rfmd.com

RFGA2012 Application Note

Product Description

The RFGA2012 is DFN package power linear amplifier specifically designed to achieve high OIP3. It offers ultra-linear performance at low DC power. The RFGA2012 features a VBIAS pin that enables users to optimize the quiescent current for specific requirement. The VBIAS pin also serves as a power-down pin. This amplifier is ideal for Low Power Linear Gain Stage, IF, cellular, DCS, PCS, UMTS, WiFi, WiMax, TD-SCDMA, LTE Amplifiers, and Low Power LNA.

The RFGA2012 is capable of operating in other bands such as 430MHz to 470MHz, 824MHz to 894MHz, 869MHz to 960MHz, and 2400MHz to 2500MHz. Its external matching allows for use across various standard frequency bands within 150MHz to 3GHz.

The following performance data was collected at normal operation condition (room temperature, supply voltage and V_{BIAS} of 3.3V, and two tone power of 0dBm).

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

rfmd.com

RFGA2012 Typical Performance - 430MHz to 470MHz Application Circuit

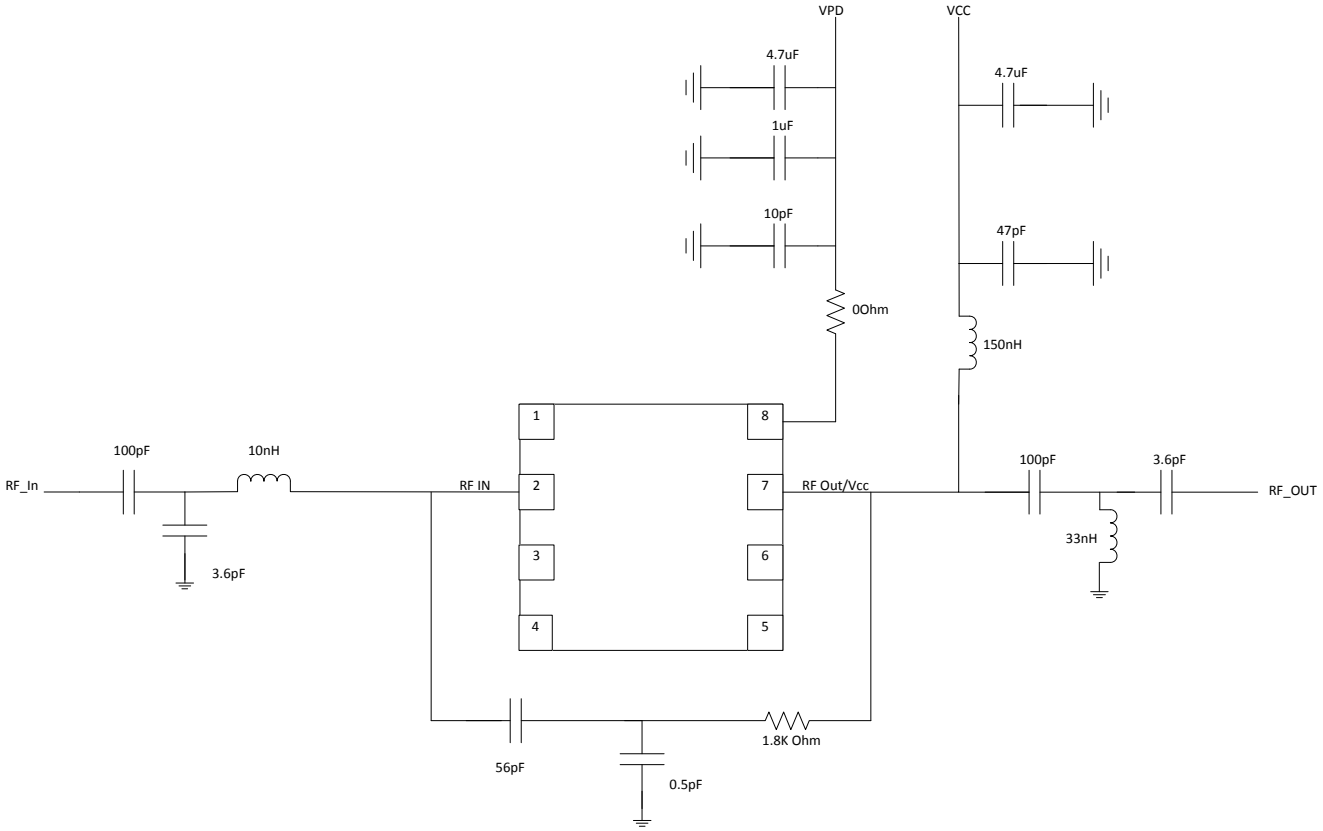


Figure 1. Schematic

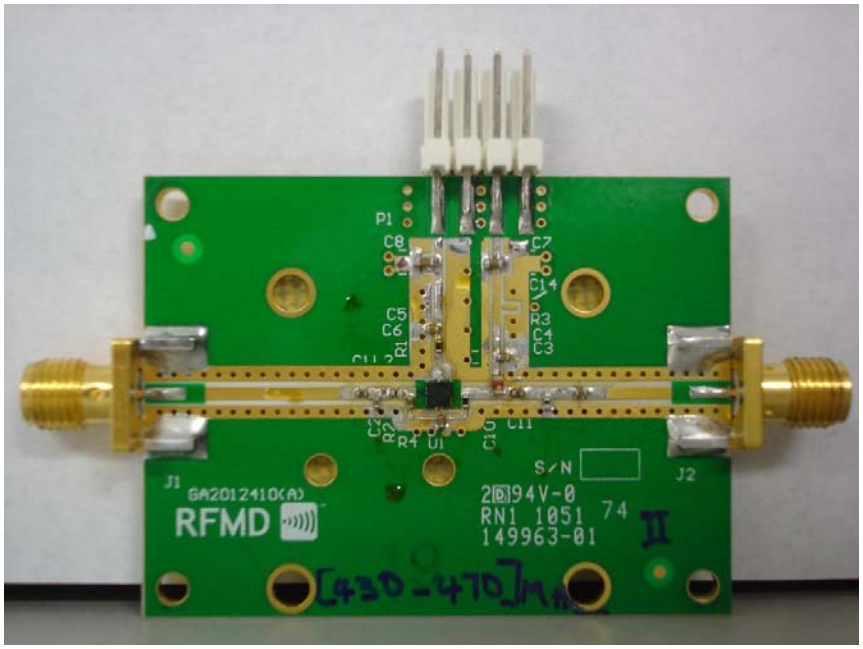
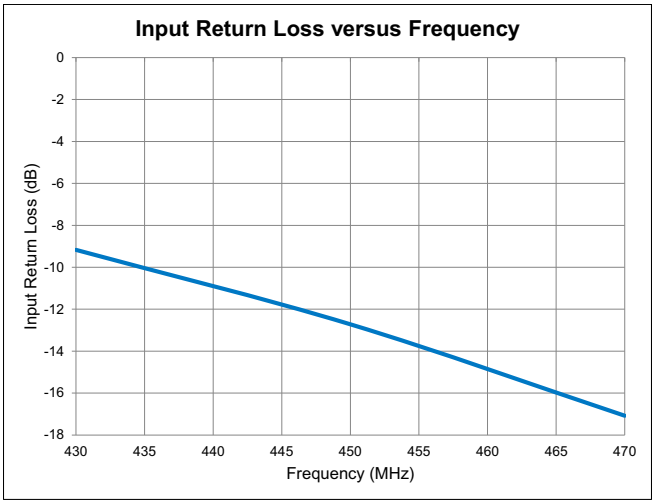


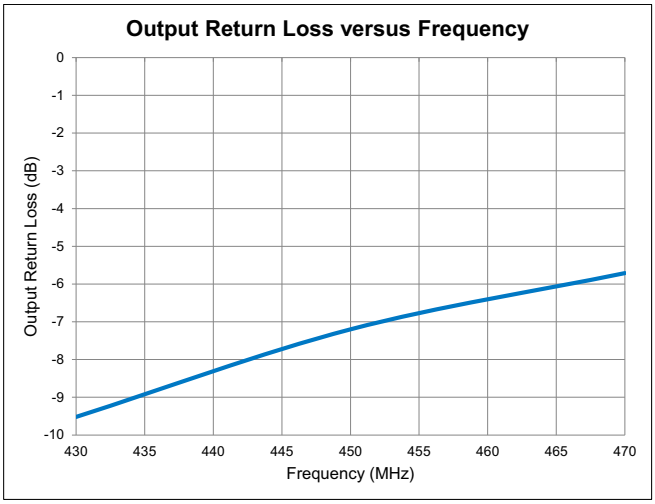
Figure 2. 430MHz to 470MHz Application Circuit

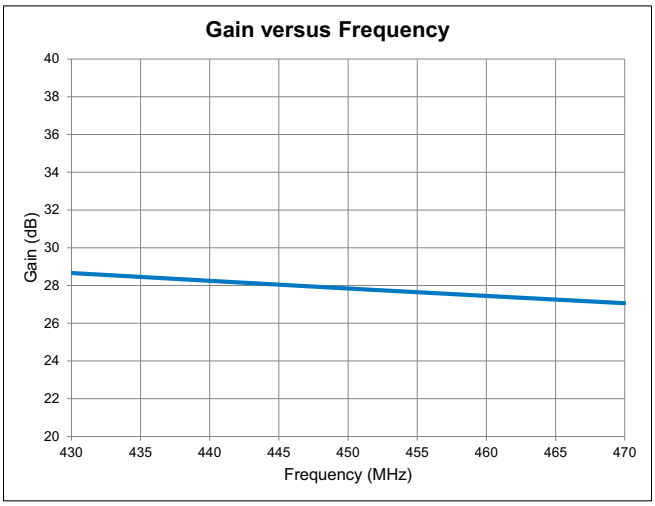
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

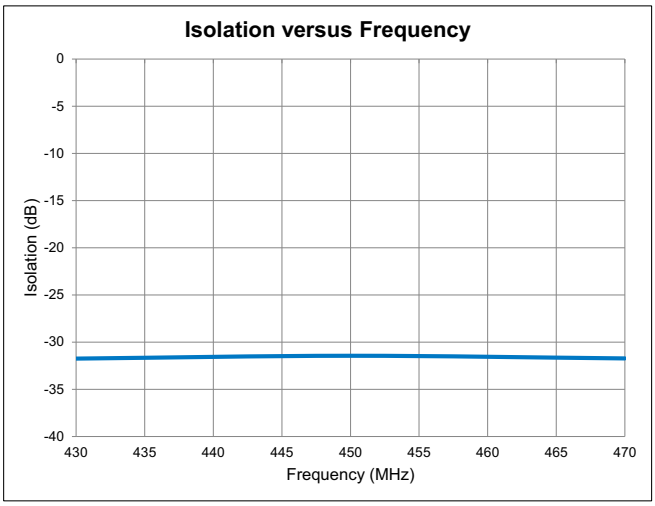
rfmd.com

S-Parameters: 430MHz to 470MHz





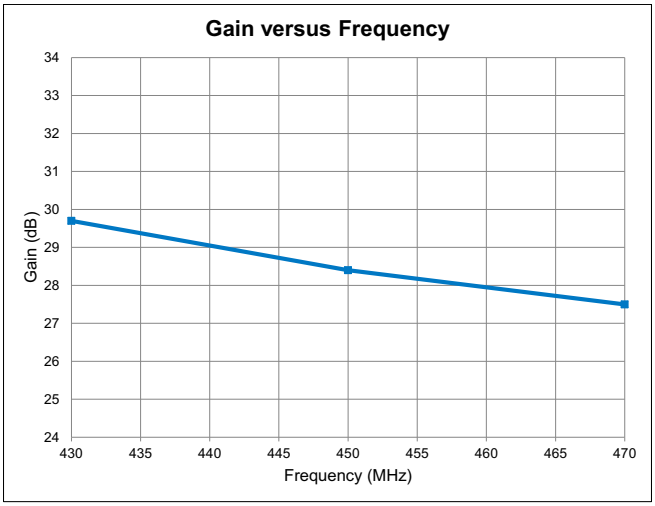


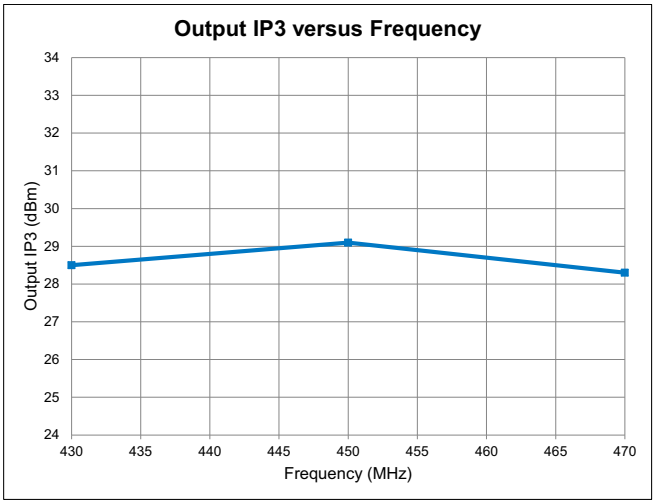


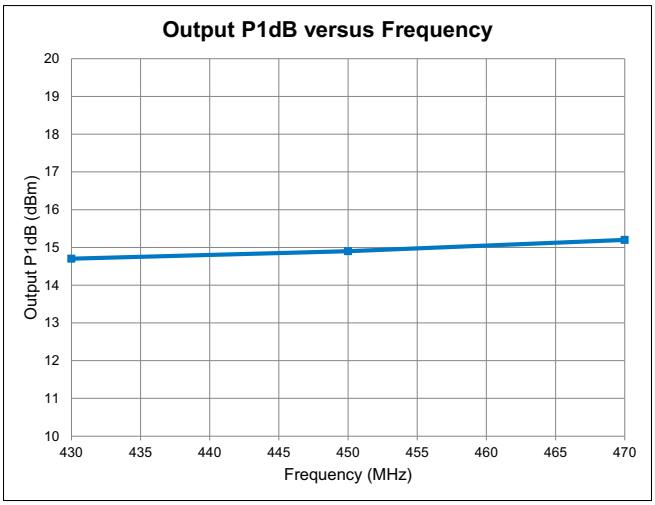
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

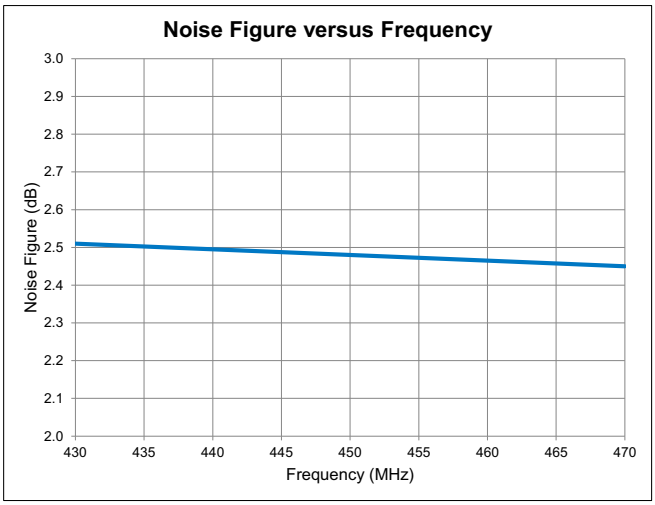
rfmd.com

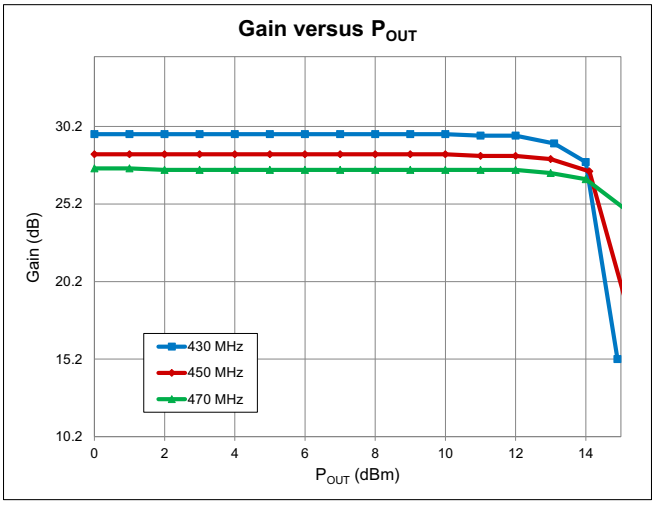
Data: 430MHz to 470MHz

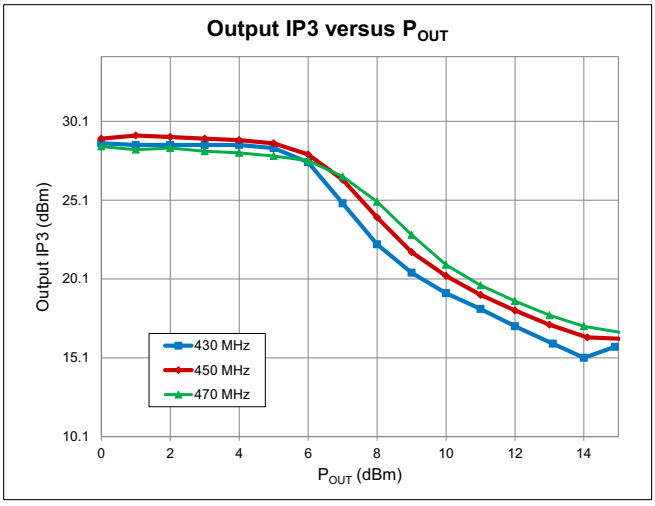












7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

RFGA2012 Typical Performance - 824MHz to 894MHz Application Circuit

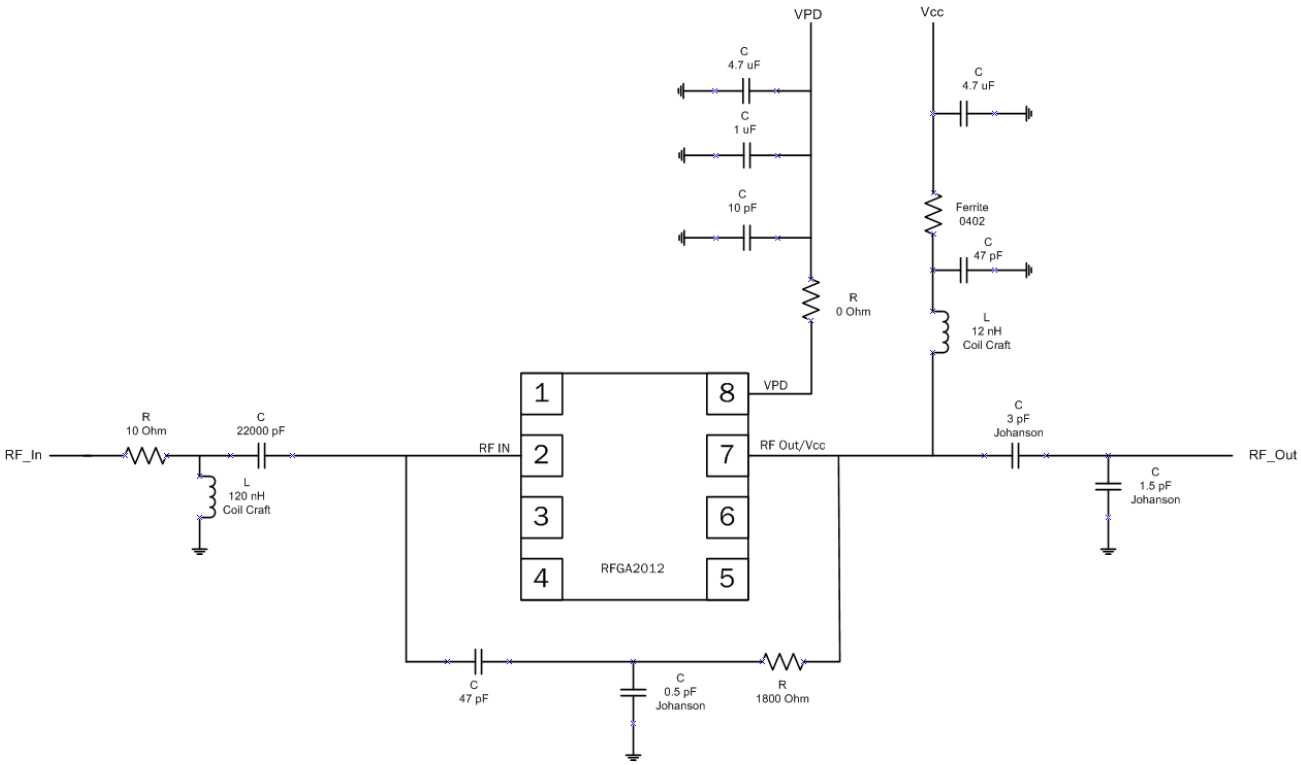


Figure 3. Schematic

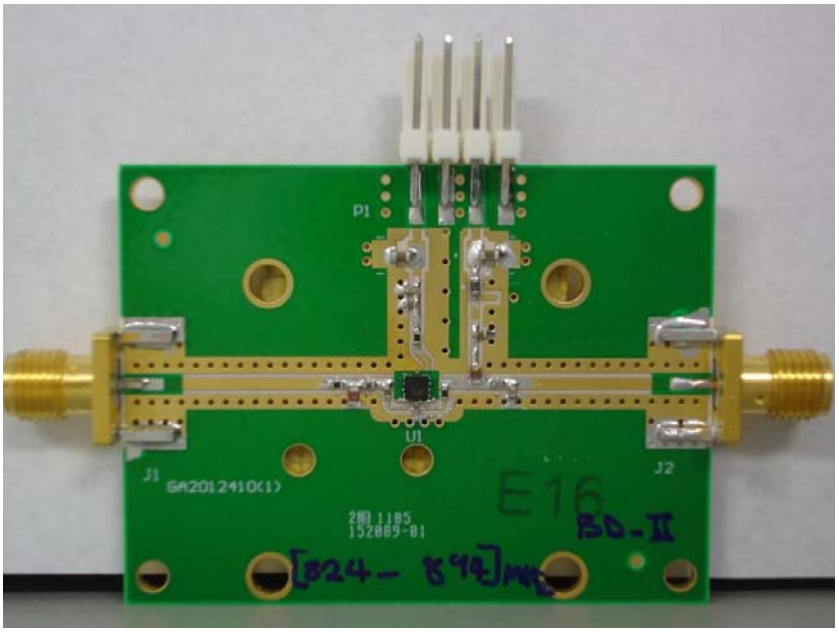
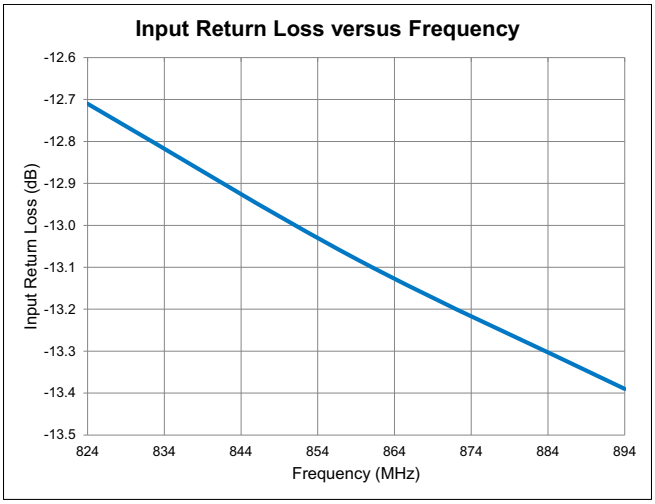


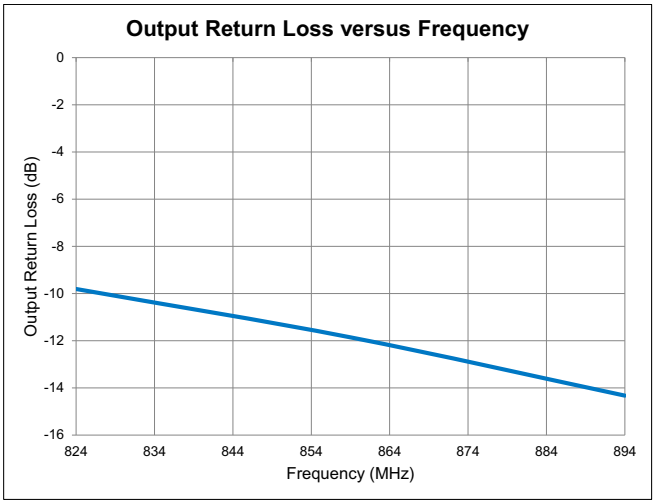
Figure 4. 824MHz to 894MHz Application Circuit

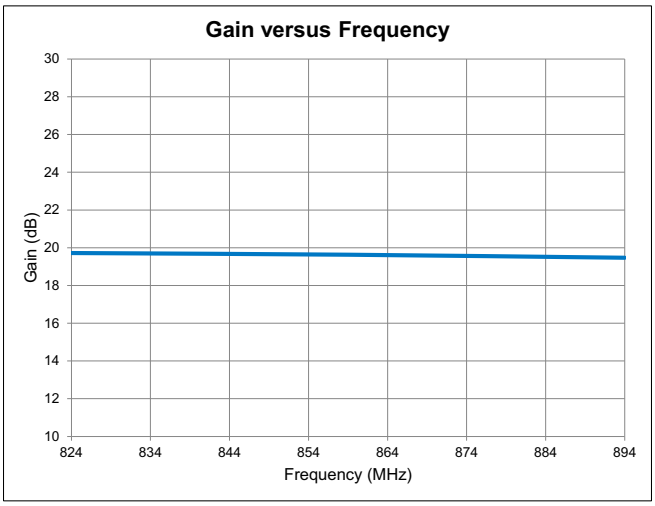
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

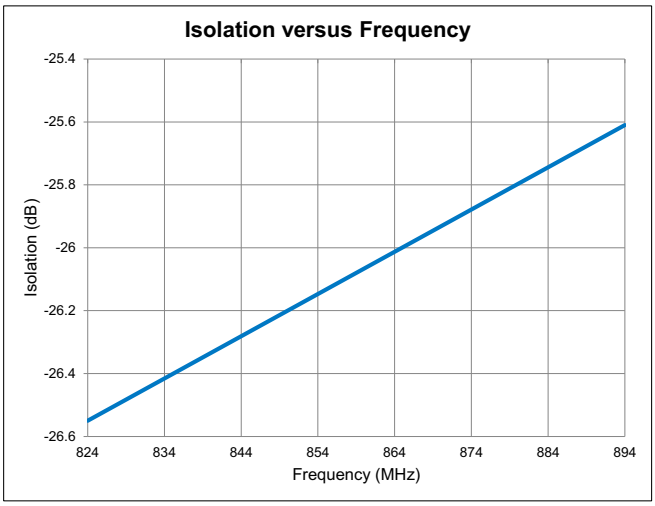
rfmd.com

S-Parameters: 824MHz to 894MHz





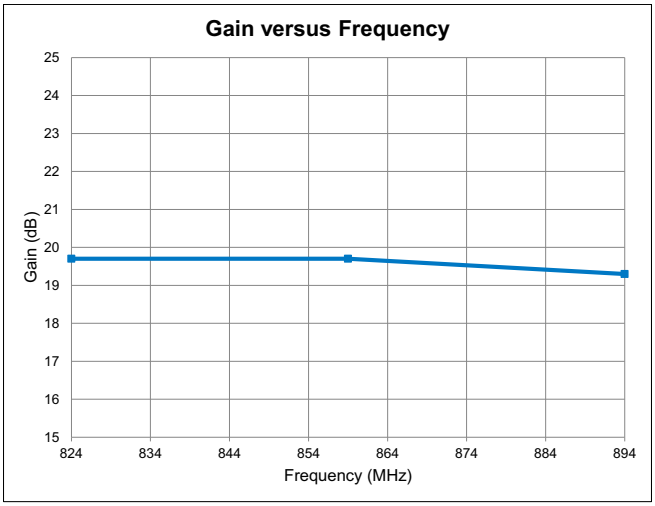


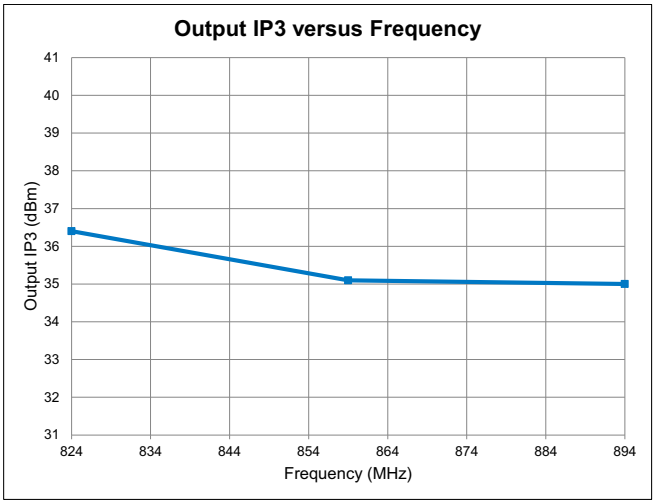


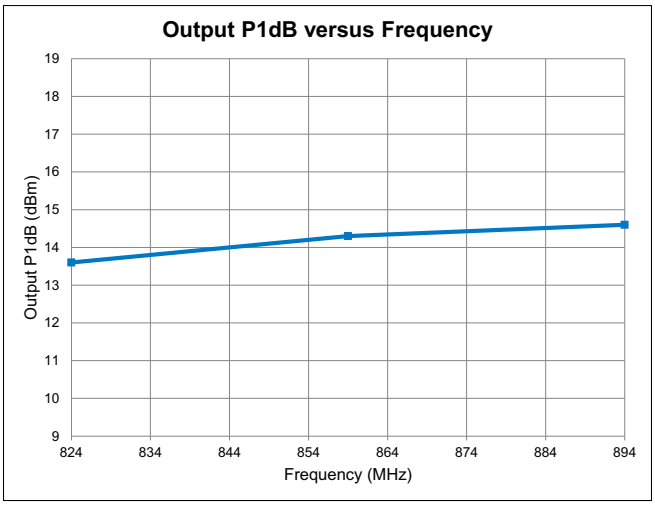
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

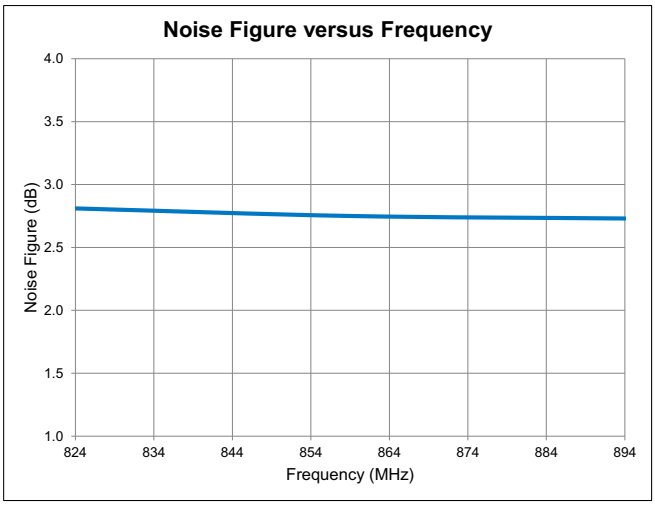
rfmd.com

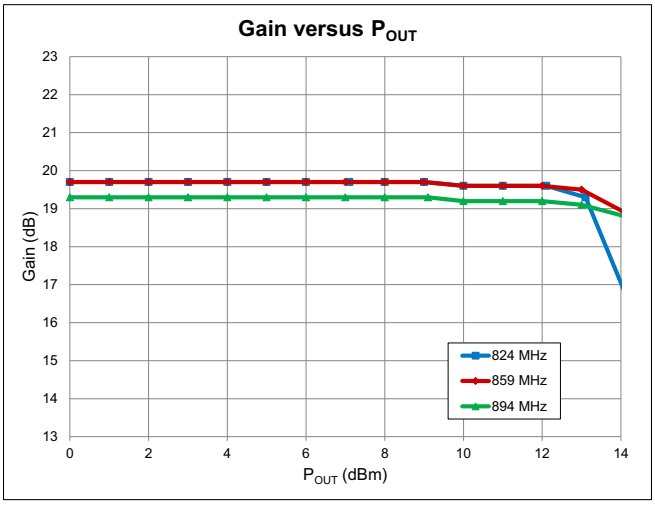
Data: 824MHz to 894MHz

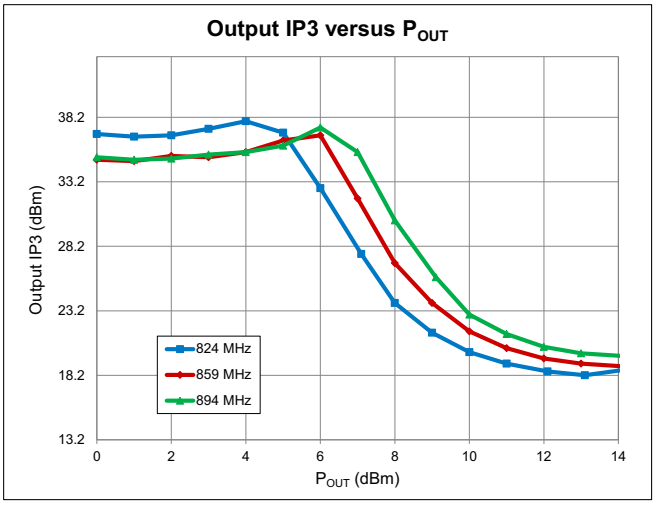












7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

rfmd.com

RFGA2012 Typical Performance - 869MHz to 960MHz Application Circuit

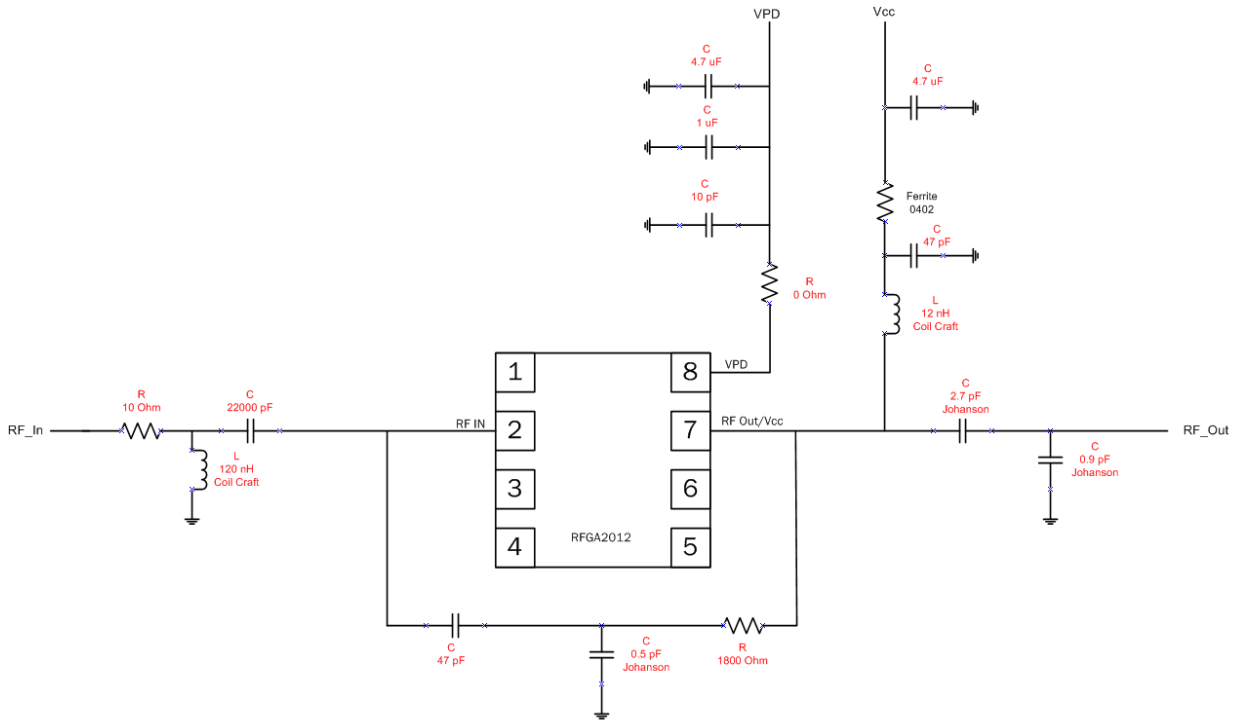


Figure 5. Schematic

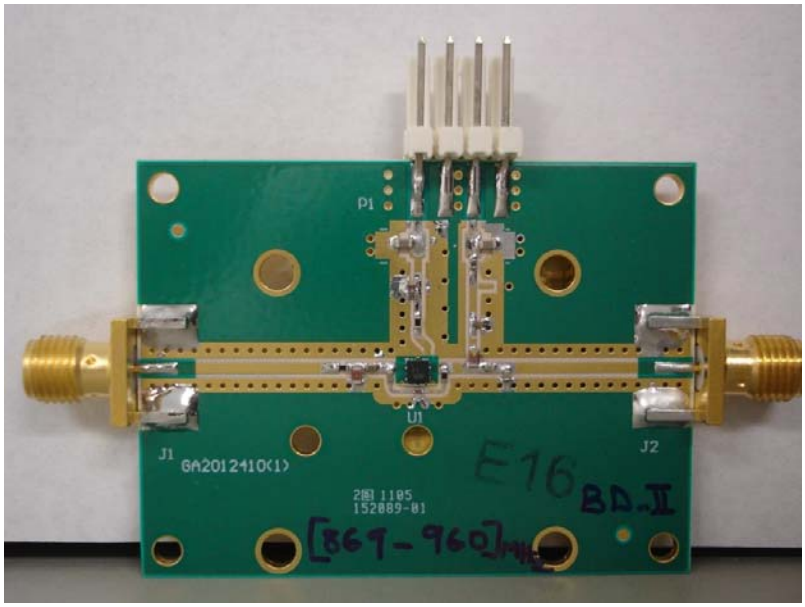
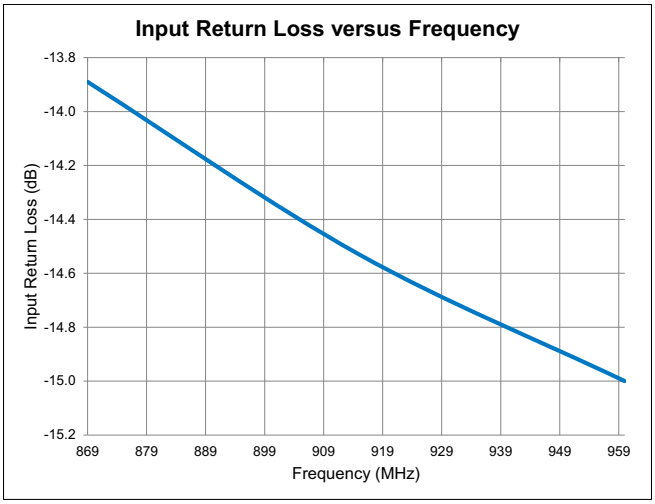


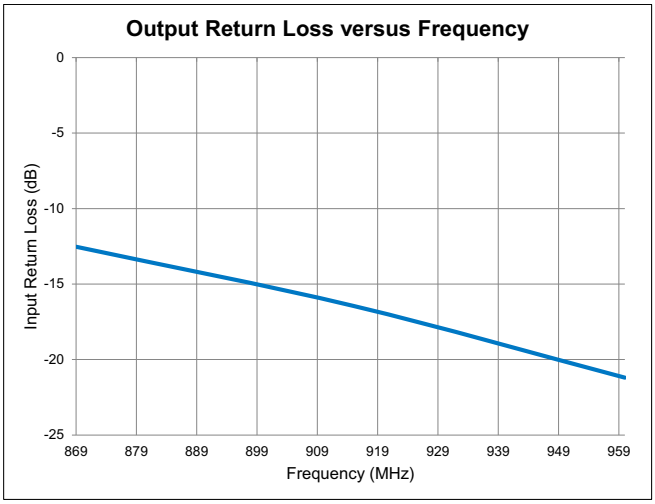
Figure 6. 869MHz to 960MHz Application Circuit

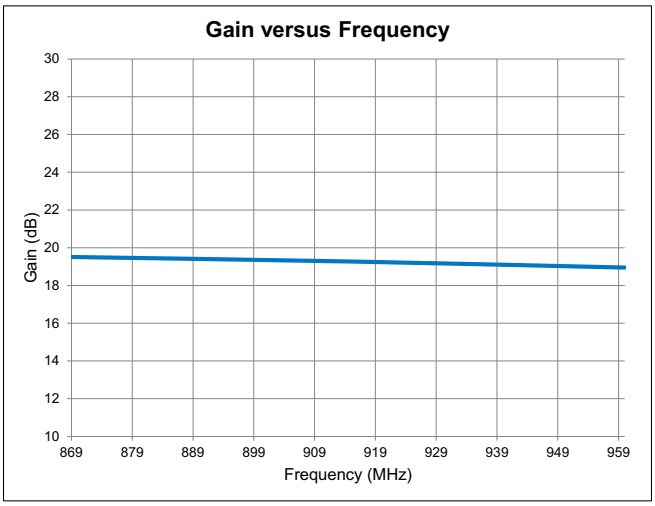
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

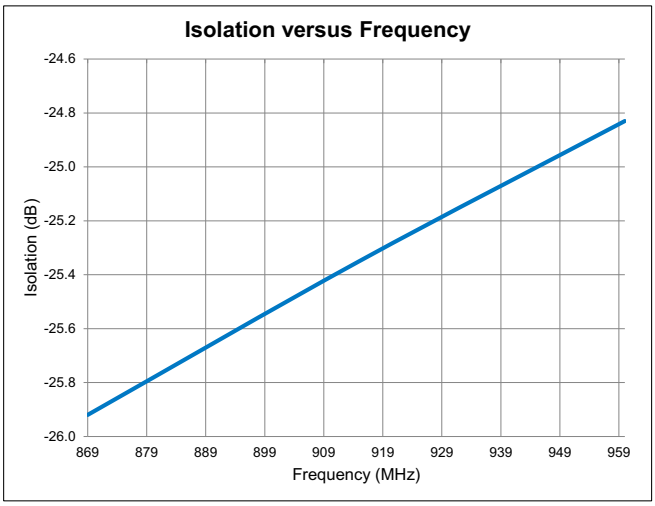
rfmd.com

S-Parameters: 869MHz to 960MHz





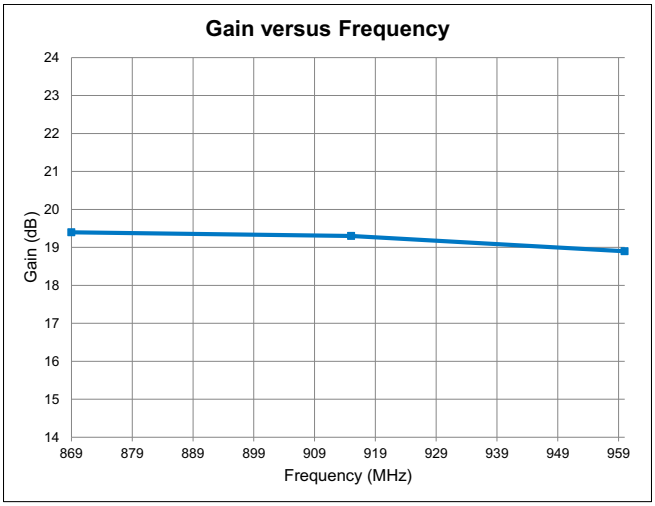


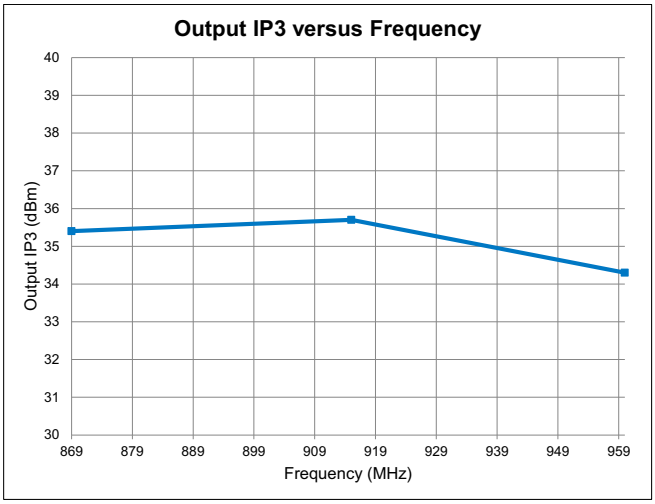


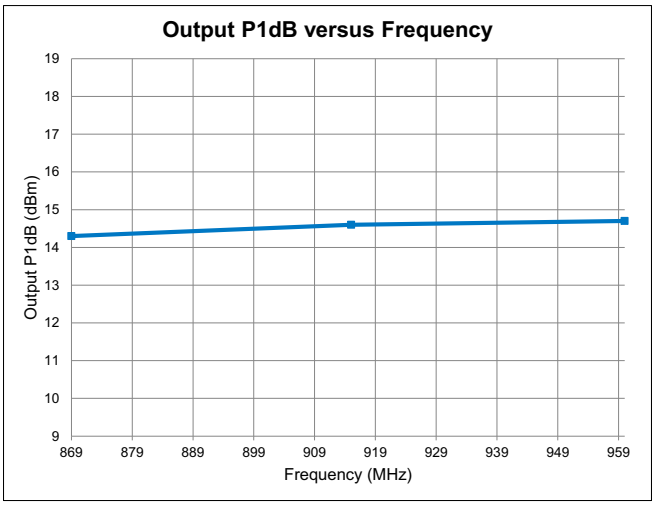
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

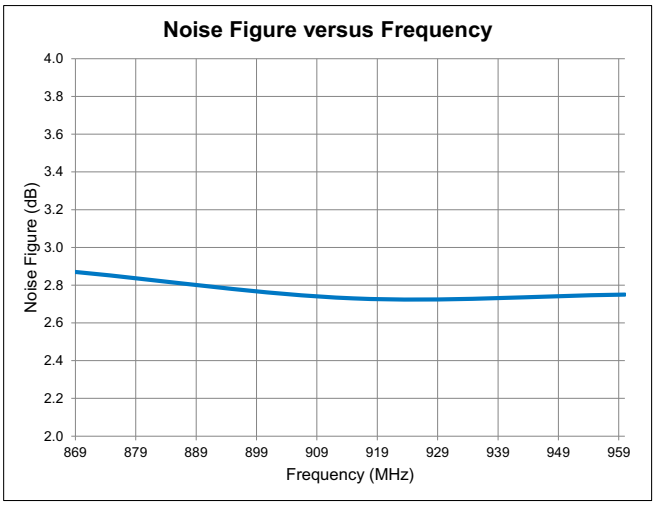
rfmd.com

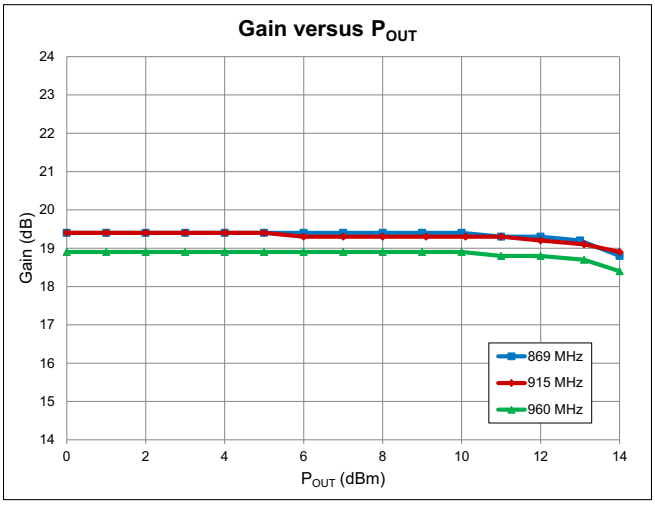
Data: 869MHz to 960MHz

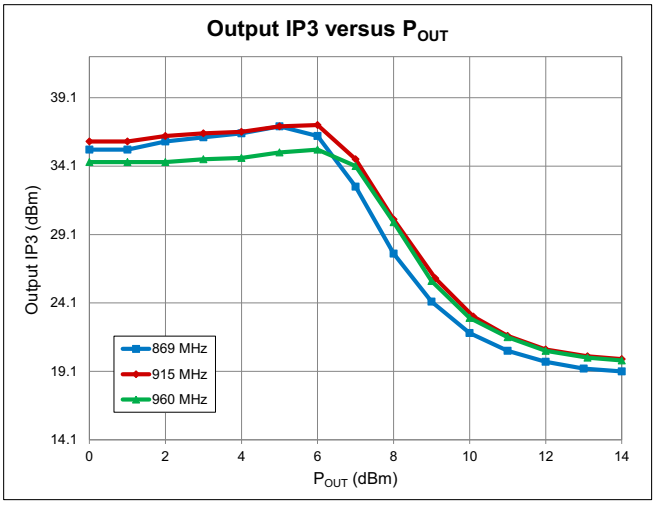












7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

RFGA2012 Typical Performance - 2400MHz to 2500MHz Application Circuit

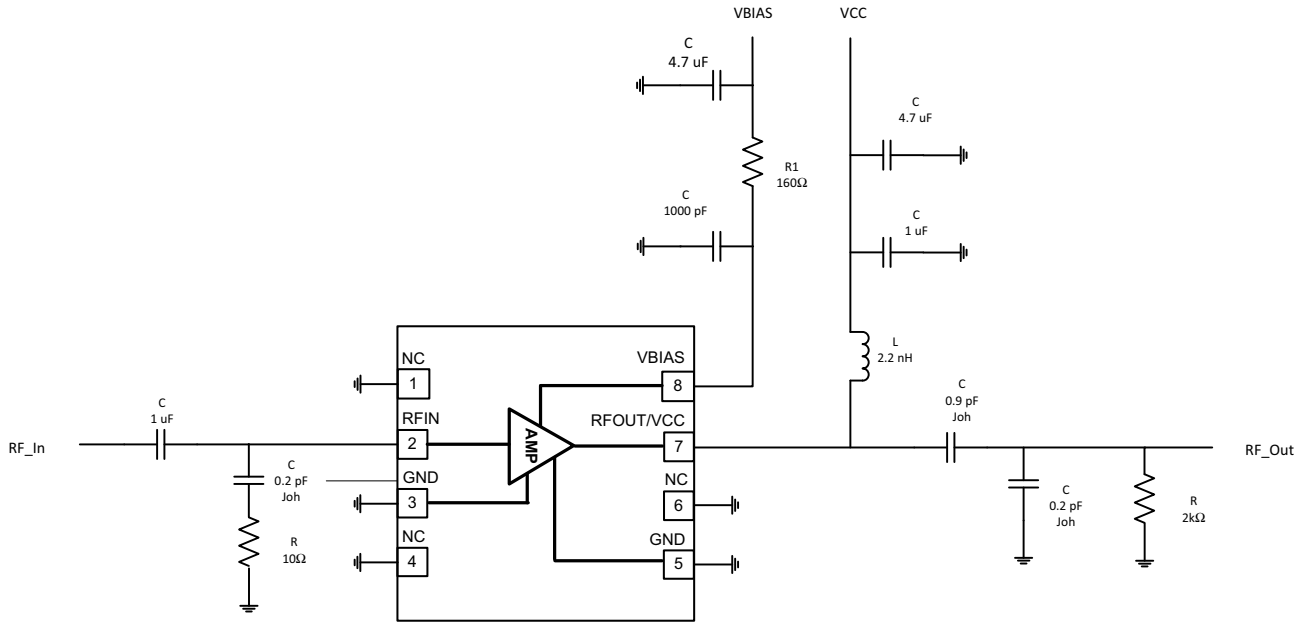


Figure 7. Schematic

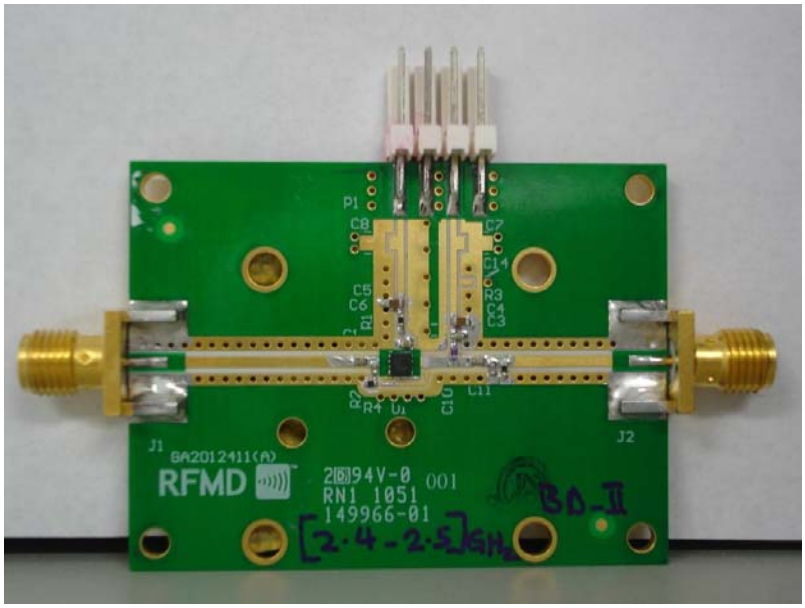
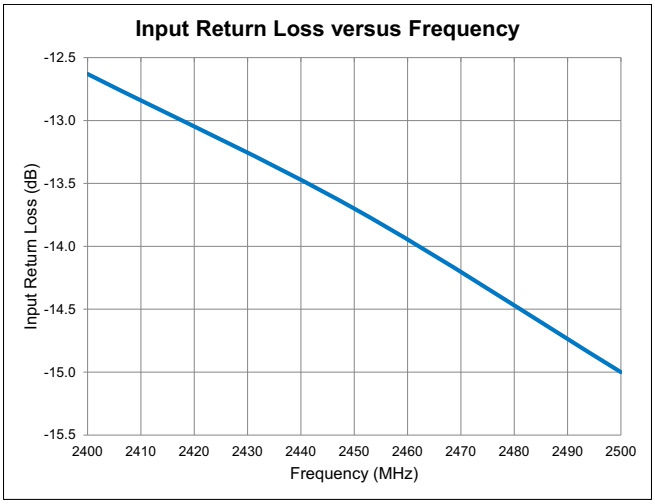


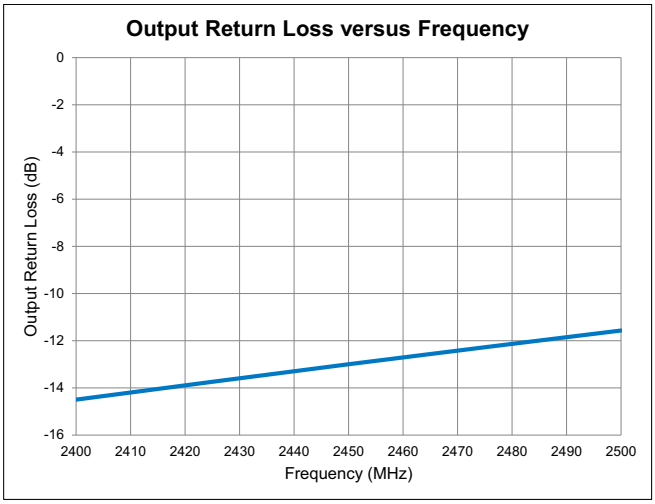
Figure 8. 2400MHz to 2500MHz Application Circuit

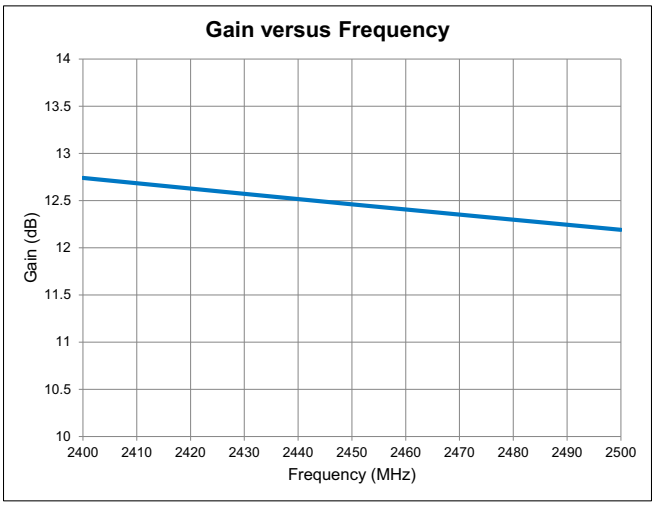
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

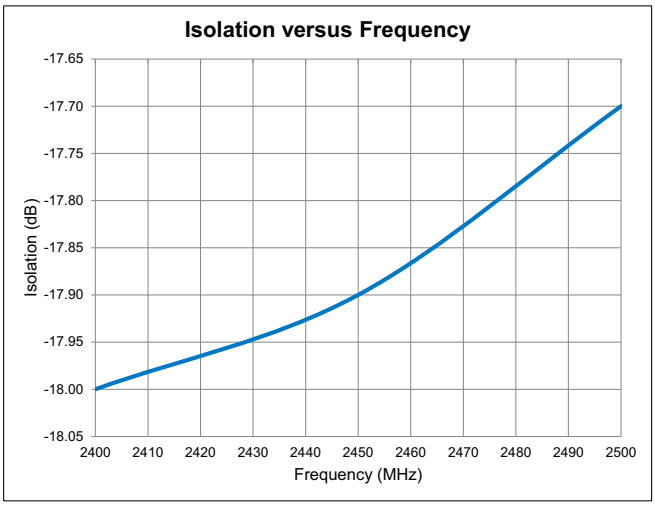
rfmd.com

S-Parameters: 2400MHz to 2500MHz





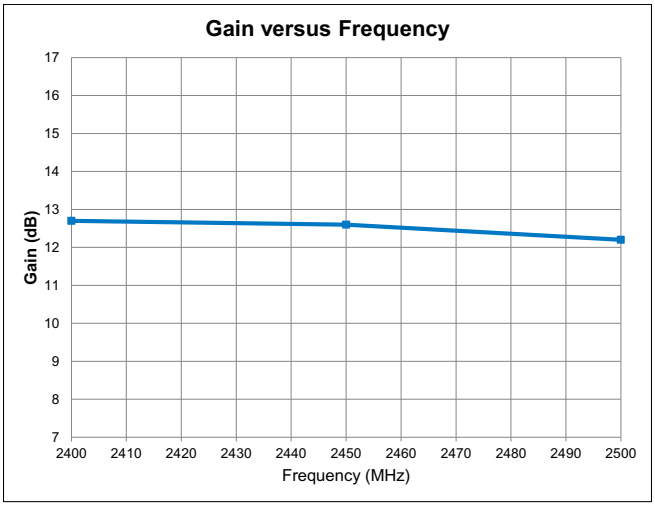


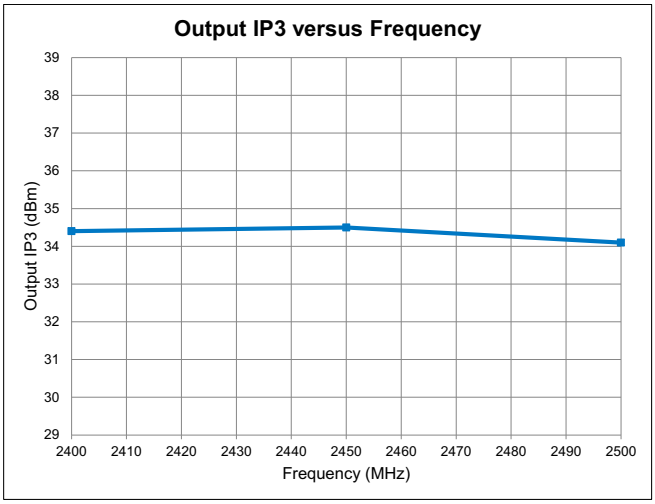


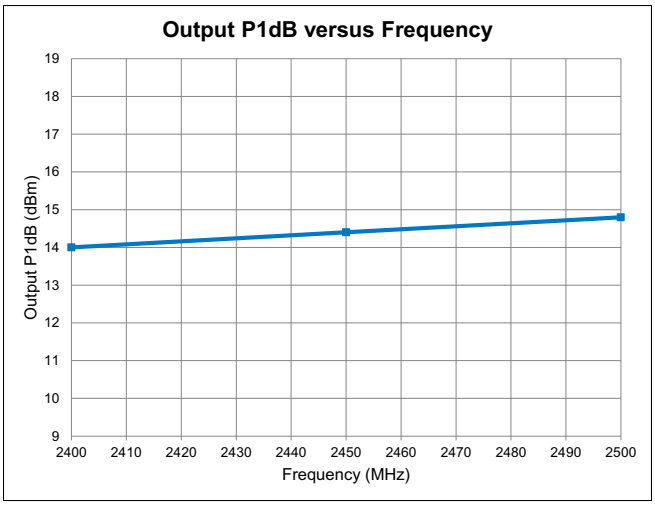
7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.

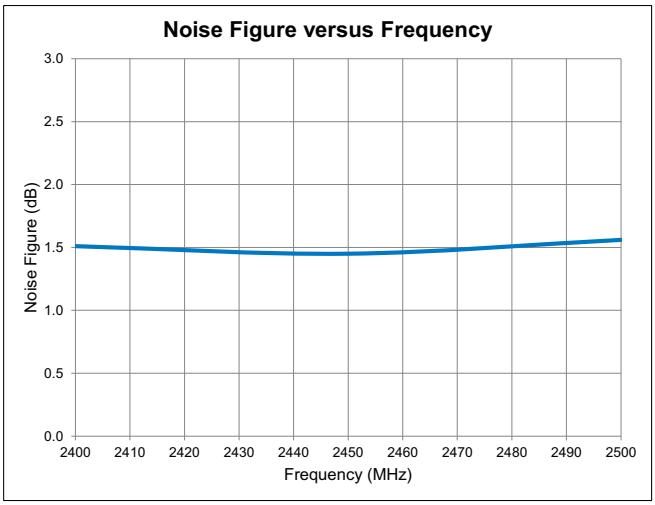
rfmd.com

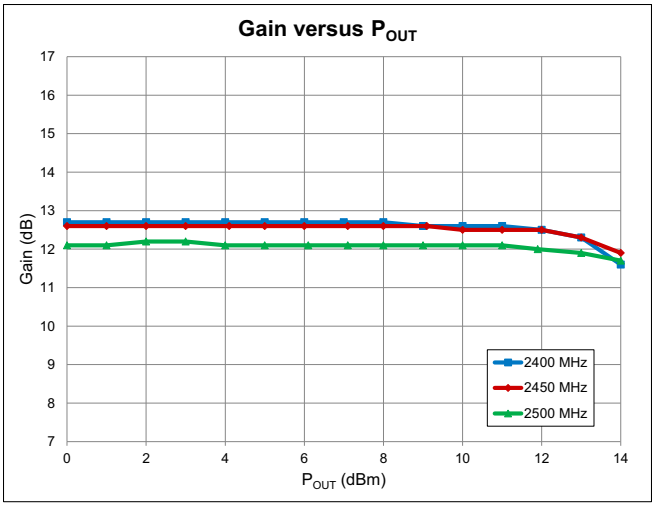
Data: 2400MHz to 2500MHz

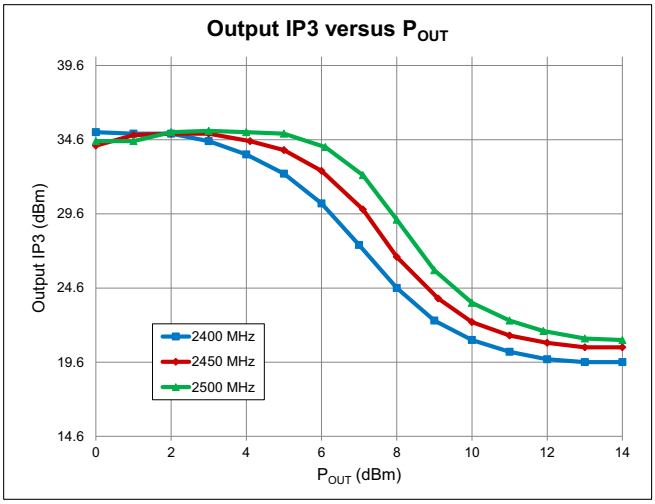












7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or smartgrid@rfmd.com.