

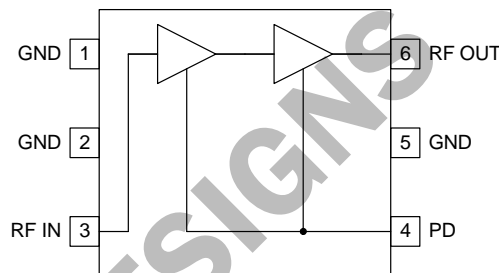


**Features**

- Low Noise and High Intercept Point
- Adjustable Bias Current
- Power Down Control
- Single 2.5V to 6.0V Power Supply
- 150MHz to 2500MHz Operation
- Extremely Small SOT23-6 Package

**Applications**

- TDMA/CDMA/FM PCS Tx Amplifier
- Low Noise Transmit Driver Amplifier
- 2.4GHz WLAN Systems
- GSM1800 Driver Amplifier
- General Purpose Amplification
- Commercial and Consumer Systems



Functional Block Diagram

**Product Description**

The RF2367 is a low noise CDMA/TDMA/GSM PA driver amplifier with a very high dynamic range designed for transmit digital PCS applications with frequency ranges between 1700MHz and 2000MHz. The device functions as an outstanding PA driver amplifier in the transmit chain of digital subscriber units where low transmit noise power is a concern. The IC includes a power down feature that can be used to completely turn off the device. The RF2367 is featured in a standard SOT23-6 plastic package.

**Ordering Information**

RF2367                      PCS CDMA/TDMA/GSM1800 3V PA Driver Amplifier  
RF2367PCBA-41X        Fully Assembled Evaluation Board

**Optimum Technology Matching® Applied**

- |  |                                      |                                     |                                   |
|--|--------------------------------------|-------------------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> GaAs HBT | <input type="checkbox"/> SiGe BiCMOS | <input type="checkbox"/> GaAs pHEMT | <input type="checkbox"/> GaN HEMT |
| <input type="checkbox"/> GaAs MESFET         | <input type="checkbox"/> Si BiCMOS   | <input type="checkbox"/> Si CMOS    |                                   |
| <input type="checkbox"/> InGaP HBT           | <input type="checkbox"/> SiGe HBT    | <input type="checkbox"/> Si BJT     |                                   |

RF MICRO DEVICES®, RFMD®, Optimum Technology Matching®, Enabling Wireless Connectivity™, PowerStar®, POLARIS™ TOTAL RADIO™ and UltimateBlue™ are trademarks of RFMD, LLC. BLUETOOTH is a trademark owned by Bluetooth SIG, Inc., U.S.A. and licensed for use by RFMD. All other trade names, trademarks and registered trademarks are the property of their respective owners. ©2006, RF Micro Devices, Inc.

## Absolute Maximum Ratings

Parameter	Rating	Unit
Supply Voltage	-0.5 to +8.0	V <sub>DC</sub>
Input RF Level	+10	dBm
Storage Temperature	-40 to +150	°C



**Caution!** ESD sensitive device.

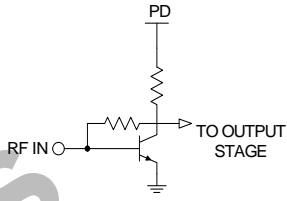
Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

RoHS status based on EUDirective2002/95/EC (at time of this document revision).

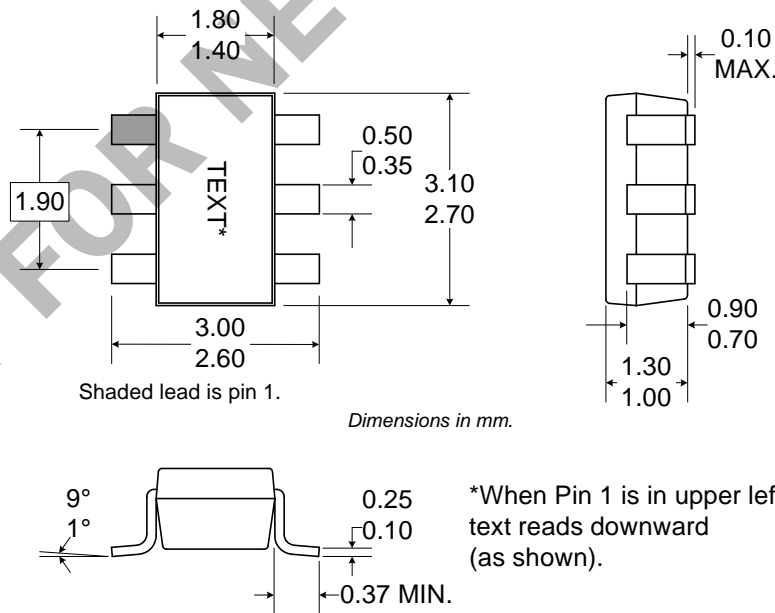
The information in this publication is believed to be accurate and reliable. However, no responsibility is assumed by RF Micro Devices, Inc. ("RFMD") for its use, nor for any infringement of patents, or other rights of third parties, resulting from its use. No license is granted by implication or otherwise under any patent or patent rights of RFMD. RFMD reserves the right to change component circuitry, recommended application circuitry and specifications at any time without prior notice.

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
<b>Operating Range</b>					
Overall Frequency Range		150 to 2500		MHz	
Supply Voltage (V <sub>CC</sub> )	2.5		6.0	V	
Power Down Voltage (V <sub>PD</sub> )	2.7		2.9	V	For normal operation
			0.9	V	For power down operation
Total Current Consumption	24	37	45	mA	V <sub>CC</sub> =3.0V, V <sub>PD</sub> =2.8V
			10	μA	V <sub>CC</sub> =3.0V, V <sub>PD</sub> <0.9V
Operating Ambient Temperature	-40		+85	°C	
Input Impedance		50		Ω	
Output Impedance		50		Ω	
<b>1880MHz Performance</b>					
All parameters measured from evaluation board with T = 25 °C, RF = 1880MHz, V <sub>CC</sub> = 3.0V, V <sub>PD</sub> = 2.8V					
Gain	20	21.5	23	dB	
Output IP3	+20	+24		dBm	
Noise Figure		2.2	2.5	dB	
Reverse Isolation	32	34		dB	
Input VSWR		1.9:1	2:1		
Output VSWR		1.5:1	2:1		Using External LC network used on Evaluation Board
Output P <sub>1dB</sub>	+13	+14	+15	dBm	

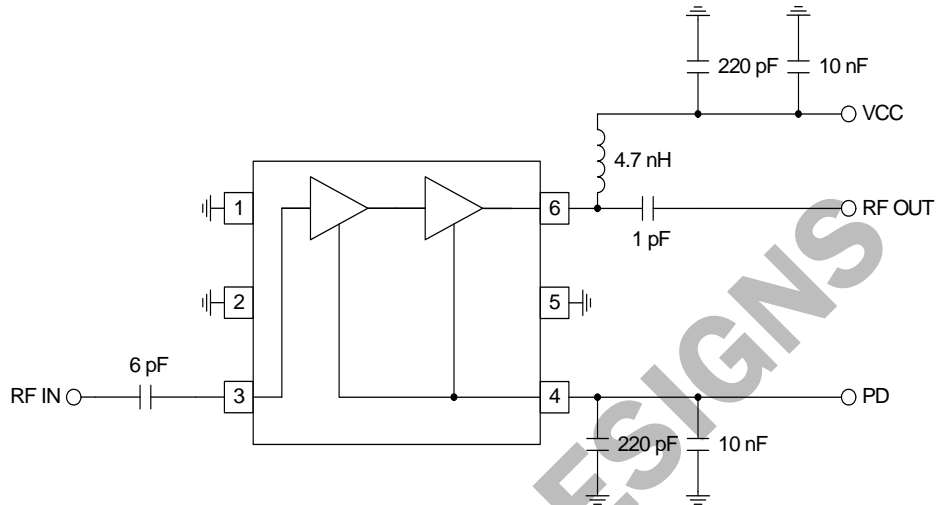
NOT FOR NEW DESIGNS

Pin	Function	Description	Interface Schematic
1	GND	Ground connection. Keep traces physically short and connect immediately to ground plane for best performance.	
2	GND	Same as pin 1.	
3	RF IN	RF input pin. This pin is DC coupled and internally matched to a <2:1 VSWR at 1880MHz.	
4	PD	Power Down for the IC. $V_{PD} = 2.8V \pm 0.1V$ turns on the Part. $V_{PD} < 0.9V$ turns off the Part. Lower threshold for device operation is approximately 1.2V. External RF bypassing is required. The trace length between the pin and the bypass capacitors should be minimized. The ground side of the bypass capacitors should connect immediately to ground plane. Nominal current for this pin for $V_{PD} = 2.8V$ is 8 mA typical.	See pin 3.
5	GND	Same as pin 1.	
6	RF OUT	Amplifier Output pin. This pin is an open-collector output. It must be biased to either $V_{CC}$ or pin 4 through a choke or matching inductor. This pin is typically externally matched to $50\Omega$ with a shunt bias/matching inductor and series blocking/matching capacitor. Refer to application/evaluation board schematics.	

Package Drawing

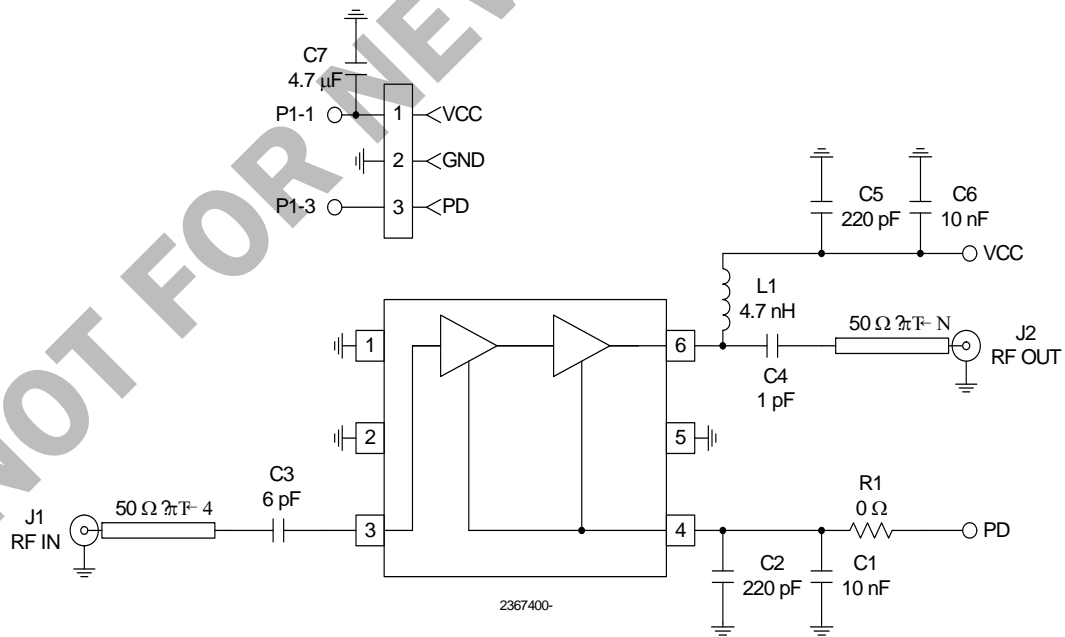


## Application Schematic: ~1880 MHz Operation

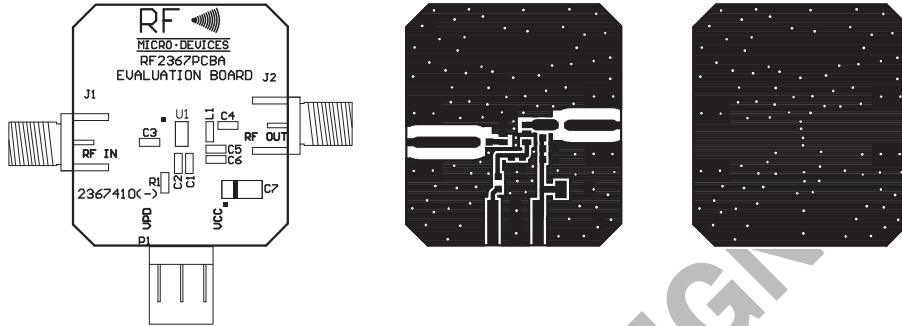


## Evaluation Board Schematic

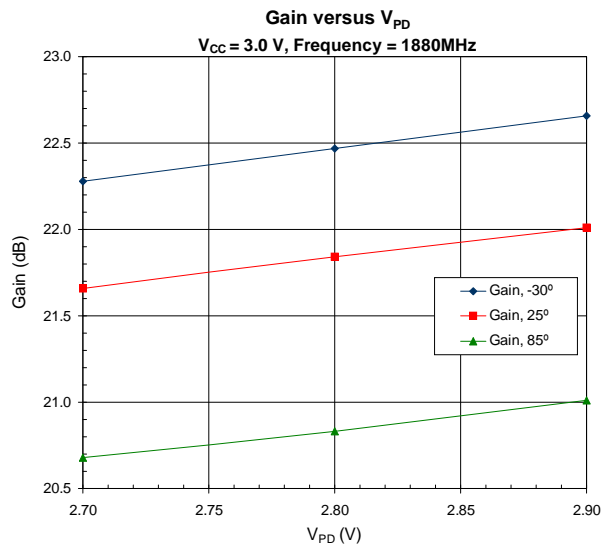
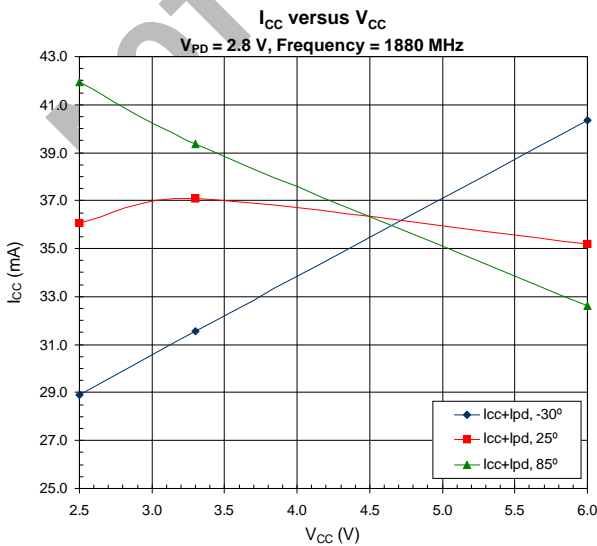
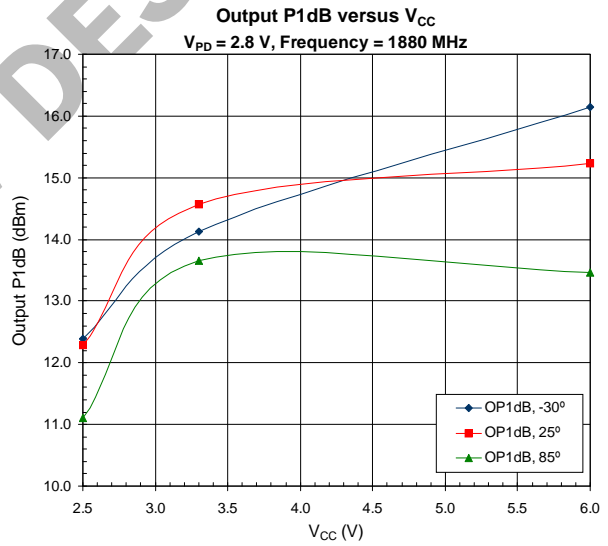
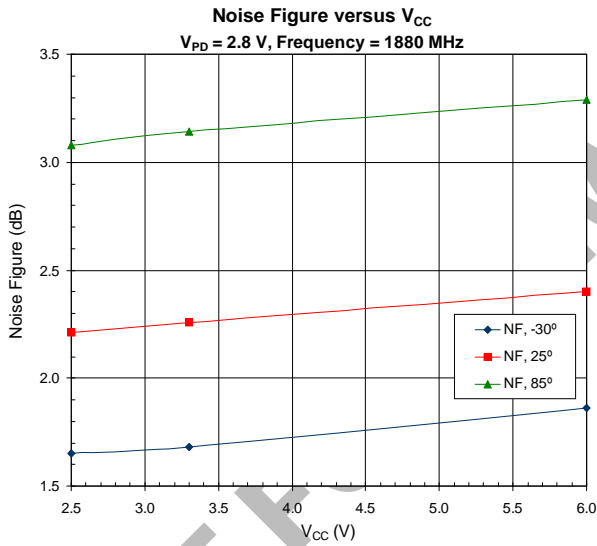
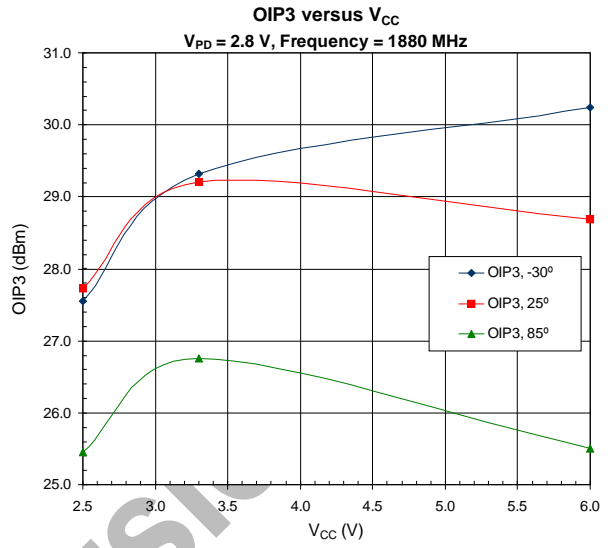
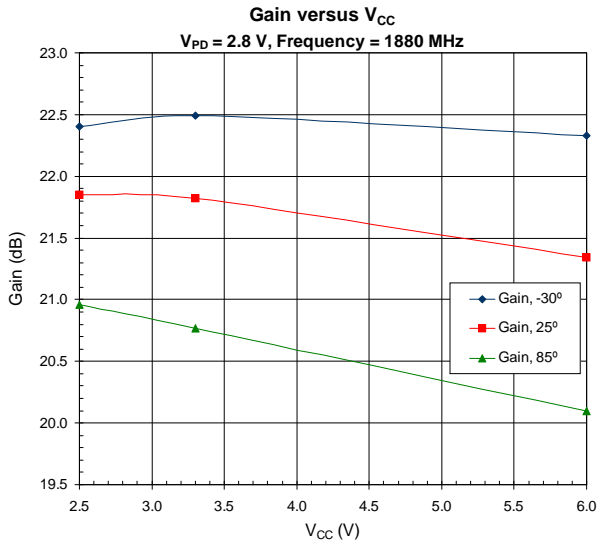
(Download [Bill of Materials](http://www.rfmd.com) from www.rfmd.com.)

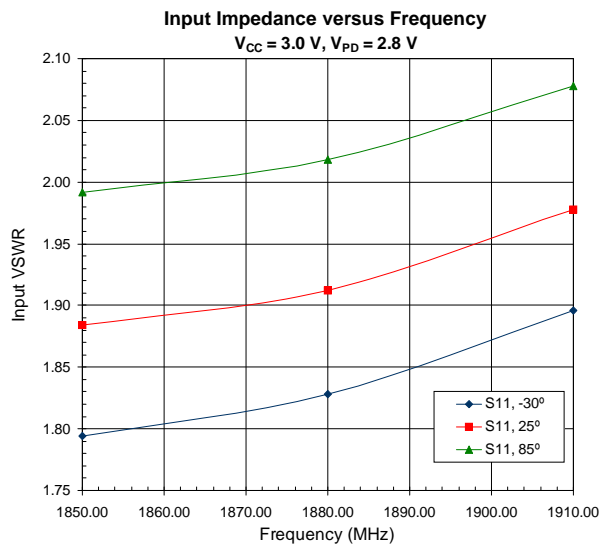
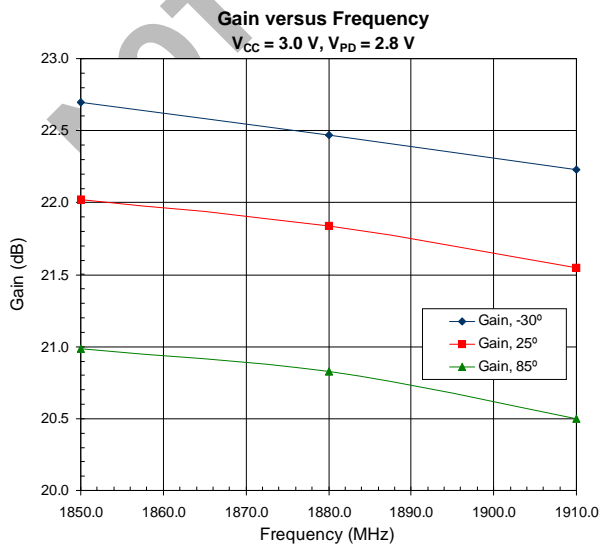
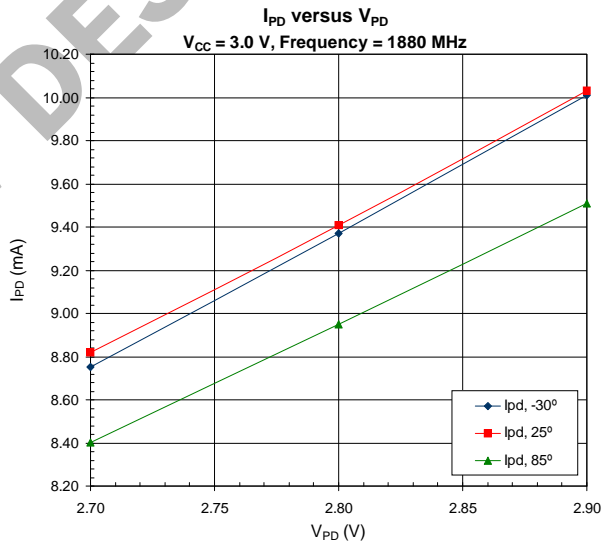
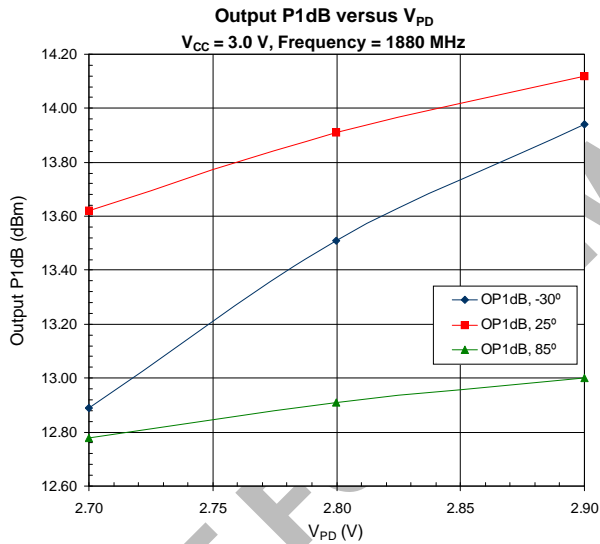
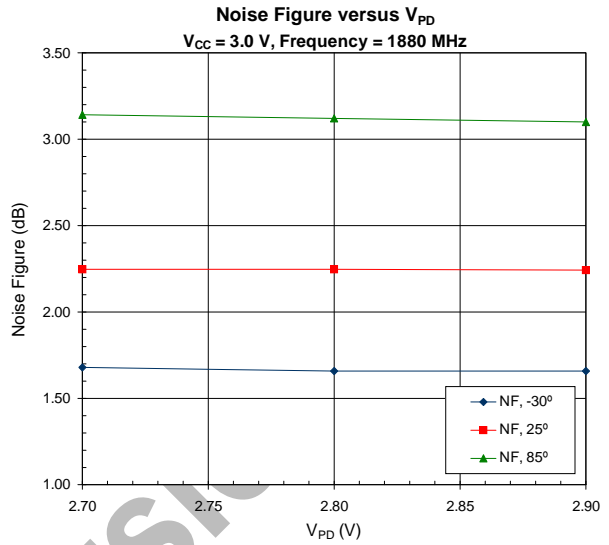
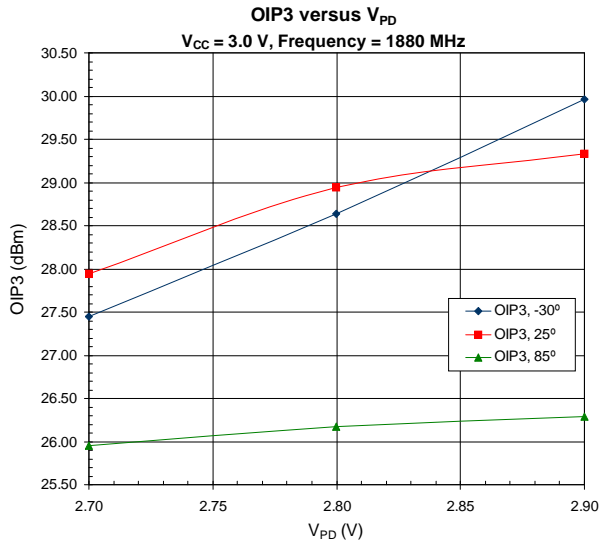


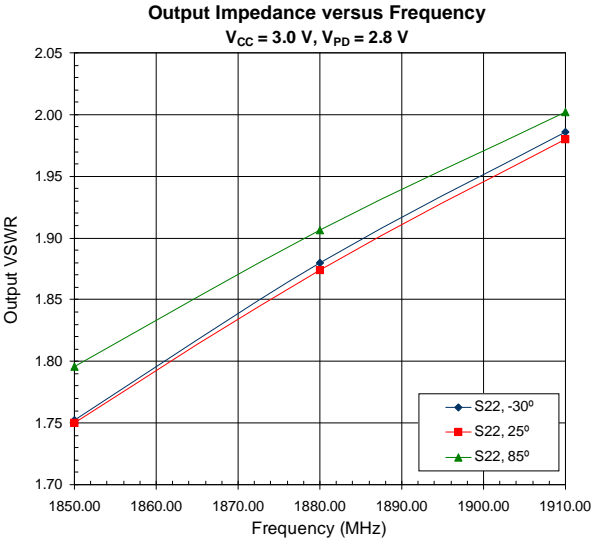
**Evaluation Board Layout**  
**Board Size 0.948" x 1.063"**  
**Board Thickness 0.031", Board Material FR-4**



NOT FOR NEW DESIGN







NOT FOR NEW DESIGNS