | -6.59                    |

## Typical Performance Data

## Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

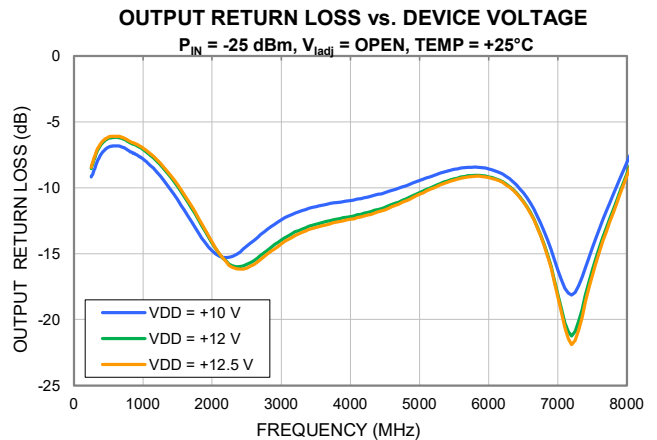
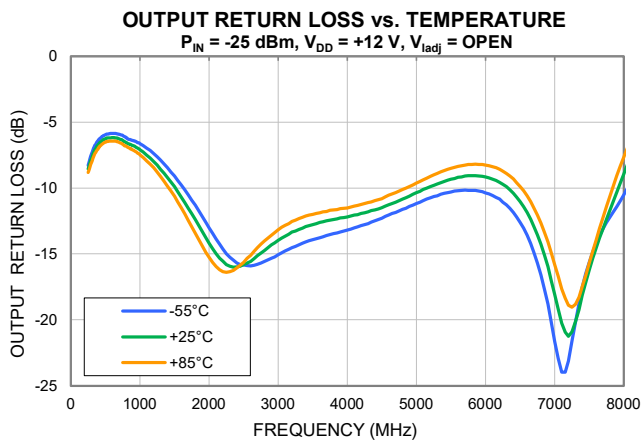
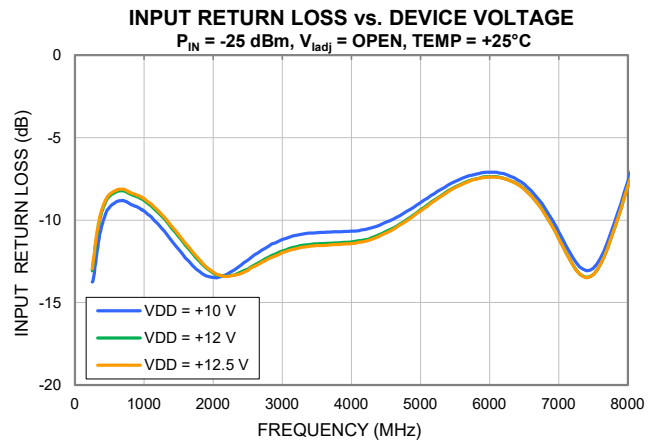
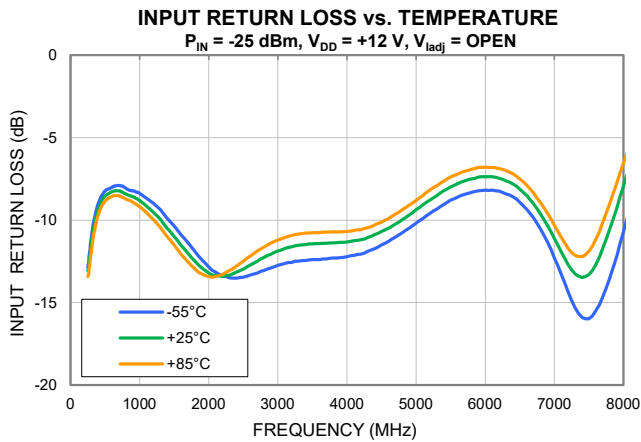
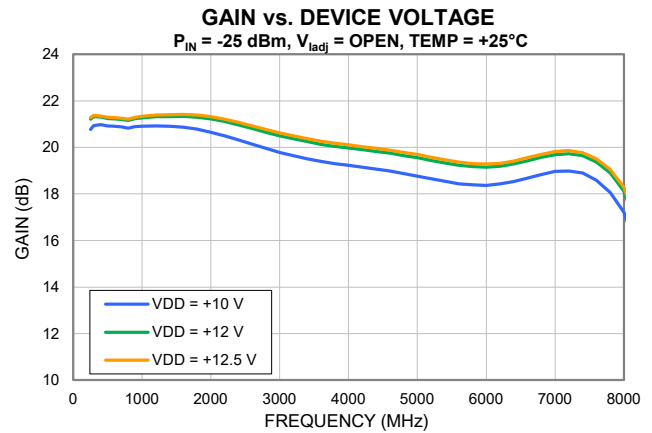
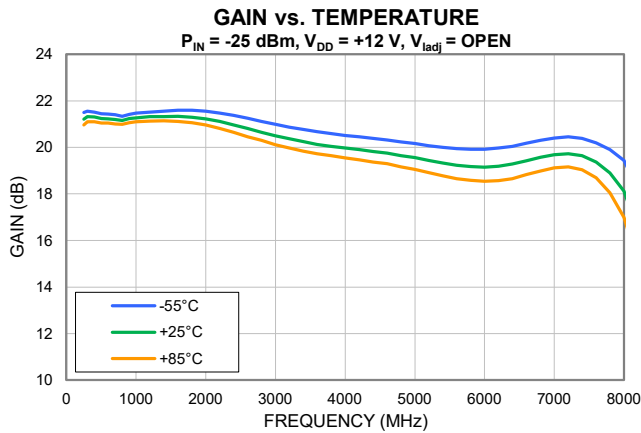
Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

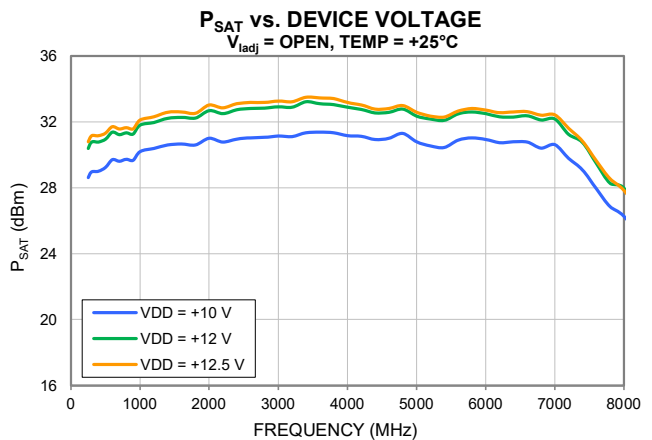
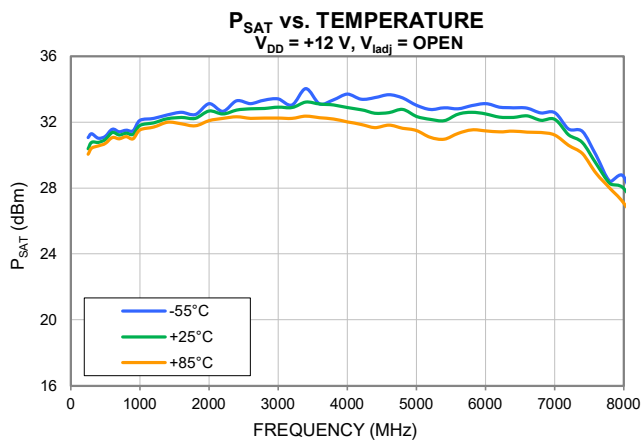
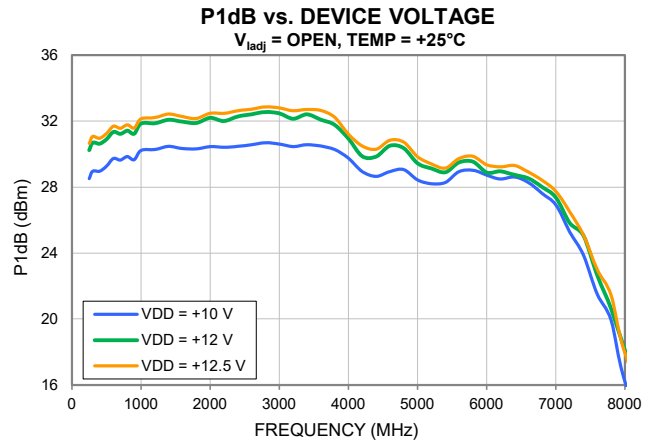
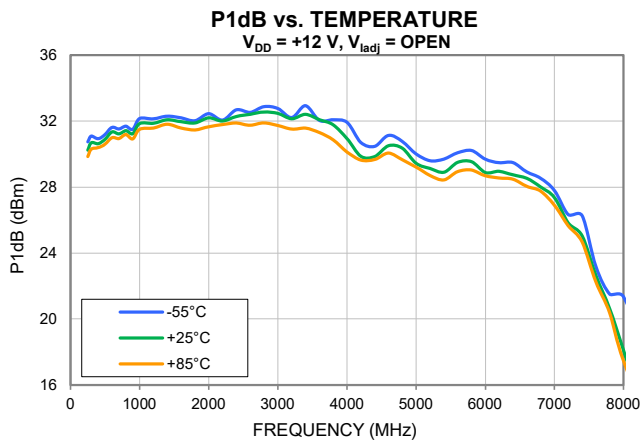
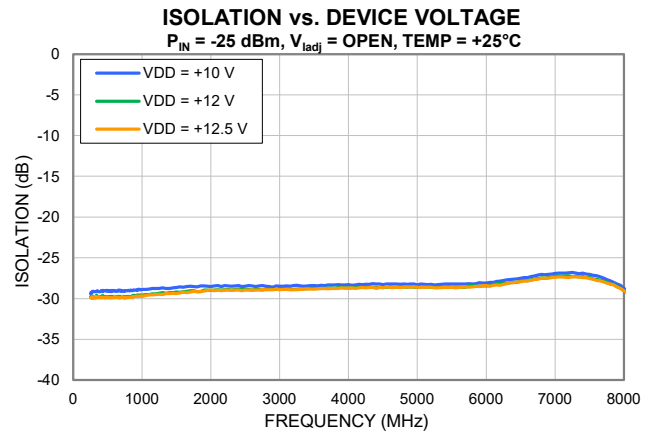
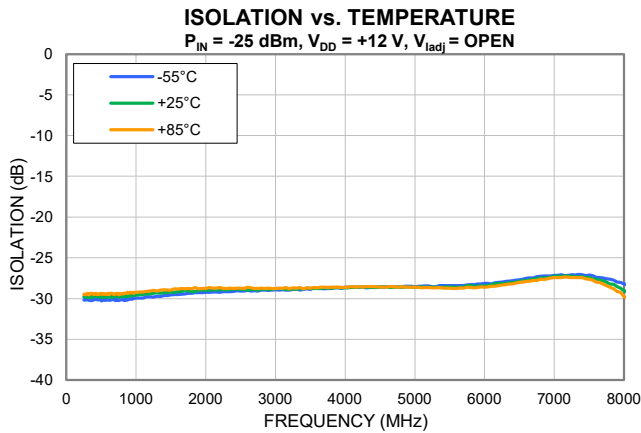
TEST CONDITIONS:  $V_{DD} = +12\text{ V}$ ,  $V_{I_{BQ}} = \text{Open}$  @ Temperature = +25°C

| $P_{IN}$ | $P_{DISS}$<br>(@300 MHz) | $P_{DISS}$<br>(@2000 MHz) | $P_{DISS}$<br>(@4000 MHz) | $P_{DISS}$<br>(@6000 MHz) | $P_{DISS}$<br>(@7200 MHz) | PAE<br>(@300 MHz) | PAE<br>(@2000 MHz) | PAE<br>(@4000 MHz) | PAE<br>(@6000 MHz) | PAE<br>(@7200 MHz) |
|----------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| (dBm)    | (W)                      | (W)                       | (W)                       | (W)                       | (W)                       | (%)               | (%)                | (%)                | (%)                | (%)                |
| 0        | 2.30                     | 2.27                      | 2.32                      | 2.34                      | 2.30                      | 6.06              | 5.43               | 3.78               | 2.91               | 3.54               |
| 0.5      | 2.31                     | 2.28                      | 2.33                      | 2.34                      | 2.30                      | 6.80              | 6.06               | 4.19               | 3.24               | 3.94               |
| 1        | 2.33                     | 2.29                      | 2.33                      | 2.35                      | 2.31                      | 7.59              | 6.76               | 4.65               | 3.59               | 4.37               |
| 1.5      | 2.35                     | 2.29                      | 2.34                      | 2.36                      | 2.32                      | 8.46              | 7.53               | 5.14               | 3.98               | 4.85               |
| 2        | 2.38                     | 2.29                      | 2.35                      | 2.36                      | 2.33                      | 9.40              | 8.36               | 5.68               | 4.40               | 5.38               |
| 2.5      | 2.42                     | 2.30                      | 2.36                      | 2.37                      | 2.34                      | 10.37             | 9.28               | 6.26               | 4.87               | 5.94               |
| 3        | 2.45                     | 2.30                      | 2.38                      | 2.39                      | 2.35                      | 11.40             | 10.27              | 6.89               | 5.37               | 6.54               |
| 3.5      | 2.48                     | 2.31                      | 2.39                      | 2.40                      | 2.38                      | 12.53             | 11.32              | 7.56               | 5.91               | 7.19               |
| 4        | 2.52                     | 2.32                      | 2.41                      | 2.42                      | 2.41                      | 13.74             | 12.45              | 8.26               | 6.48               | 7.88               |
| 4.5      | 2.57                     | 2.34                      | 2.44                      | 2.44                      | 2.45                      | 14.96             | 13.62              | 9.00               | 7.10               | 8.62               |
| 5        | 2.63                     | 2.38                      | 2.47                      | 2.46                      | 2.49                      | 16.26             | 14.83              | 9.77               | 7.75               | 9.39               |
| 5.5      | 2.68                     | 2.42                      | 2.50                      | 2.49                      | 2.53                      | 17.69             | 16.02              | 10.59              | 8.44               | 10.17              |
| 6        | 2.74                     | 2.47                      | 2.54                      | 2.52                      | 2.58                      | 19.07             | 17.31              | 11.44              | 9.19               | 10.96              |
| 6.5      | 2.80                     | 2.53                      | 2.58                      | 2.55                      | 2.63                      | 20.45             | 18.62              | 12.34              | 9.99               | 11.73              |
| 7        | 2.85                     | 2.59                      | 2.64                      | 2.60                      | 2.69                      | 21.94             | 20.01              | 13.27              | 10.84              | 12.47              |
| 7.5      | 2.88                     | 2.66                      | 2.70                      | 2.64                      | 2.75                      | 23.47             | 21.44              | 14.23              | 11.75              | 13.17              |
| 8        | 2.89                     | 2.73                      | 2.78                      | 2.69                      | 2.82                      | 24.89             | 22.92              | 15.22              | 12.73              | 13.84              |
| 8.5      | 2.86                     | 2.80                      | 2.86                      | 2.75                      | 2.89                      | 26.32             | 24.42              | 16.25              | 13.78              | 14.53              |
| 9        | 2.82                     | 2.88                      | 2.96                      | 2.81                      | 2.96                      | 27.74             | 25.98              | 17.34              | 14.86              | 15.22              |
| 9.5      | 2.72                     | 2.96                      | 3.06                      | 2.88                      | 3.04                      | 29.29             | 27.48              | 18.51              | 15.96              | 15.86              |
| 10       | 2.61                     | 3.04                      | 3.16                      | 2.96                      | 3.12                      | 31.00             | 28.88              | 19.77              | 17.06              | 16.48              |
| 10.5     | 2.50                     | 3.12                      | 3.26                      | 3.04                      | 3.20                      | 32.69             | 30.15              | 21.06              | 18.15              | 17.10              |
| 11       | 2.40                     | 3.20                      | 3.36                      | 3.12                      | 3.29                      | 34.23             | 31.27              | 22.29              | 19.25              | 17.74              |
| 11.5     | 2.31                     | 3.27                      | 3.47                      | 3.20                      | 3.39                      | 35.60             | 32.21              | 23.67              | 20.36              | 18.44              |
| 12       | 2.23                     | 3.33                      | 3.57                      | 3.29                      | 3.51                      | 36.88             | 33.07              | 25.04              | 21.46              | 19.27              |
| 12.5     | 2.16                     | 3.38                      | 3.67                      | 3.38                      | 3.64                      | 37.99             | 33.88              | 26.35              | 22.51              | 20.27              |
| 13       | 2.09                     | 3.41                      | 3.79                      | 3.47                      | 3.76                      | 39.00             | 34.71              | 27.47              | 23.65              | 21.22              |
| 13.5     | 2.03                     | 3.37                      | 3.93                      | 3.56                      | 3.90                      | 39.96             | 35.77              | 28.35              | 24.74              | 21.96              |
| 14       | 1.97                     | 3.28                      | 4.09                      | 3.66                      | 4.06                      | 40.84             | 36.80              | 28.93              | 25.74              | 22.36              |
| 14.5     | 1.91                     | 3.19                      | 4.27                      | 3.76                      | 4.21                      | 41.70             | 37.70              | 29.25              | 26.60              | 22.52              |
| 15       | 1.86                     | 3.10                      | 4.45                      | 3.86                      | 4.34                      | 42.45             | 38.47              | 29.38              | 27.25              | 22.57              |
| 15.5     | 1.82                     | 3.02                      | 4.62                      | 3.96                      | 4.45                      | 43.15             | 39.12              | 29.38              | 27.77              | 22.60              |
| 16       | 1.78                     | 2.95                      | 4.78                      | 4.06                      | 4.55                      | 43.81             | 39.63              | 29.31              | 28.10              | 22.64              |
| 16.5     | 1.74                     | 2.88                      | 4.86                      | 4.18                      | 4.62                      | 44.34             | 40.01              | 29.23              | 28.25              | 22.67              |
| 17       | 1.70                     | 2.82                      | 4.87                      | 4.30                      | 4.66                      | 44.84             | 40.26              | 29.23              | 28.31              | 22.71              |
| 17.5     | 1.68                     | 2.76                      | 4.84                      | 4.39                      | 4.68                      | 45.24             | 40.38              | 29.32              | 28.33              | 22.79              |
| 18       | 1.65                     | 2.77                      | 4.78                      | 4.42                      | 4.66                      | 45.56             | 40.32              | 29.45              | 28.34              | 22.91              |

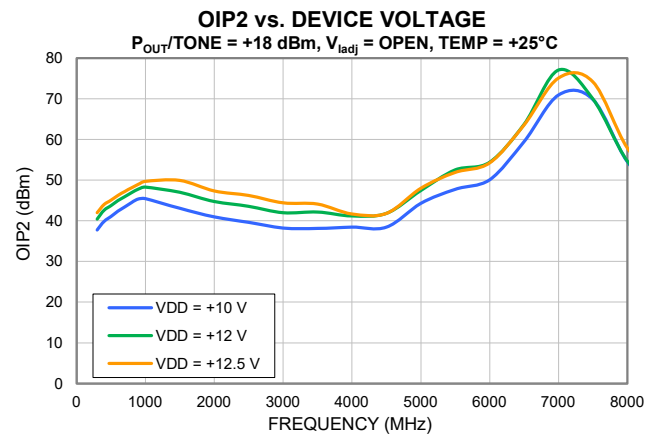
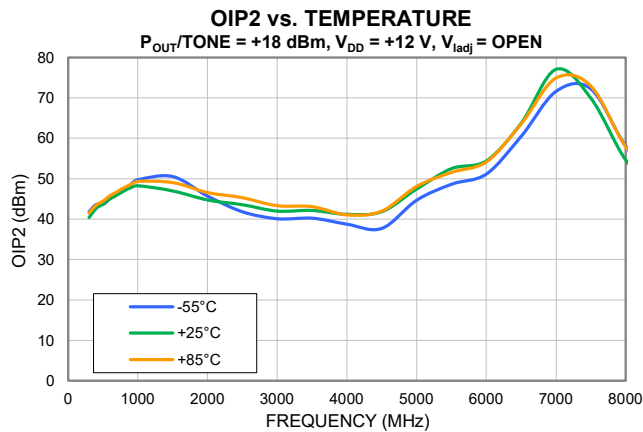
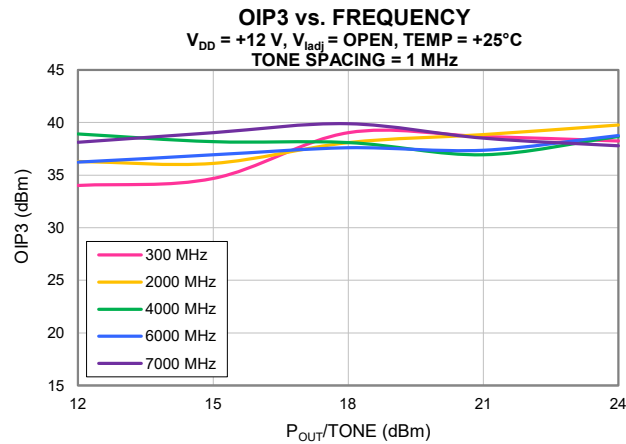
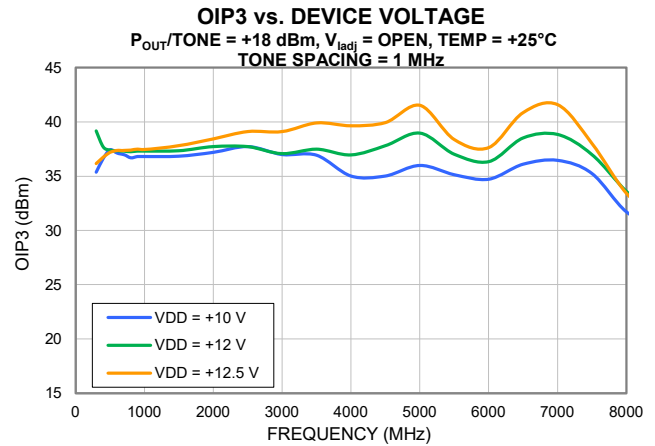
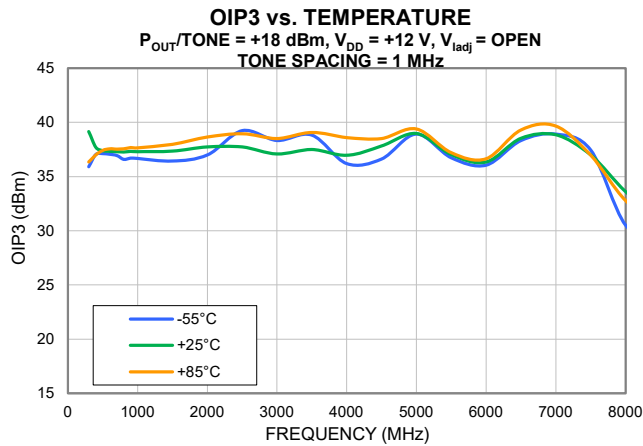
## Typical Performance Curves



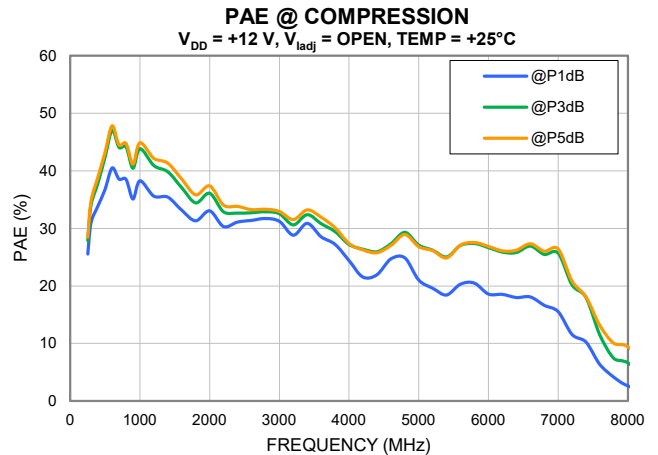
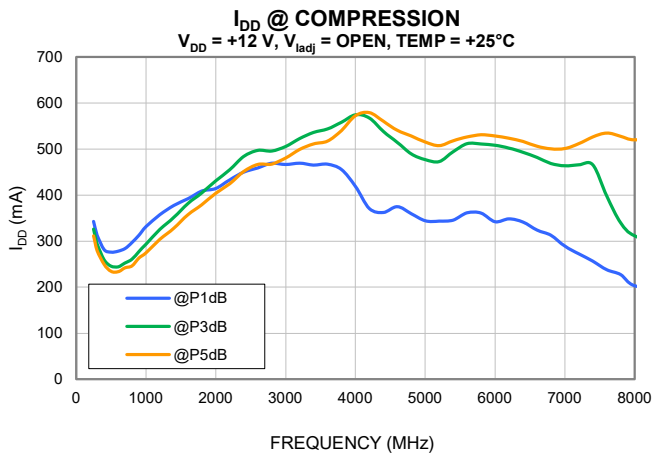
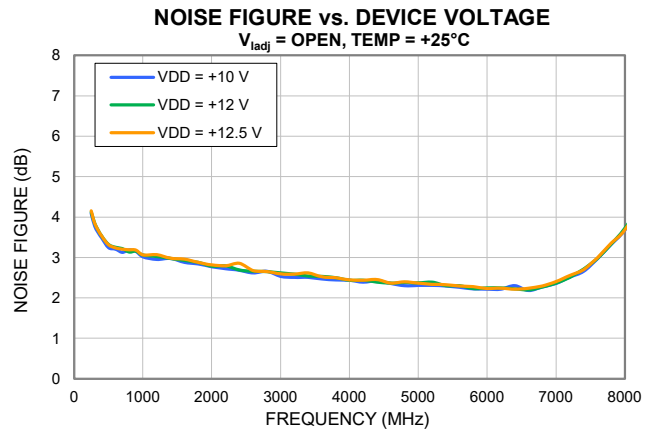
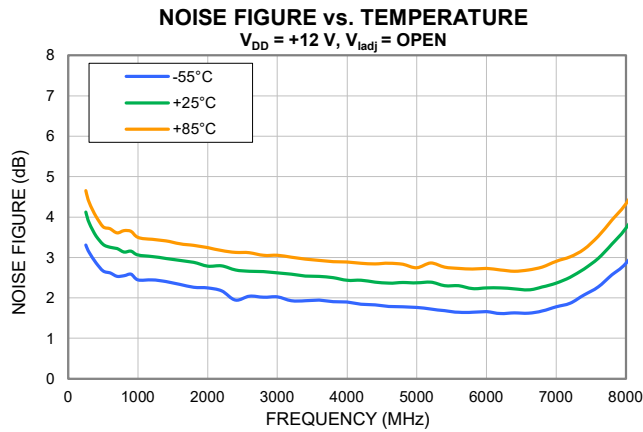
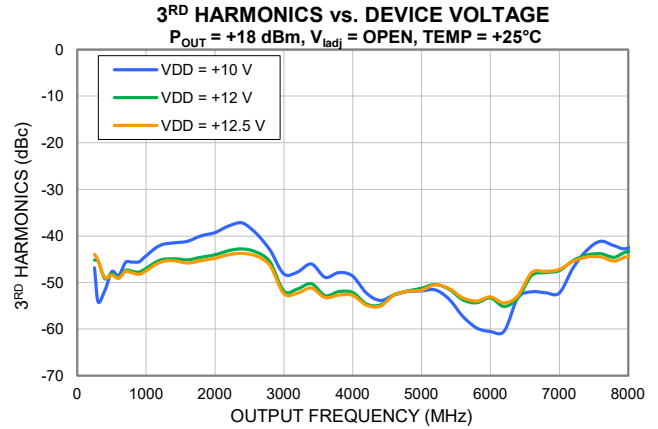
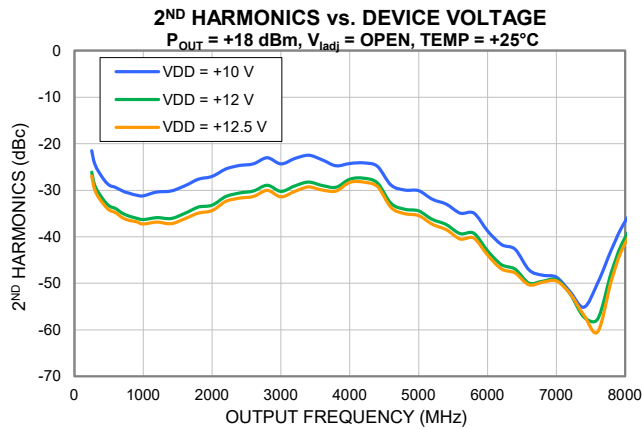
## Typical Performance Curves



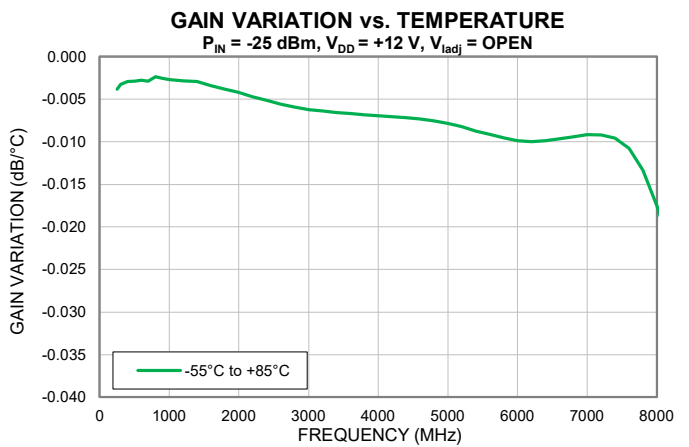
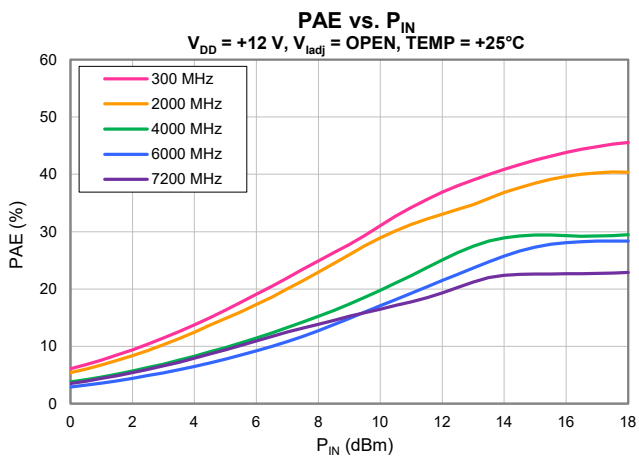
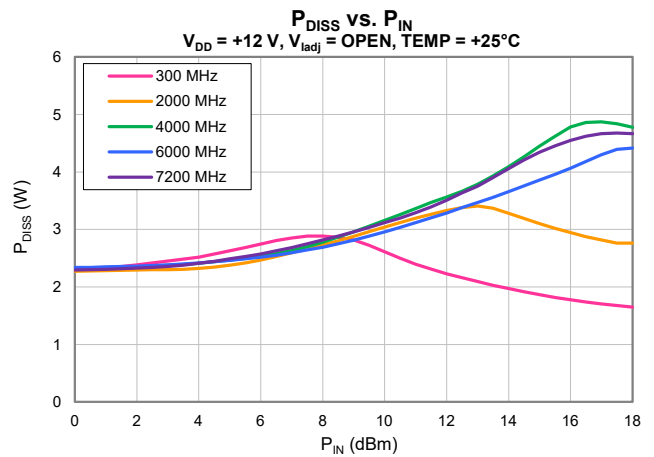
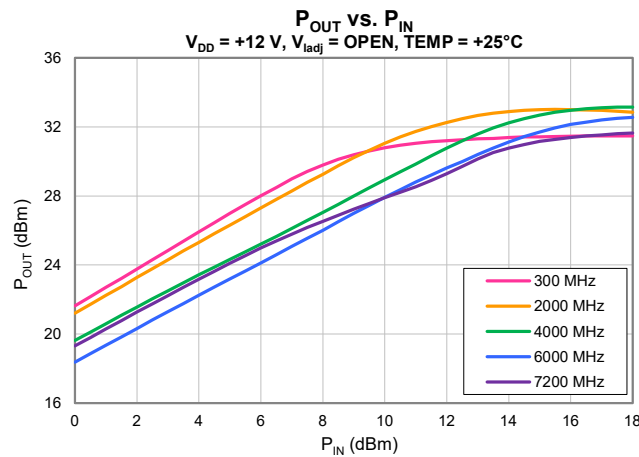
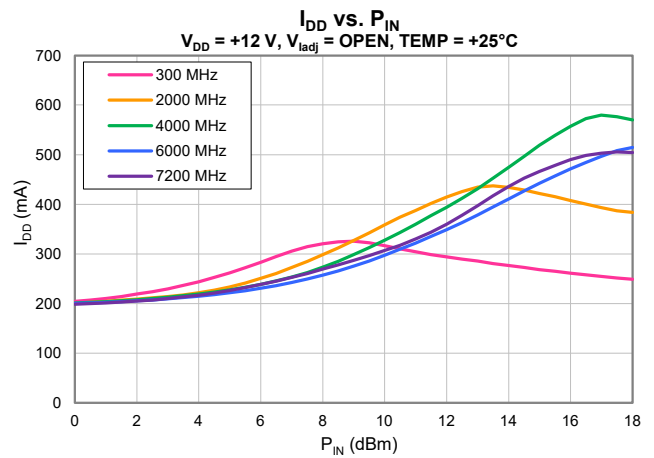
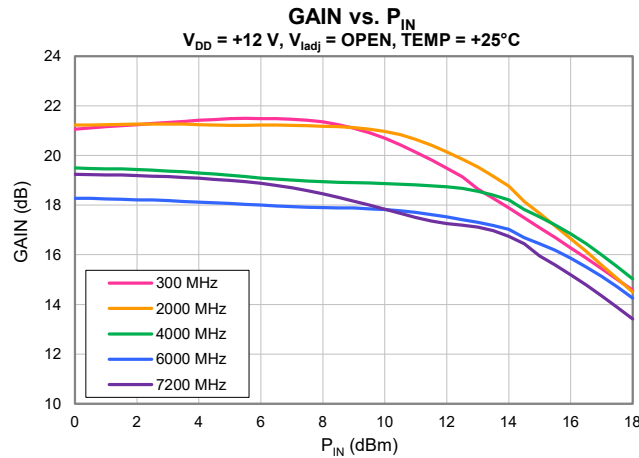
## Typical Performance Curves



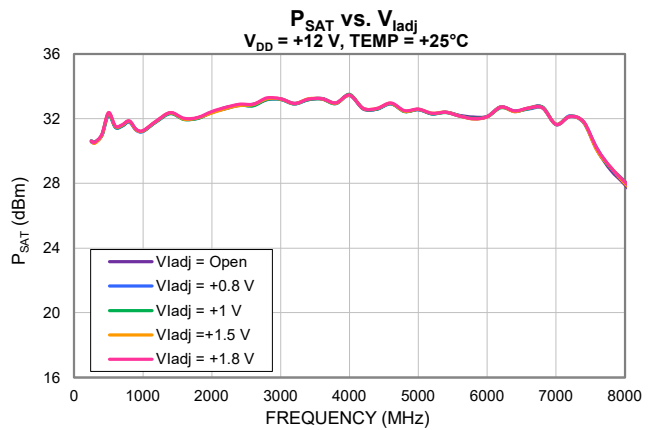
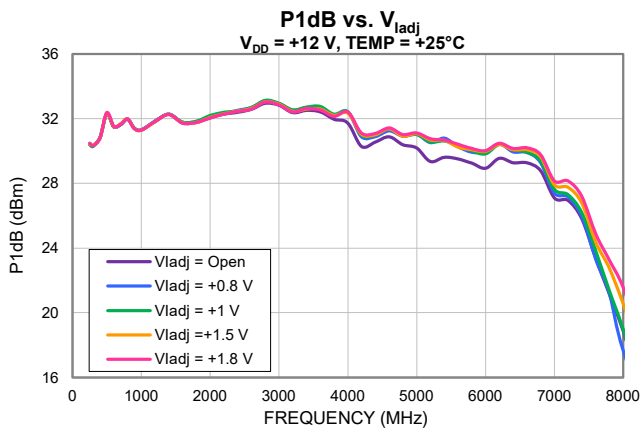
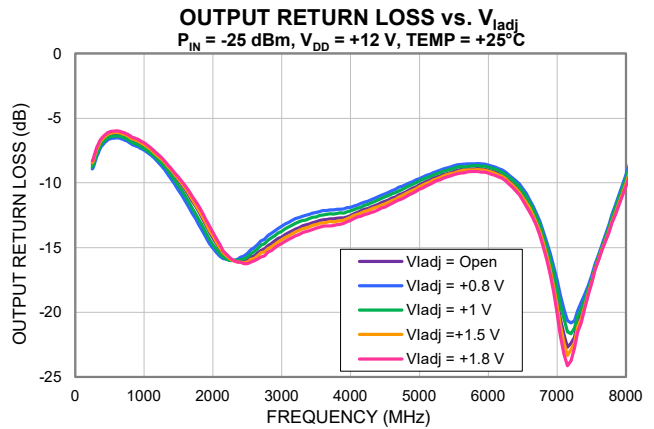
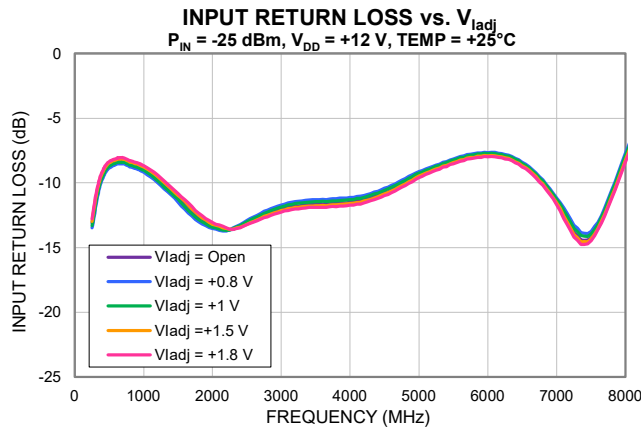
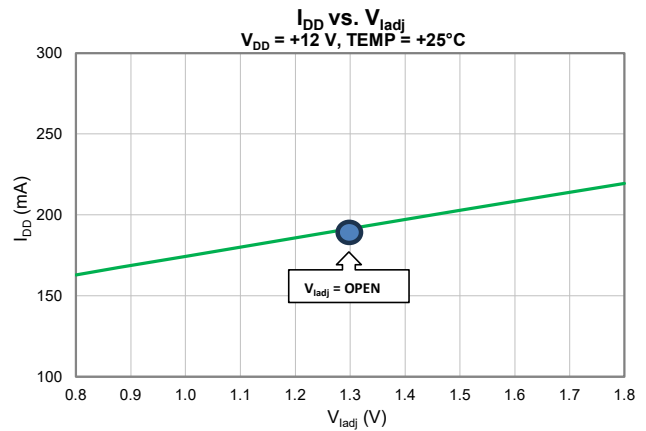
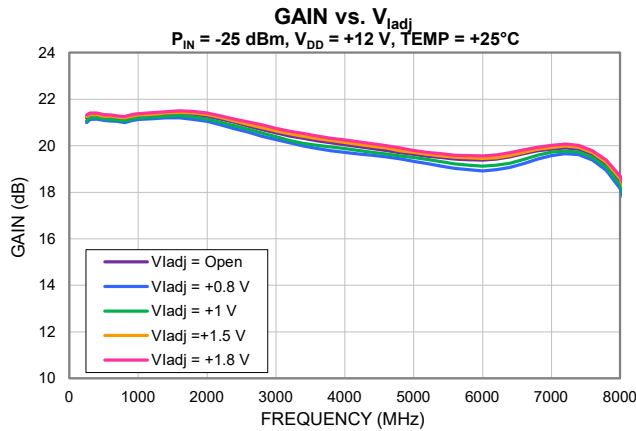
## Typical Performance Curves



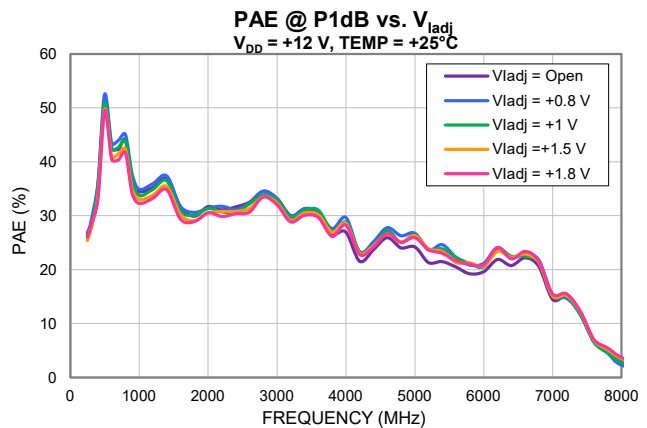
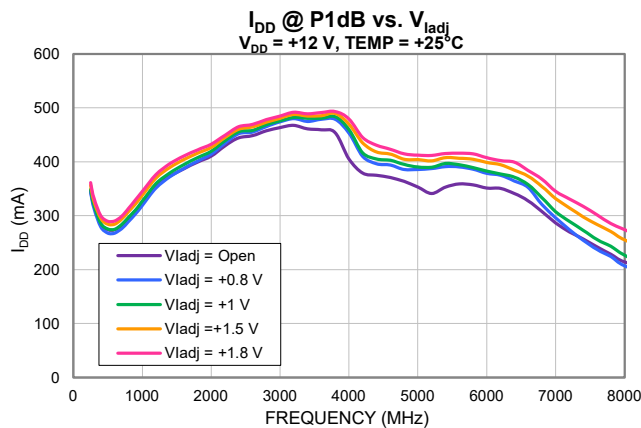
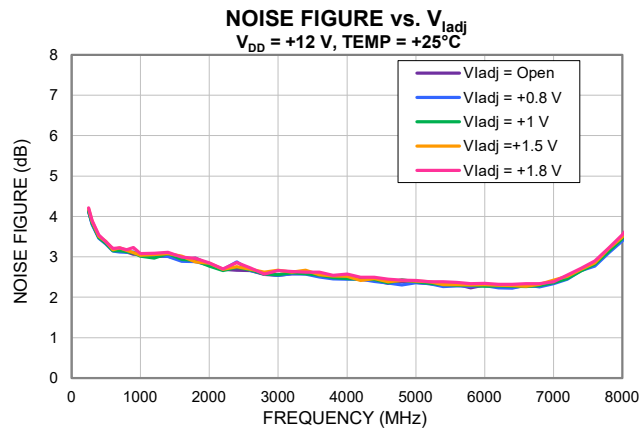
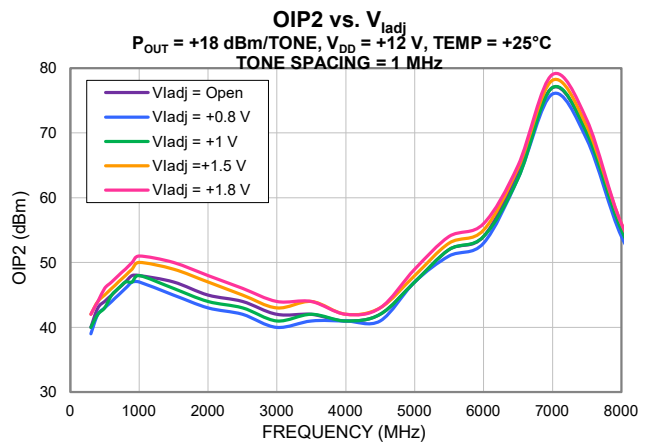
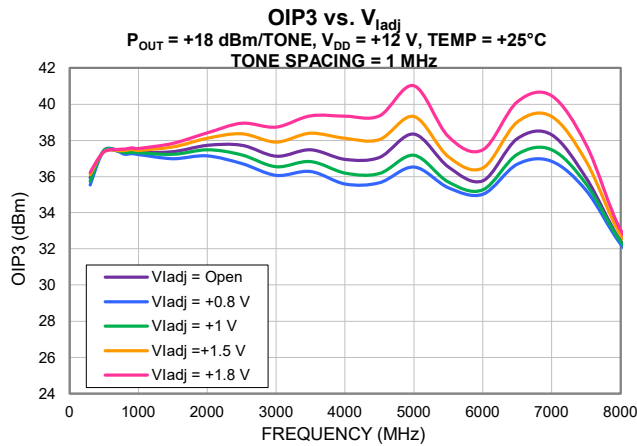
## Typical Performance Curves



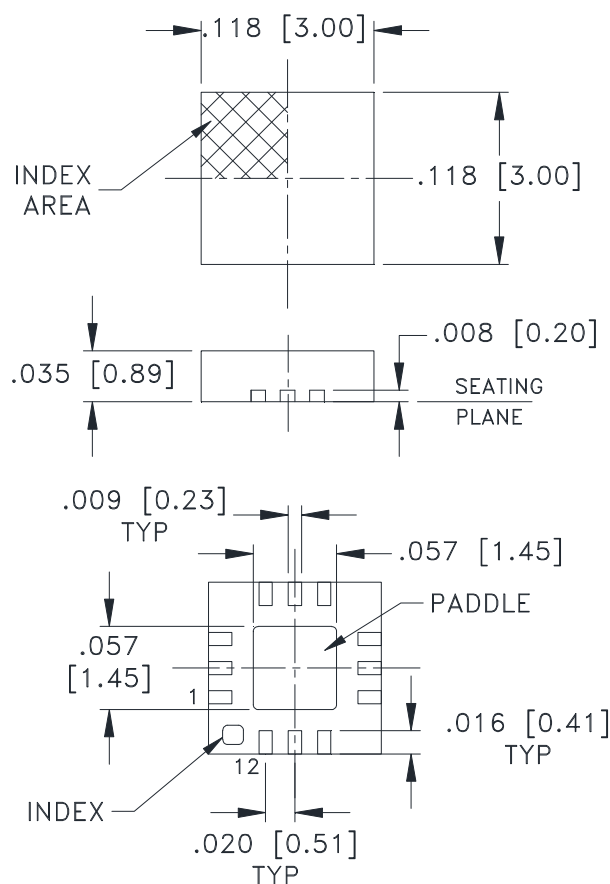
## Typical Performance Curves



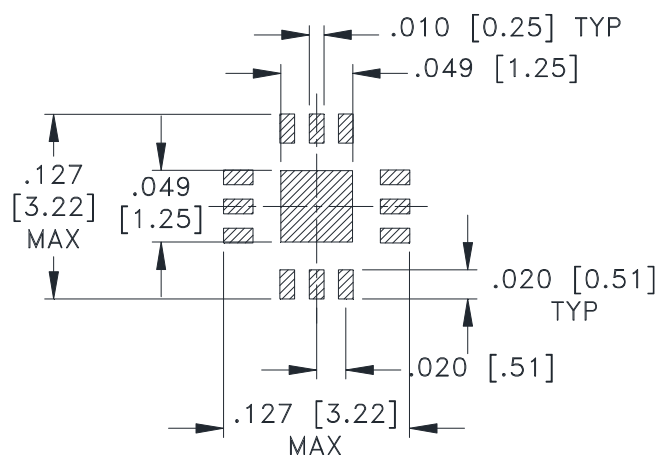
## Typical Performance Curves



### Outline Dimensions



### PCB Land Pattern



SUGGESTED LAYOUT,  
TOLERANCE TO BE WITHIN  $\pm .002$

**Weight: .02 Grams**

**Dimensions are in inches (mm). Tolerances: 2Pl.  $\pm .01$ ; 3 Pl.  $\pm .004$**

### Notes:

- Case material: Plastic.
- Termination finish:
  - For RoHS Case Styles: Tin-Silver alloy plate over Nickel barrier or Matte-Tin. All models, (+) suffix. See Data sheet.
  - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.



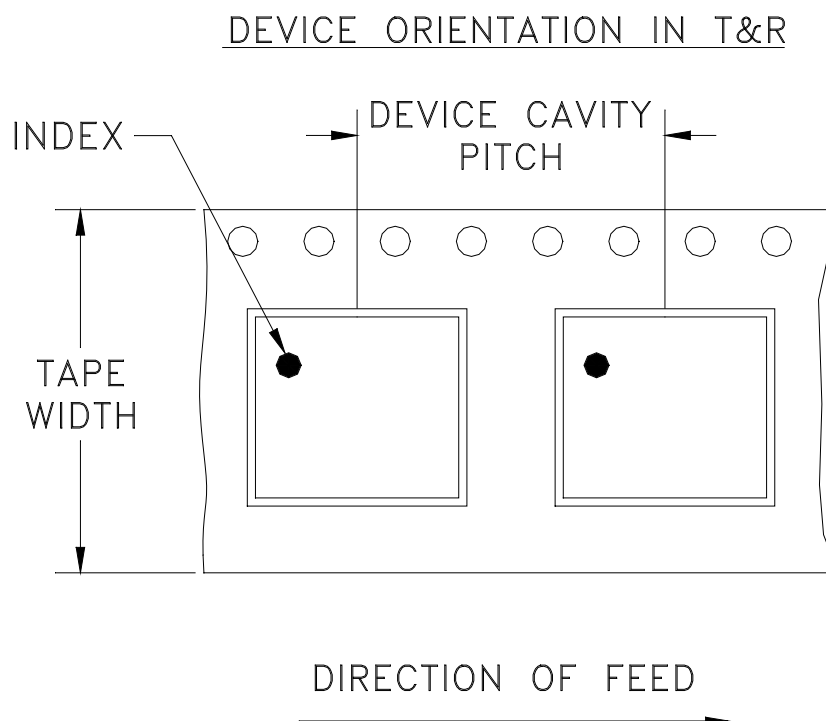
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# Tape & Reel Packaging TR-F66



| Tape Width,<br>mm | Device Cavity<br>Pitch, mm | Reel Size,<br>inches | Devices per Reel<br>see note  |                  |
|-------------------|----------------------------|----------------------|-------------------------------|------------------|
| 8                 | 4                          | 7                    | Small<br>quantity<br>standard | 20               |
|                   |                            |                      |                               | 50               |
|                   |                            |                      |                               | 100              |
|                   |                            |                      |                               | 200              |
|                   |                            |                      |                               | 500              |
|                   |                            | 7                    | Standard                      | 1000, 2000, 3000 |

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: [www.minicircuits.com/pages/pdfs/tape.pdf](http://www.minicircuits.com/pages/pdfs/tape.pdf)



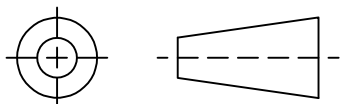
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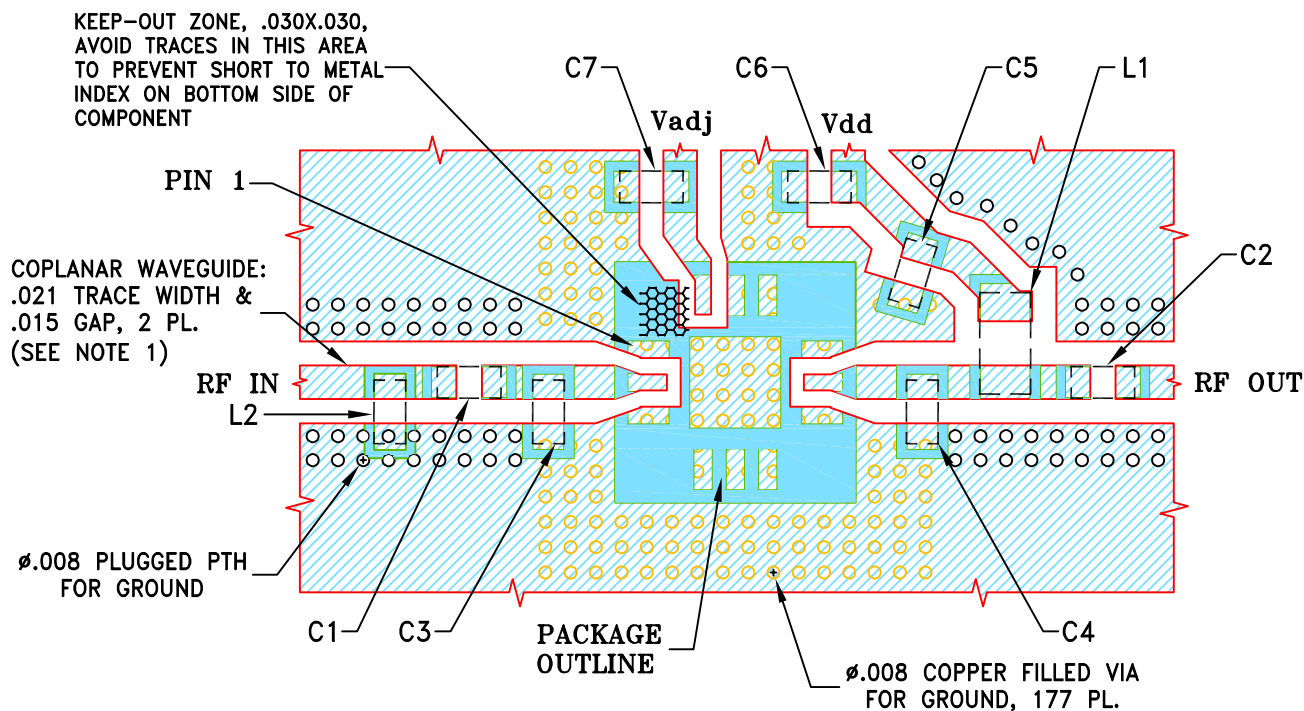
## THIRD ANGLE PROJECTION



## REVISIONS

| REV | ECN No.    | DESCRIPTION | DATE     | DR  | AUTH |
|-----|------------|-------------|----------|-----|------|
| OR  | EC0-024215 | NEW RELEASE | 01/16/25 | ITG | IL   |
|     |            |             |          |     |      |
|     |            |             |          |     |      |
|     |            |             |          |     |      |

**SUGGESTED MOUNTING CONFIGURATION FOR  
DQ1225 CASE STYLE**



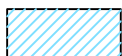
| COMPONENT | SIZE |
|-----------|------|
| C1-C7     | 0402 |
| L2        | 0402 |
| L1        | 0603 |

## NOTES:

1. TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS RO4350B, DIELECTRIC THICKNESS: .010";  
COPPER: 1 Oz EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER  
TO TB-PMA3-73-1WC+.
3. 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

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES

TOLERANCES ON:  
2 PL DECIMALS ±  
3 PL DECIMALS ± .005  
ANGLES ±  
FRACTIONS ±

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ASHEETA1.DWG REV:A DATE:01/12/95

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DATE

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01/16/25

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GF

01/16/25

APPROVED

IL

01/16/25



Mini-Circuits®

13 Neptune Avenue  
Brooklyn NY 11235

PL, DQ1225, TB-PMA3-73-1WC+

SIZE

A

CODE IDENT

15542

DRAWING NO:

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REV:

OR

FILE:

98PL813

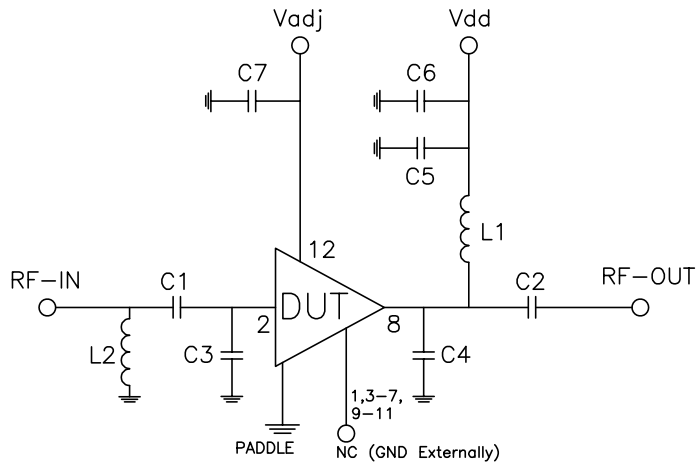
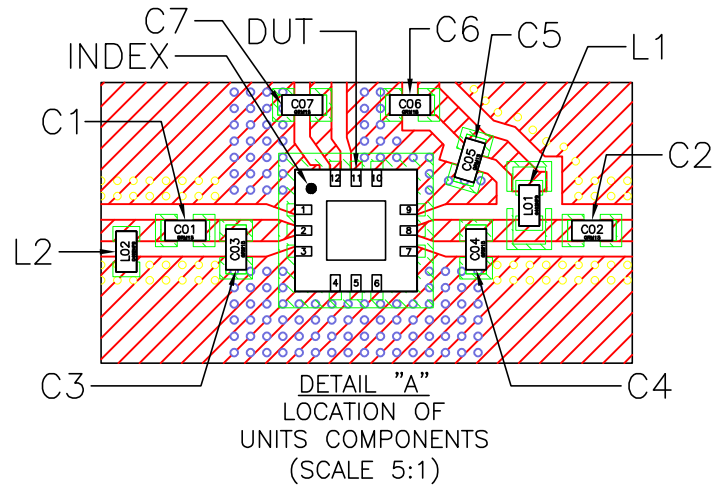
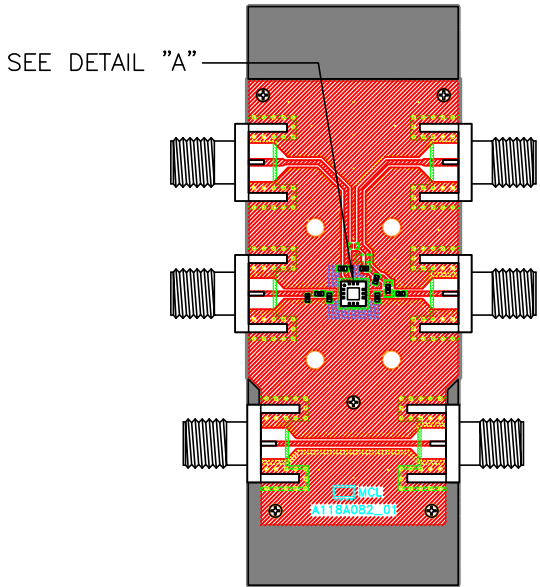
SCALE:

8:1

SHEET:

1 OF 1

# Evaluation Board and Circuit

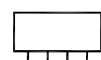


SCHEMATIC DIAGRAM

| Component | Size | Value  | Part Number        | Manufacturer |
|-----------|------|--------|--------------------|--------------|
| C1,C2,C5  | 0402 | 1000pF | GRM1555C1H102JA01D | Murata       |
| C3,C4     | 0402 | 0.4pF  | GJM1555C1HR40WB01D | Murata       |
| C6,C7     | 0402 | 0.1uF  | GRM155R71H104KE14J | Murata       |
| L1        | 0402 | 20nH   | 0402HP-20NXGRW     | Coilcraft    |
| L2        | 0402 | 25nH   | 0402HP-25NXJRW     | Coilcraft    |

## Notes:

1. 50 Ohm SMA Female Connectors.
2. PCB Material: Roger R04350B or equivalent,  
Dielectric constant=3.5, Thickness=0.010 inch

 **Mini-Circuits®**



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification                  | Test/Inspection Condition                                                                                  | Reference/Spec                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Operating Temperature          | -40° to 85° C or -45° to 85° C or -55° to 105° C or -40° to 105° C or -40° to 95° C<br>Ambient Environment | Individual Model Data Sheet                                     |
| Storage Temperature            | -55° to 100° C or -65° to 150°<br>Ambient Environment                                                      | Individual Model Data Sheet                                     |
| HTOL                           | 1000 hours at 125°C                                                                                        | MIL-STD-883, Method 1005, Condition B                           |
| Thermal Shock                  | -55° to 100°C, 100 cycles                                                                                  | MIL-STD-202, Method 107, Condition A-3, except +100°C           |
| Mechanical Shock               | 1.5Kg, 0.5 ms, 5 shock pulses, Y1 direction only                                                           | MIL-STD-883, Method 2002, Condition B, except Y1 direction only |
| Vibration (Variable Frequency) | 50g peak                                                                                                   | MIL-STD-883, Method 2007, Condition B                           |
| Autoclave                      | 15 psig, 100% RH, 121°C, 96 hours                                                                          | JESD22-A102, Condition C                                        |
| HAST                           | 130°C, 85% RH, 96 hours                                                                                    | JESD22-A110                                                     |
| Solderability                  | 10X Magnification                                                                                          | J-STD-002, Para 4.2.5, Test S, 95% Coverage                     |
| Solder Reflow Heat             | Sn-Pb Eutetic Process: 240°C peak<br>Pb-Free Process: 260°C peak                                           | J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1                   |
| Moisture Sensitivity: Level 1  | Bake at 125°C for 24 hours<br>Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 260°C peak             | J-STD-020                                                       |



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification                  | Test/Inspection Condition                                                                                                                                       | Reference/Spec          |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Marking Resistance to Solvents | Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C;<br>distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C | MIL-STD-202, Method 215 |