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RFPA2189 Typical Performance for Multiple Application Circuits

The RFPA2189 is a 0.5W SOT-89 power amplifier (PA) specifically designed for wireless infrastructure applications. It is a single-stage GaAs HBT PA offering ultra-linear operation at a comparably low DC power, making it ideal for next-generation radios requiring high efficiency and using single 5V power supplies. It is also ideal as a GaAs pre-driver for base station amplifiers, as a PA stage for commercial wireless infrastructure, as a 2nd or 3rd Stage LNA, and as a class AB operation for GSM, DCS, PCS, UMTS, WiMAX, and LTE transceiver applications.

The RFPA2189 is capable of operating in bands such as 390MHz to 420MHz, 470MHz to 608MHz, 614MHz to 698MHz, 1805MHz to 1880MHz, and 1930MHz to1990MHz) Its external matching allows for use across various radio platforms within 400MHz to 2700MHz.

The following performance data for multiple application circuits was collected under normal operation conditions (room temperature and supply voltage 5V).

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RFPA2189 Typical Performance: 390 MHz to 420 MHz Application Circuit

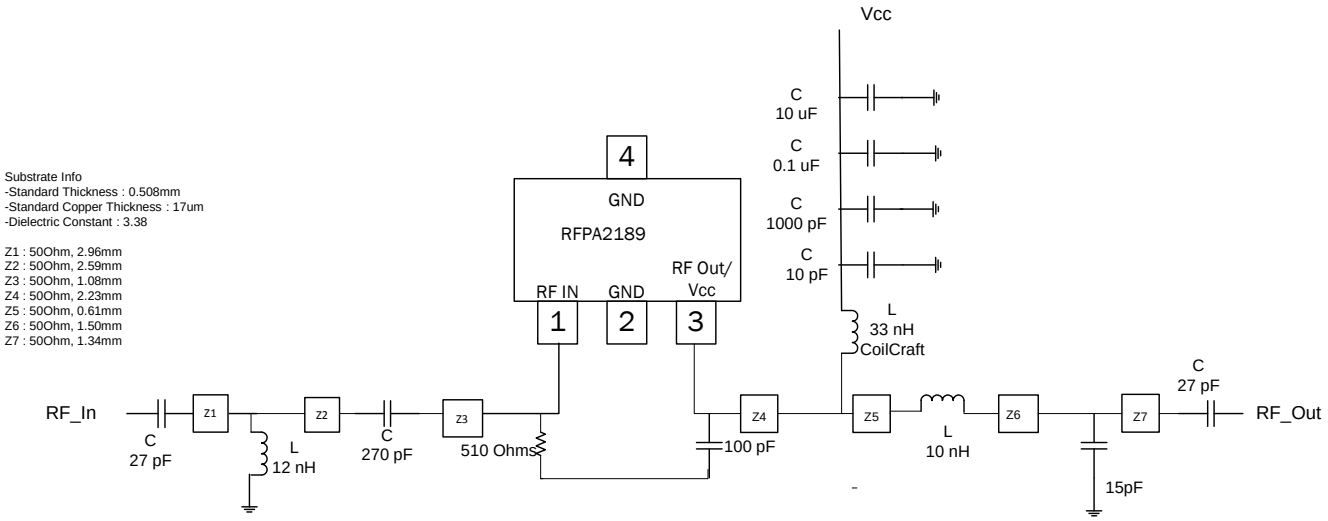

Figure 1. RFPA2189 390 MHz to 420 MHz Application Schematic

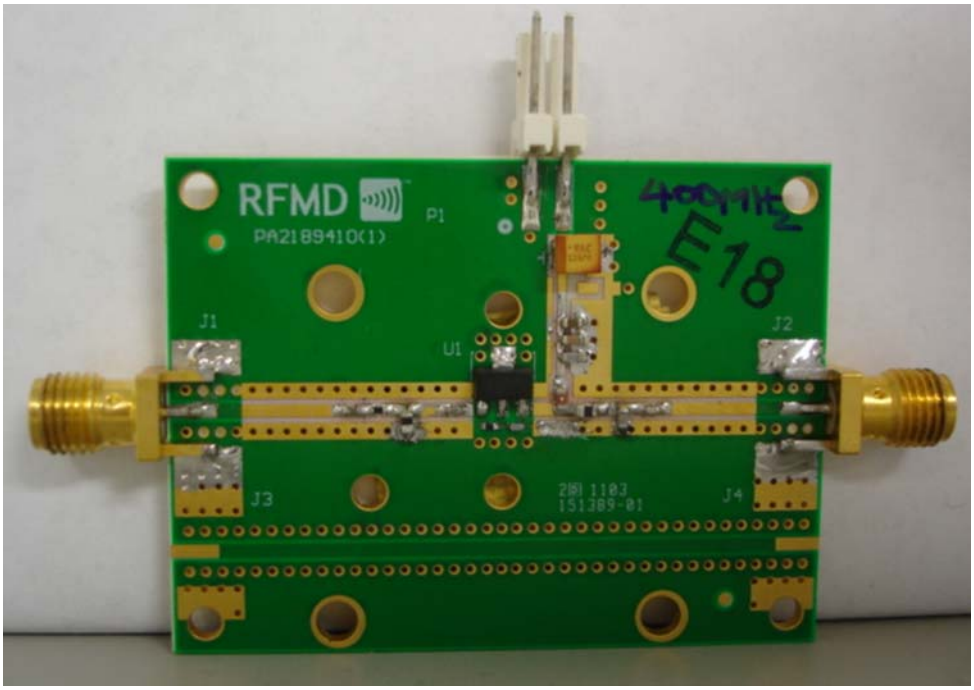

Figure 2. RFPA2189 390 MHz to 420 MHz Evaluation Board

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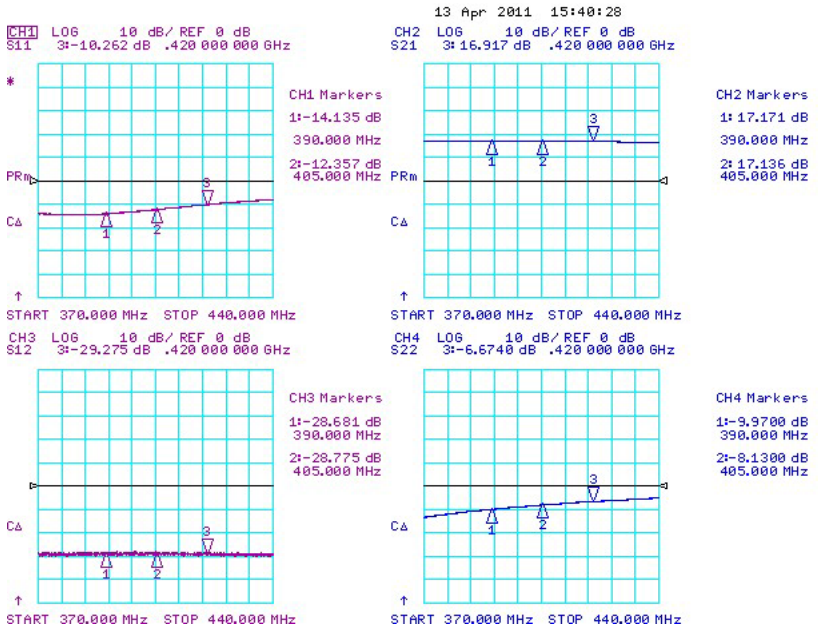

Figure 3. RFPA2189 390MHz to 420MHz S-Parameters

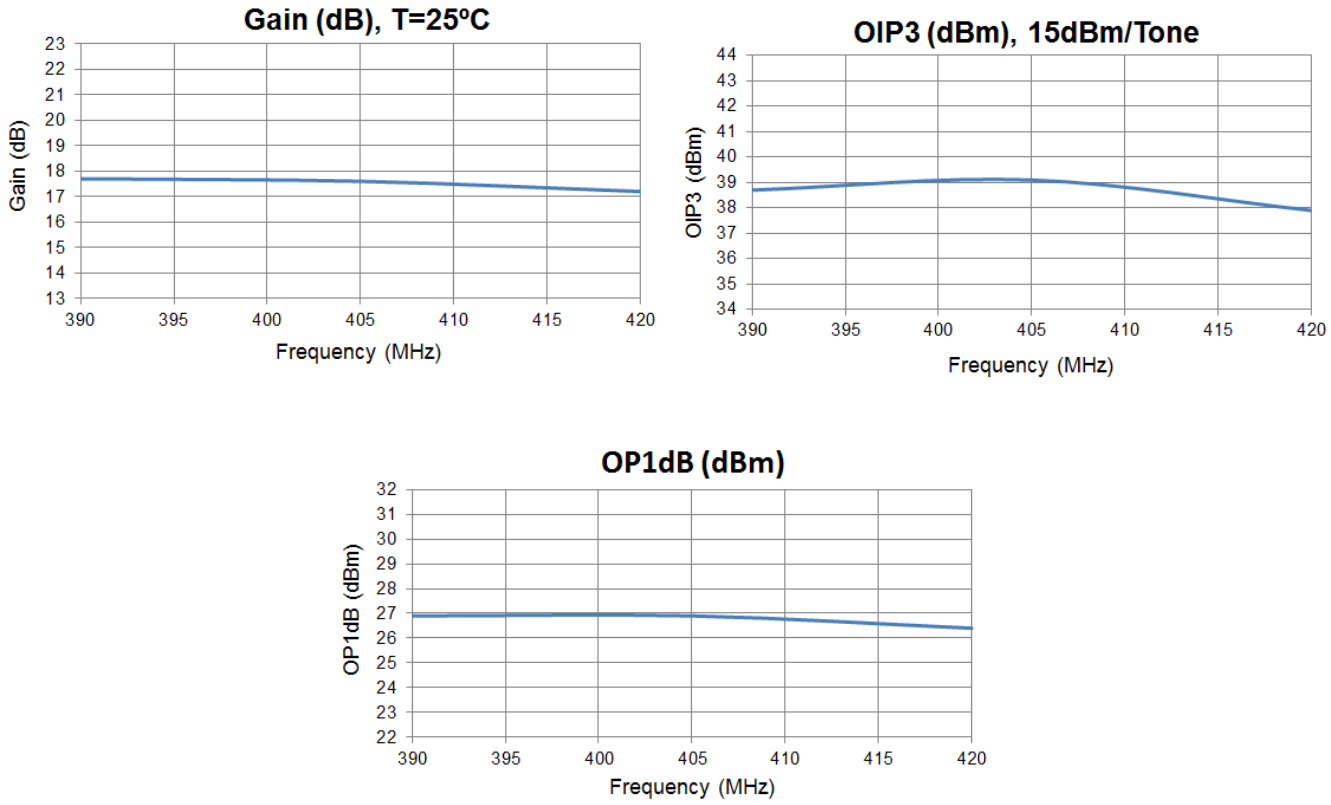

Figure 4. RFPA2189 390MHz to 420MHz Gain, OIP3, and OP1dB Performance

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RFPA2189 Typical Performance: 470MHz to 608MHz Application Circuit

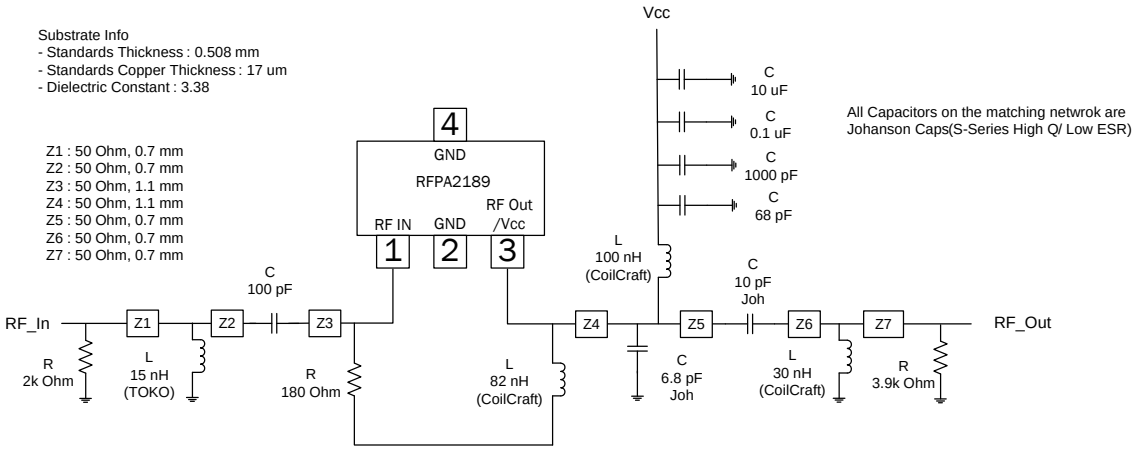

Figure 5. RFPA2189 470MHz to 608MHz Application Schematic

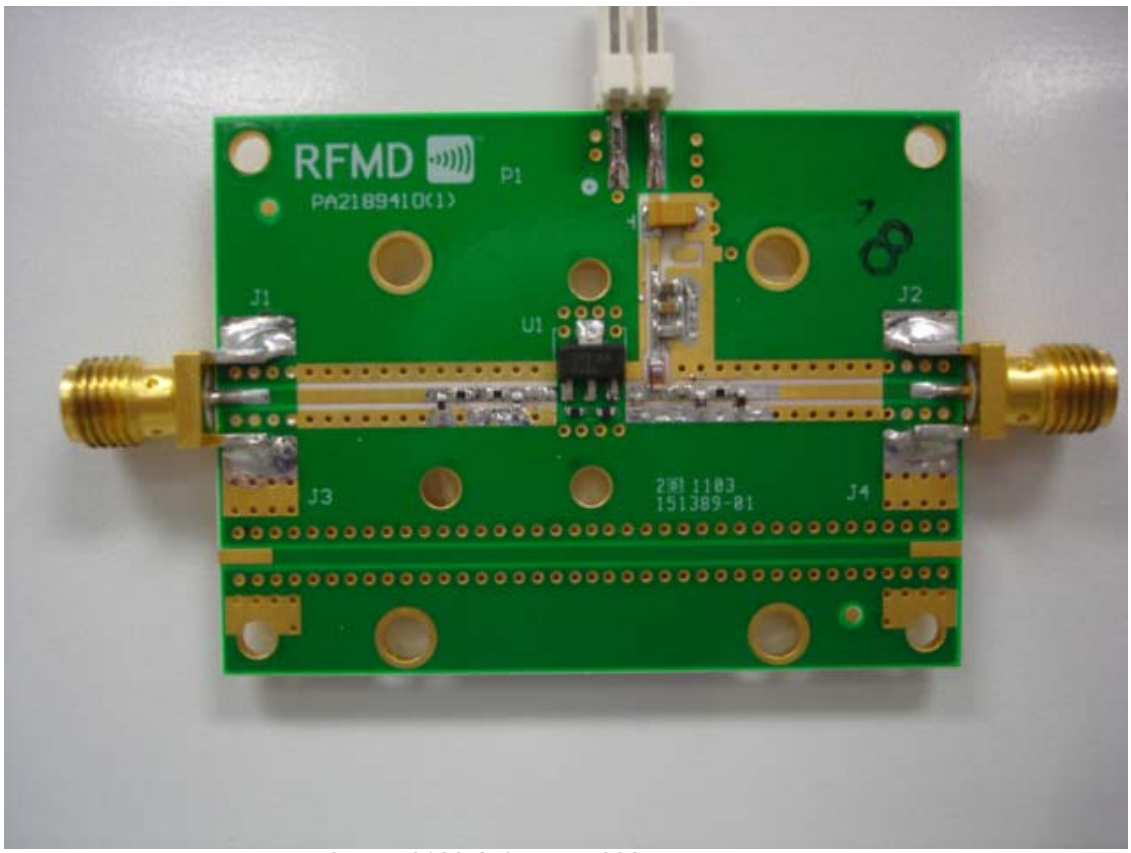

Figure 6. RFPA2189 470MHz to 608MHz Evaluation Board

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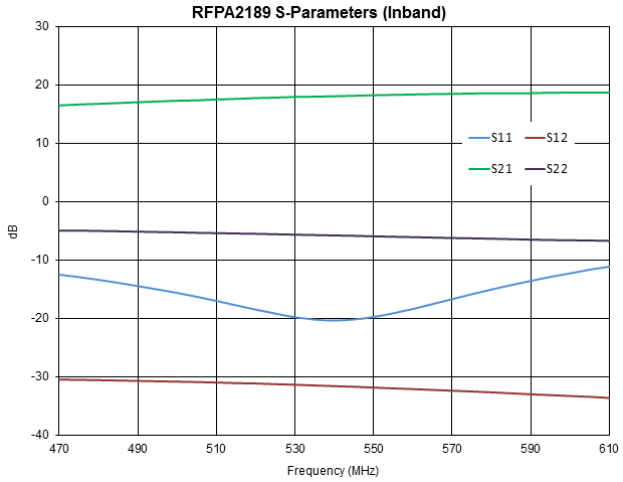


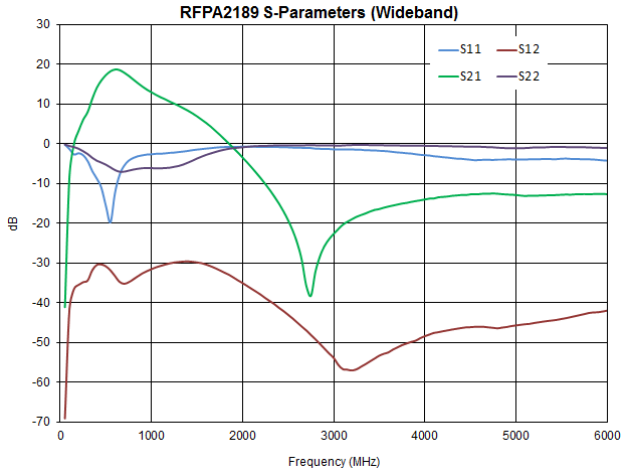
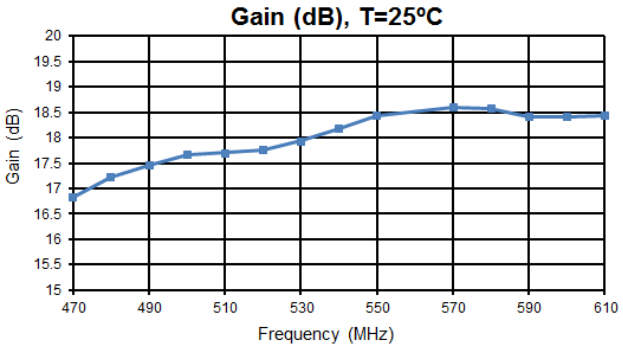
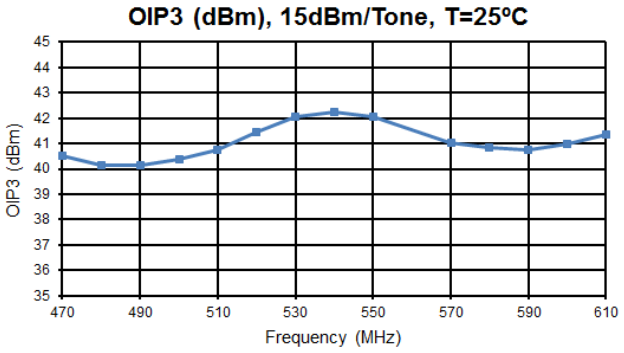
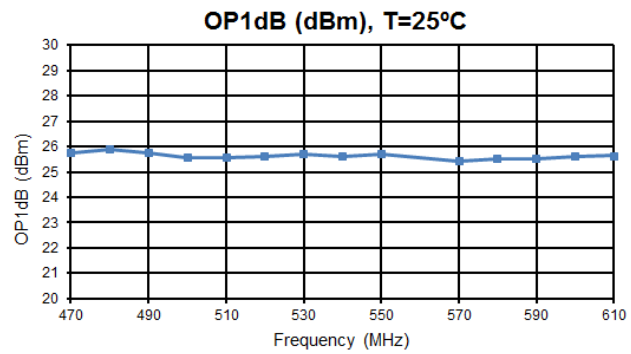


Figure 7. RFPA2189 470MHz to 608MHz S-Parameters







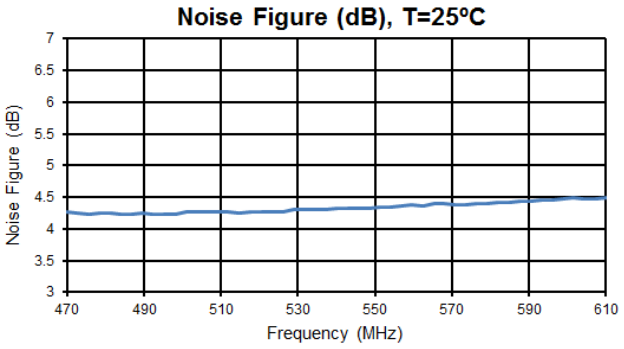


Figure 8. RFPA2189 470MHz to 608MHz Gain, OIP3, OP1dB, and Noise Figure Performance

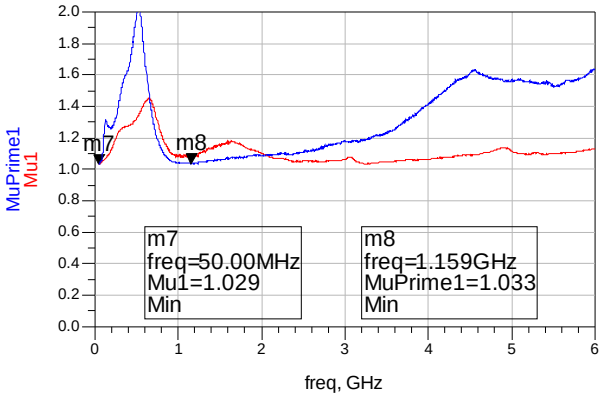


Figure 9. RFPA2189 470MHz to 608MHz Stability

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RFPA2189 Typical Performance: 614MHz to 698MHz Application Circuit

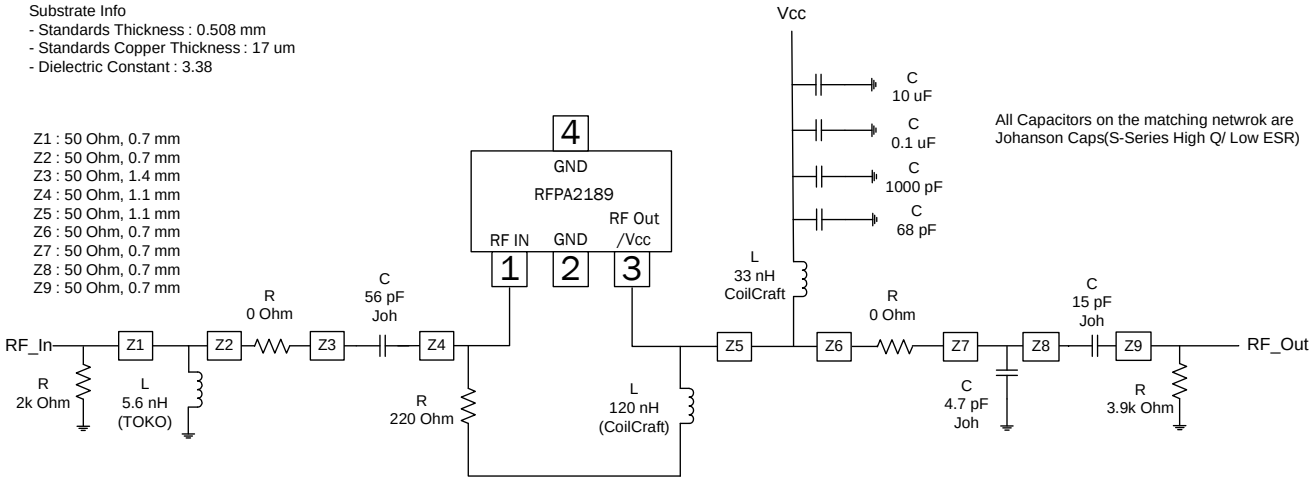

Figure 10. RFPA2189 614MHz to 698MHz Application Schematic

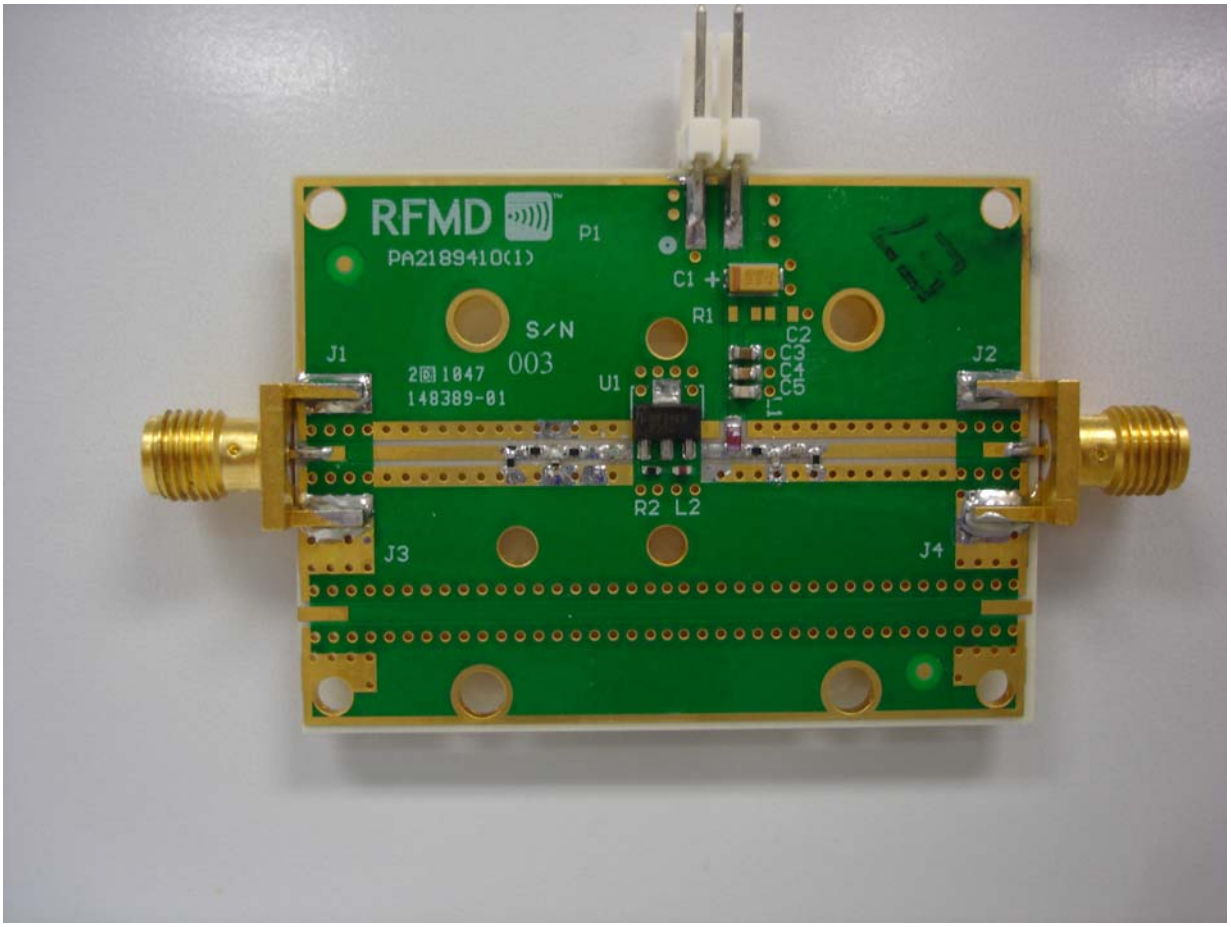

Figure 11. RFPA2189 614MHz to 698MHz Evaluation Board

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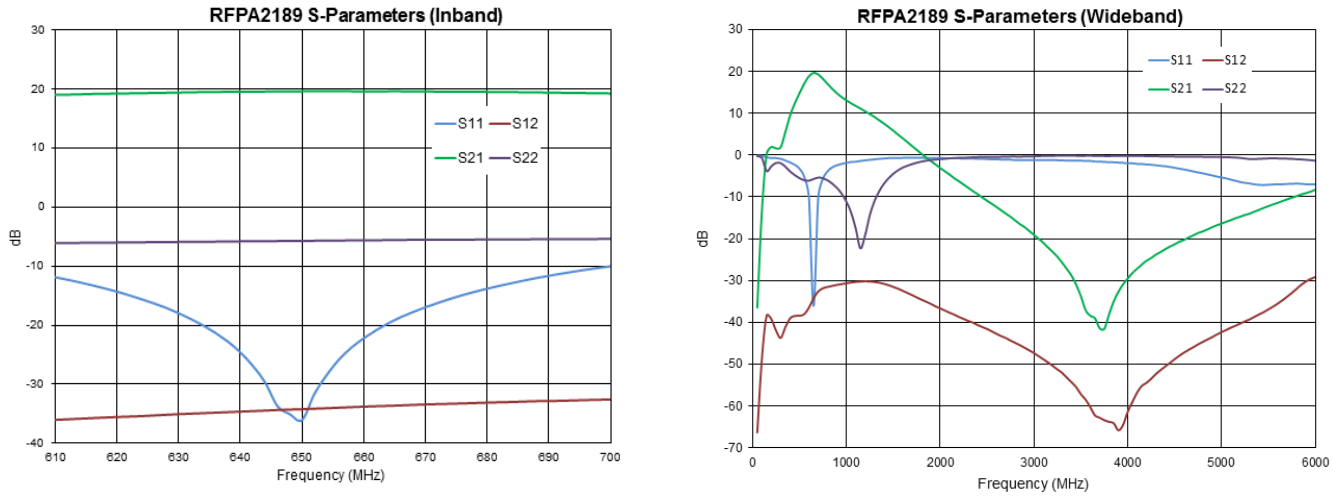

Figure 12. RFPA2189 614MHz to 698MHz S-Parameters

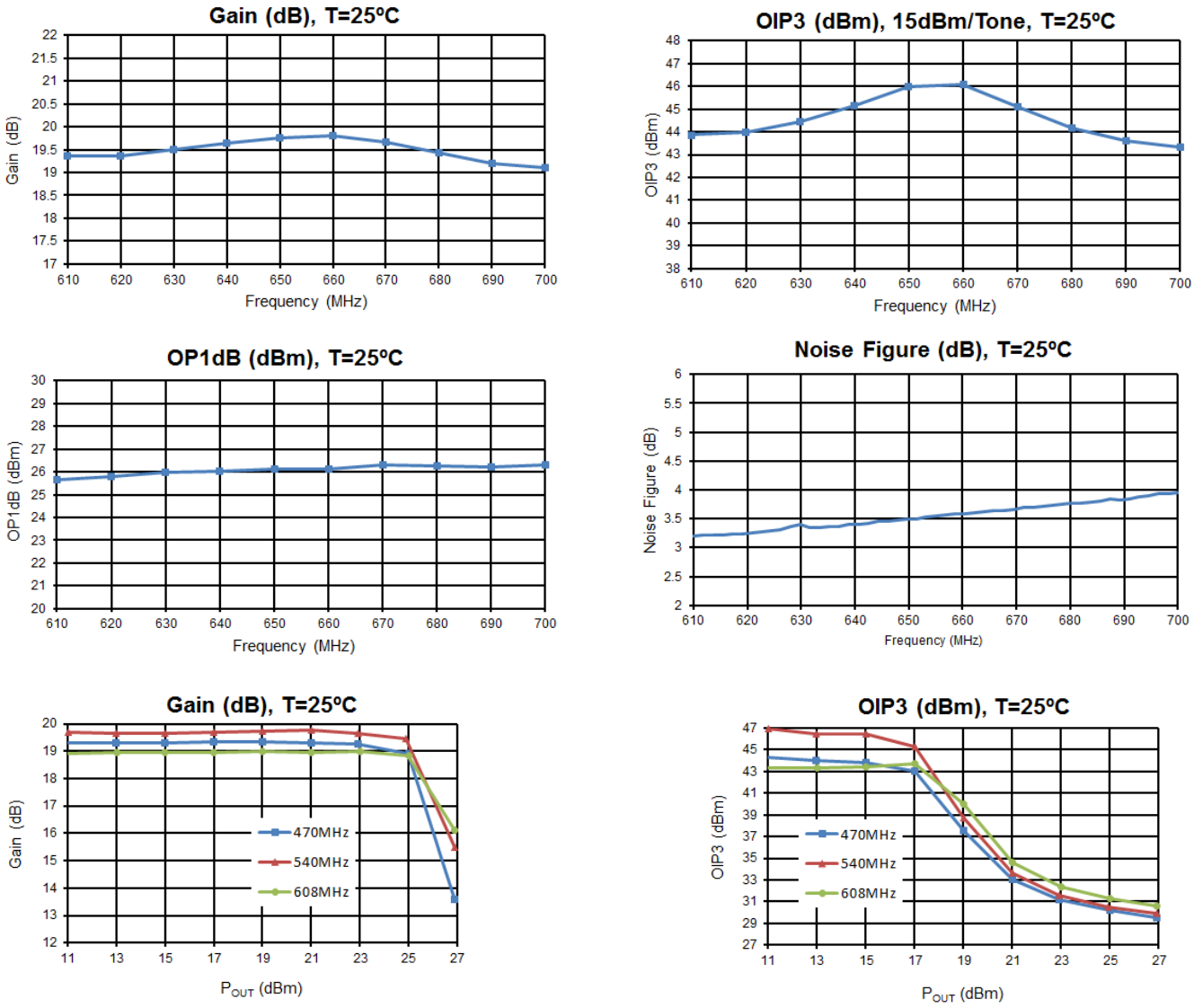

Figure 13. RFPA2189 614MHz to 698MHz Gain, OIP3, OP1dB, and Noise Figure Performance

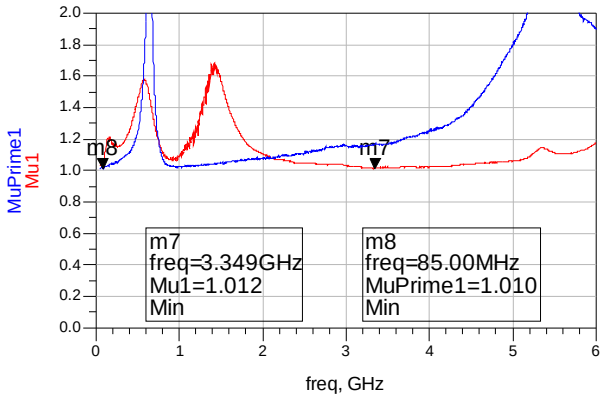

Figure 14. RFPA2189 614 MHz to 698 MHz Stability

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RFPA2189 Typical Performance: 1805MHz to 1880MHz Application Circuit

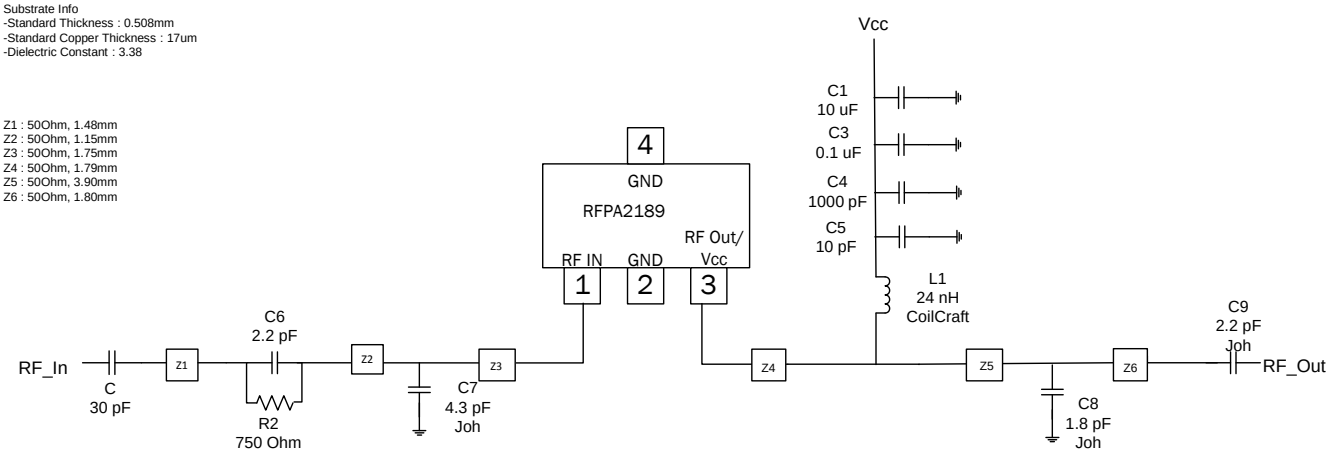

Figure 15. RFPA2189 1805MHz to 1880MHz Application Schematic

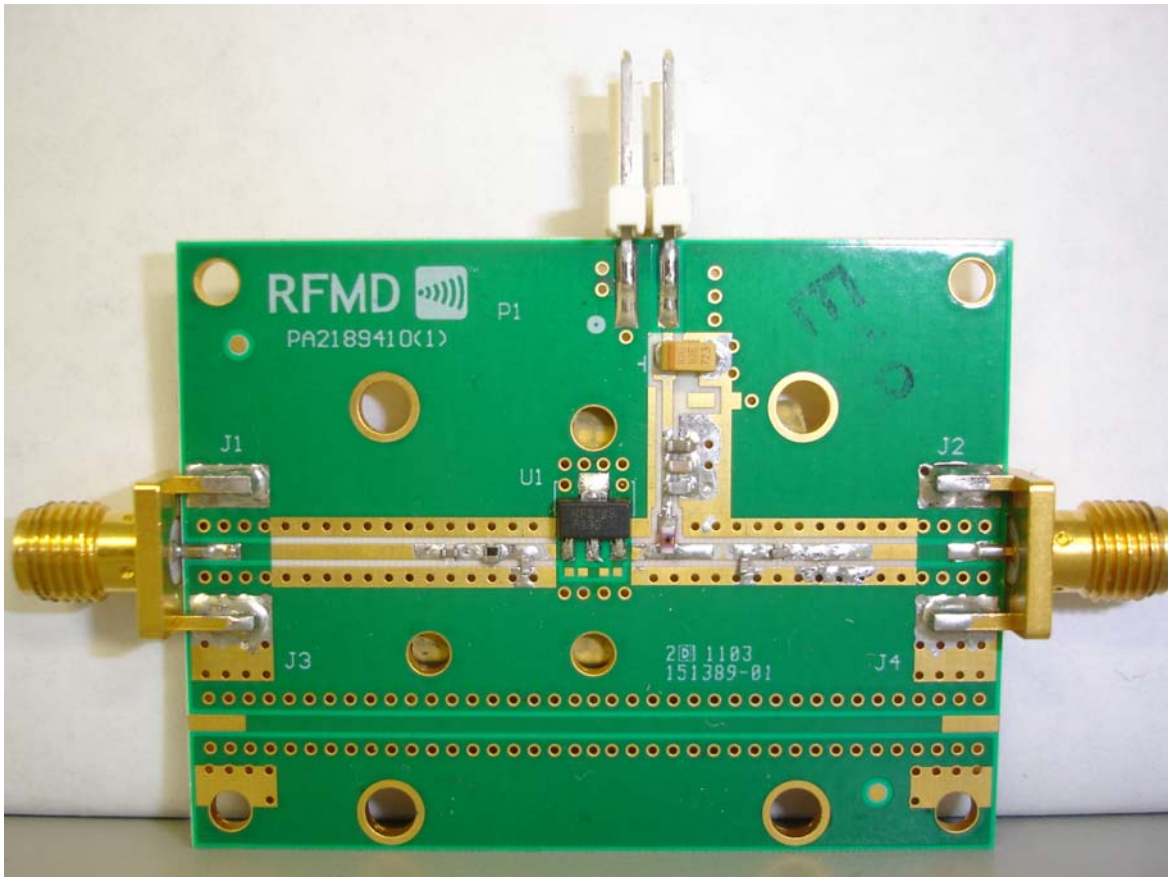

Figure 16. RFPA2189 1805MHz to 1880MHz Evaluation Board

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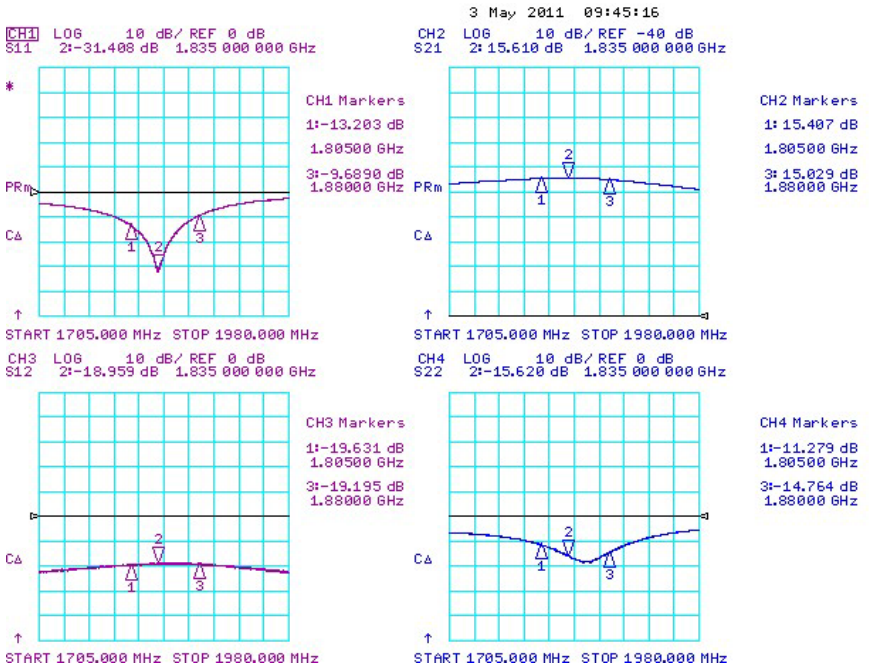

Figure 17. RFPA2189 1805MHz to 1880MHz S-Parameters

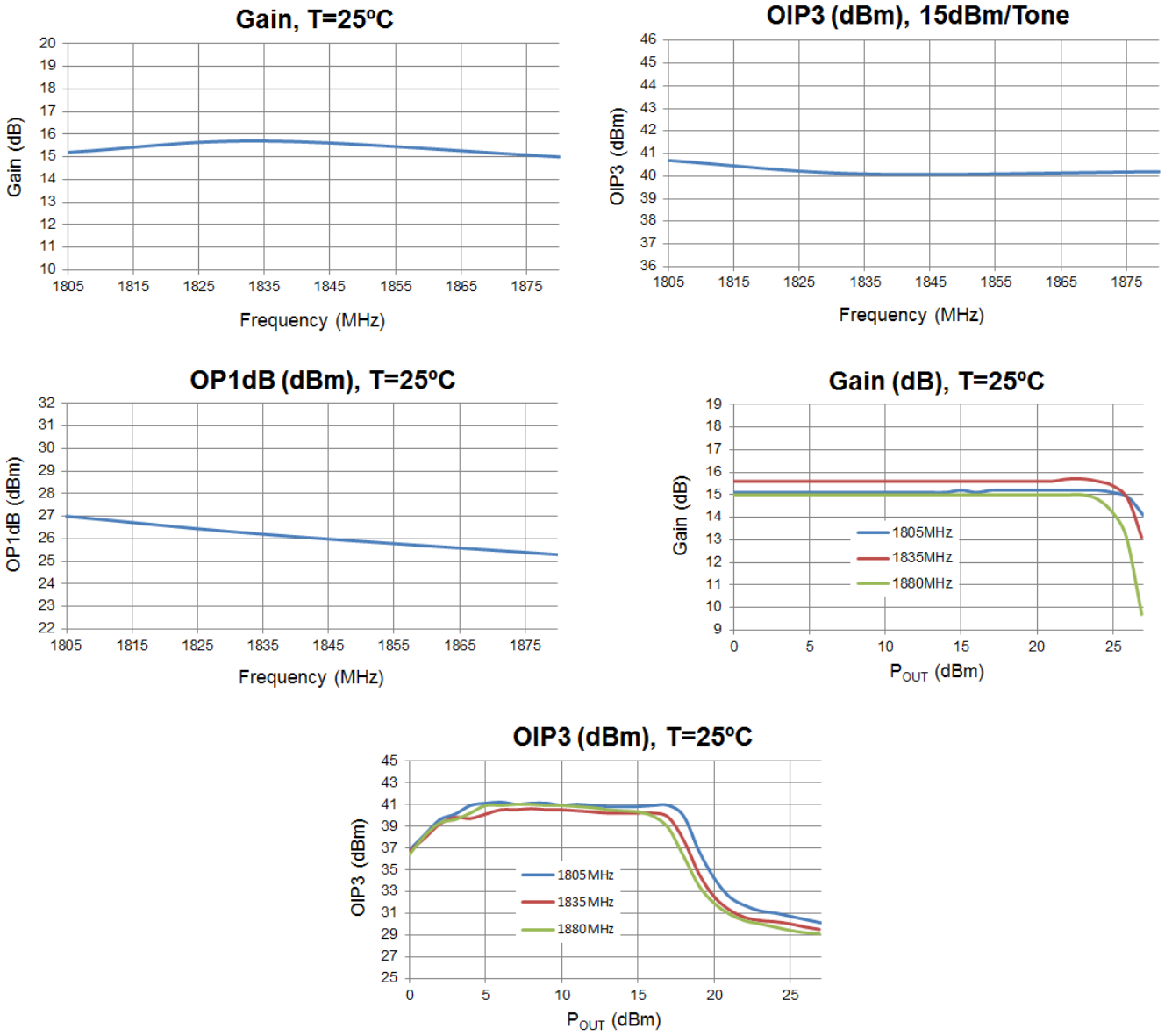

Figure 18. RFPA2189 1805MHz to 1880MHz Gain, OIP3, and OP1dB Performance

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RFPA2189 Typical Performance: 1930MHz to 1960MHz Application Circuit

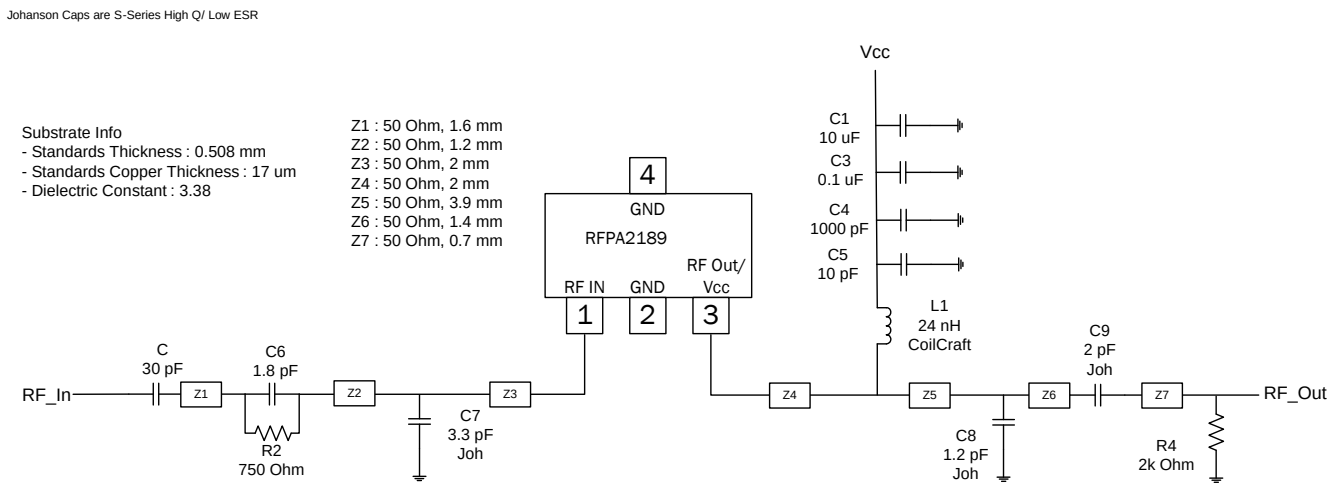

Figure 19. RFPA2189 1930MHz to 1960MHz Application Schematic

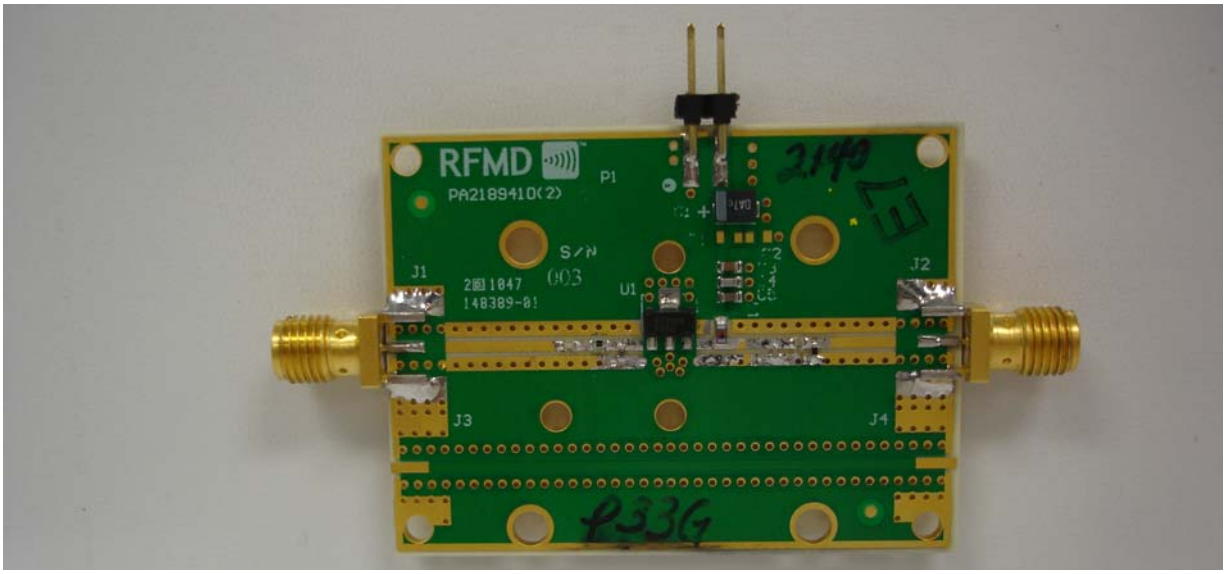

Figure 20. RFPA2189 1930MHz to 1960MHz Evaluation Board

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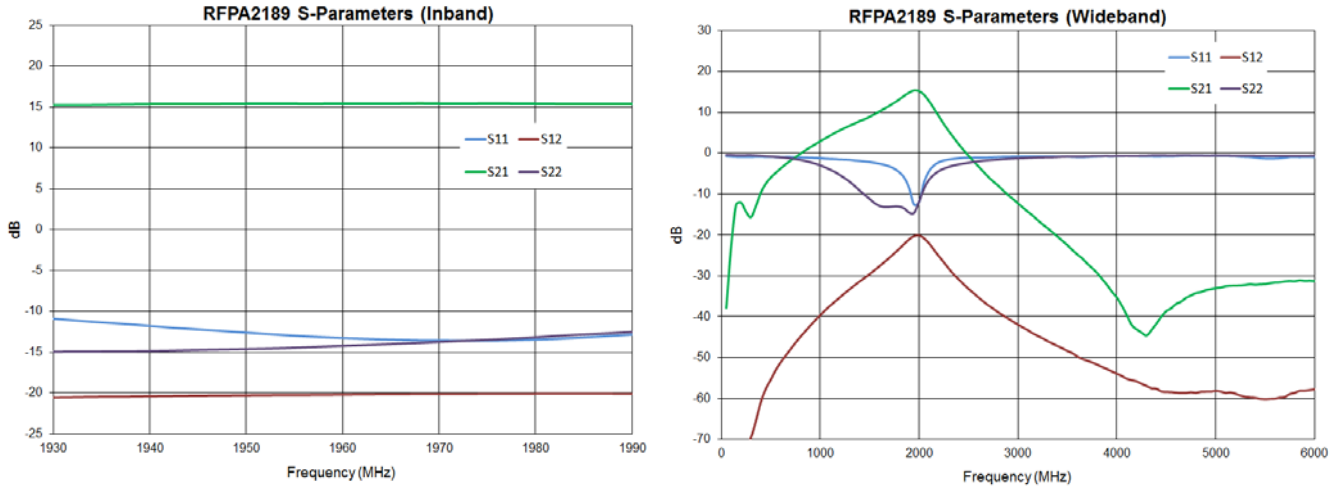

Figure 21. RFPA2189 1930MHz to 1960MHz S-Parameters

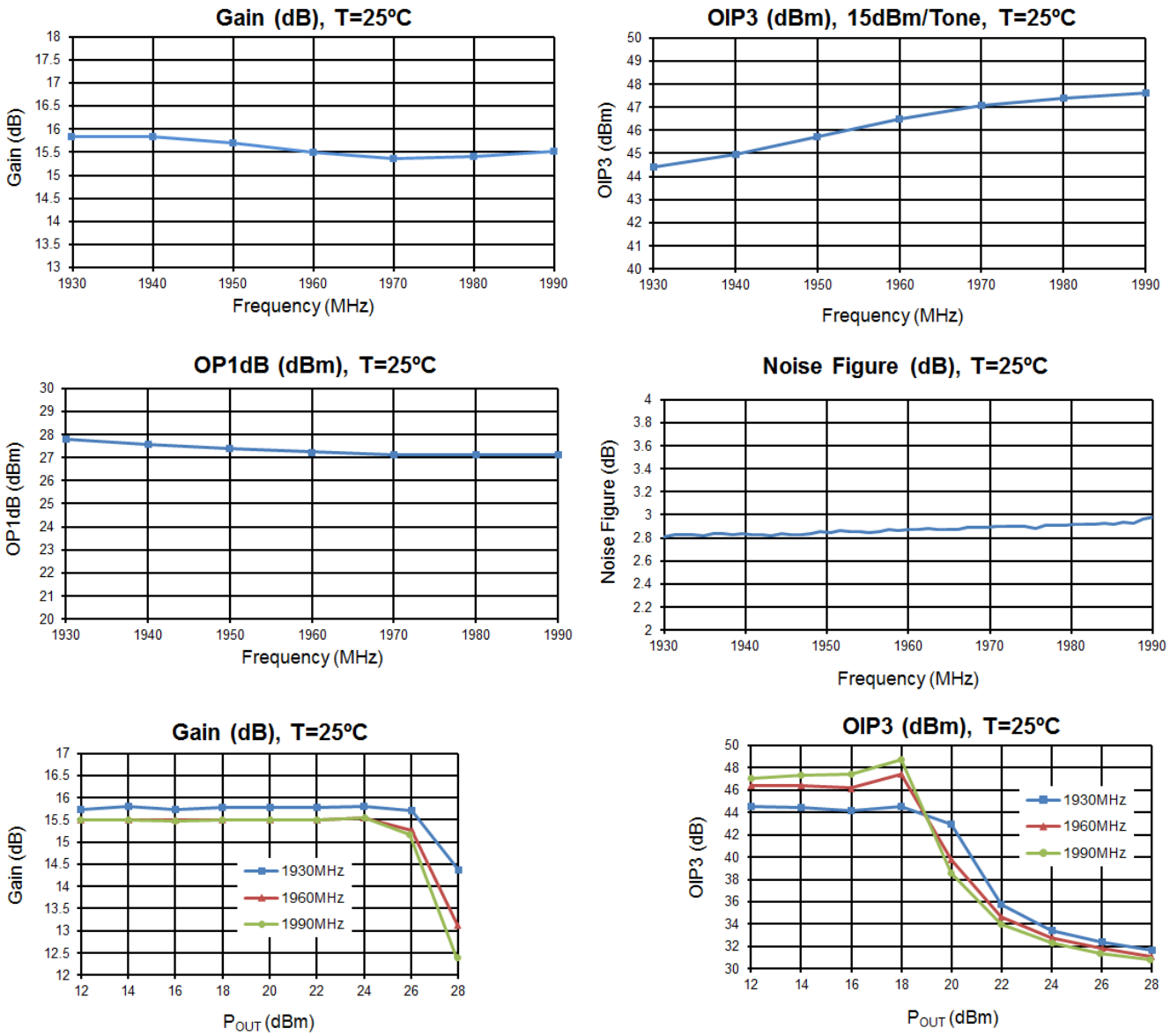

Figure 22. RFPA2189 1930MHz to 1960MHz Gain, OIP3, and OP1dB Performance

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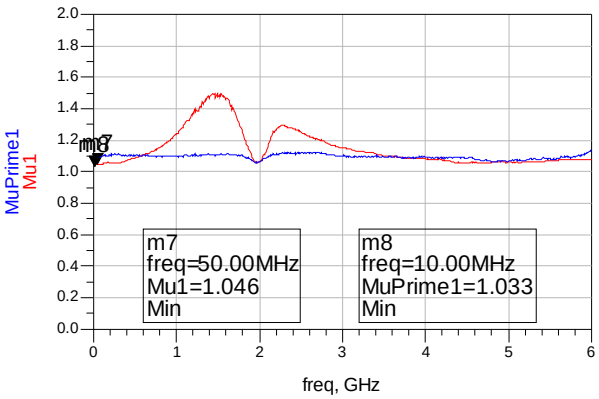

Figure 23. RFPA2189 1930MHz to 1960MHz Stability