

# NA-1765

BLF2425M7L250P at 2400-2500 MHz

Rev. 3 — 05 October 2015

AMPLEON

Application Measurement  
Report

## Document information

Info	Content
Keywords	NA-1765
Abstract	Measurement results of a demo board for 2400-2500MHz with 1x BLF2425M7L250P

## Revision history

Rev	Date	Description
1	20130206	
2	20150424	Update for web publication
3	20151005	The format of this document has been redesigned to comply with the new identity guidelines of Ampleon. Legal texts have been adapted to the new company name where appropriate.

## 1. Introduction

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### 1.1 General Description

This document shows the measurement results of a 2400-2500MHz demo amplifier (Board NA-1756) with 1x BLF2425M7L250P.

#### 1.1.1 Test object details

Transistor type: BLF2425M7L250P (bolted down)

Production code: 2157-m1251 Y

Package: SOT539A

Board: BLF2425M7L250P V 1 -Output  
BLF2425M7L250P V 1 -Input

Demo number: NA-1756

### 1.2 Used Test signals

CW: CW, Measured at 2400-2500MHz

NWA: NWA-sweep at Pout=50.2dBm

### 1.3 Test circuit

A description of this circuit can be found in **Chapter 3**. The test circuit has been designed on Rogers RO4350B, h=0.76mm,  $\epsilon_r=3.5$ , 2x35um copper. Supply voltage (drain-source) is typical 28V. To set the drain quiescent current, slowly increase  $V_{gs}$  until the total  $I_{dq}$  will be 50mA. Start with  $V_{gs}=1.4V$ .

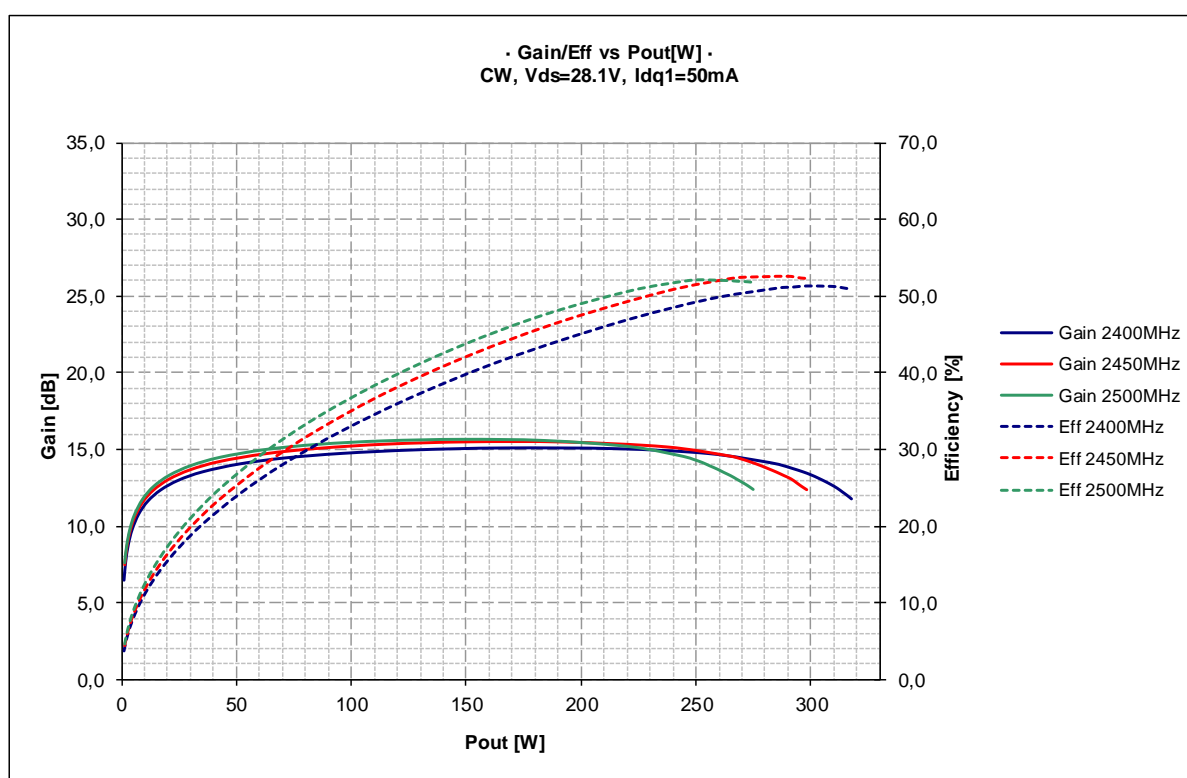
***NOTE: Use an electrolytic capacitor 10000uF parallel to the  $V_{ds}$  as close as possible to the demo board. This delivers the current peaks to the demo board.***

## 2. Measurement Results

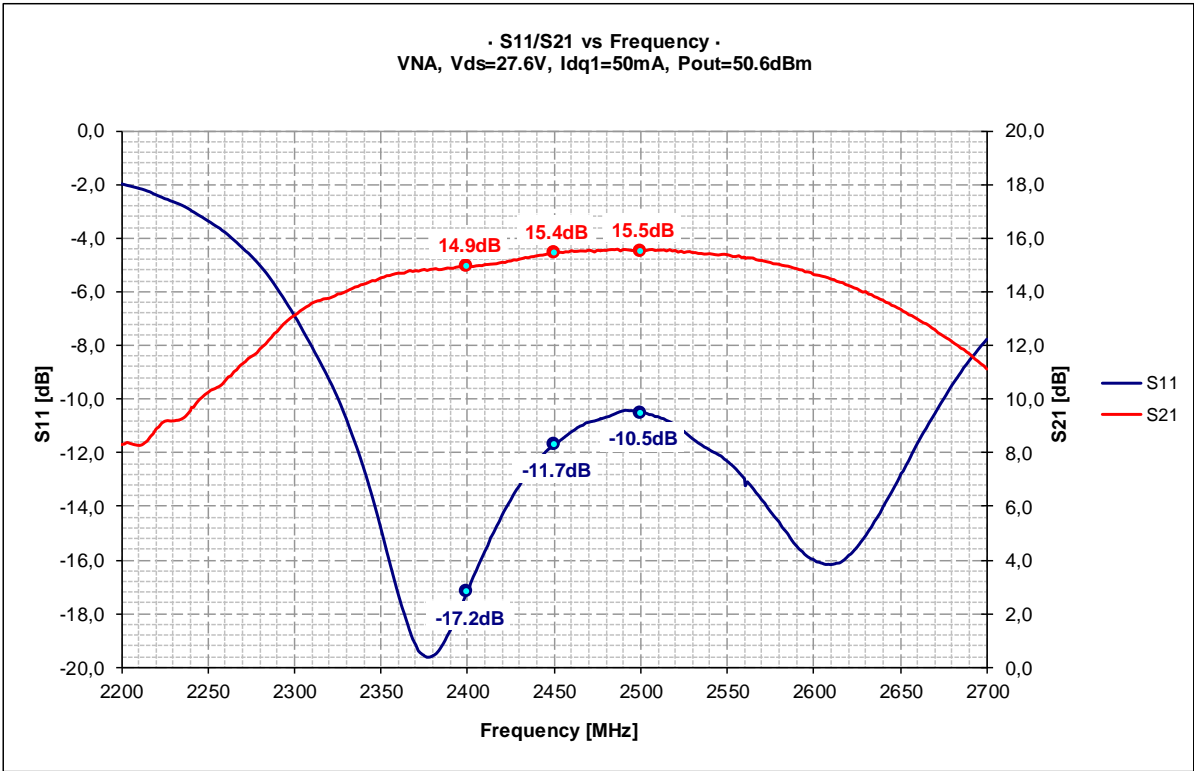
### 2.1 Summary CW – Powersweep

Freq [MHz]	P1dB [dBm]*	P1dB [W]*	Eff@P1dB [%]*	Gain [dB] @250W	Compr [dB] @250W	Eff [%] @250W
2400,0	54,5	283,5	50,9	14,8	-0,32	49,2
2450,0	54,3	266,6	52,3	14,9	-0,61	51,4
2500,0	53,8	240,2	51,7	14,3	-1,37	52,1

### 2.2 CW – Power Sweep

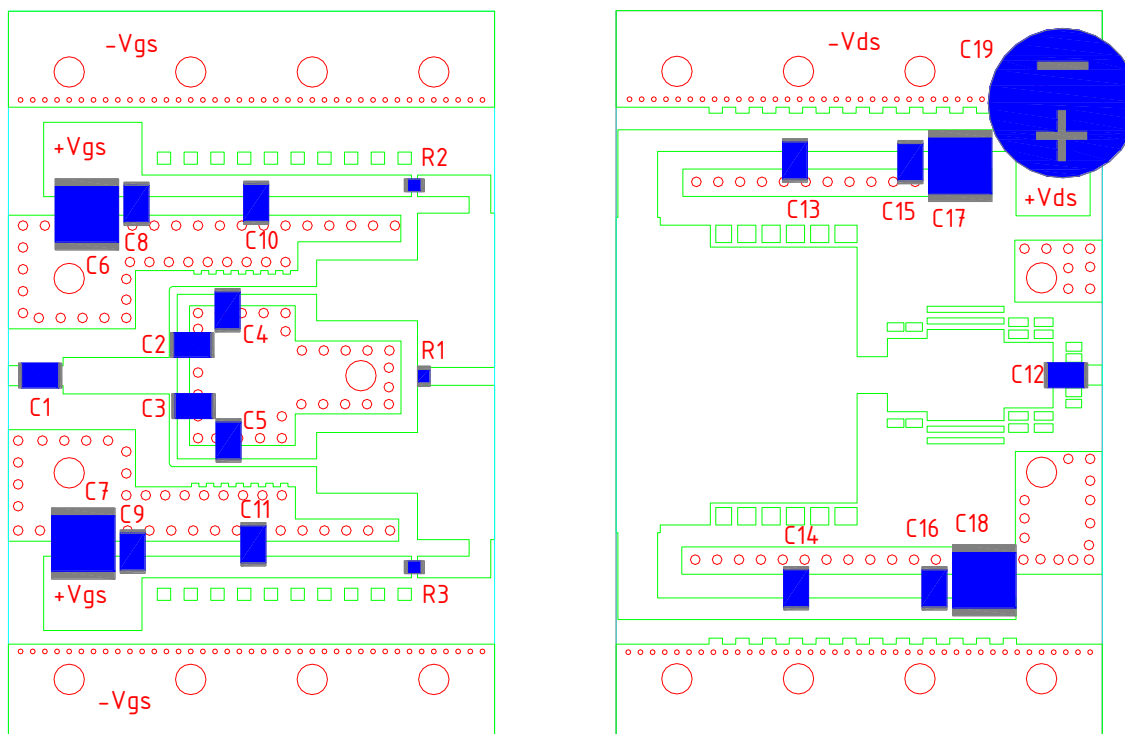


2.3 NWA-Sweep at Pout=50.6dBm



### 3. PCB Layout

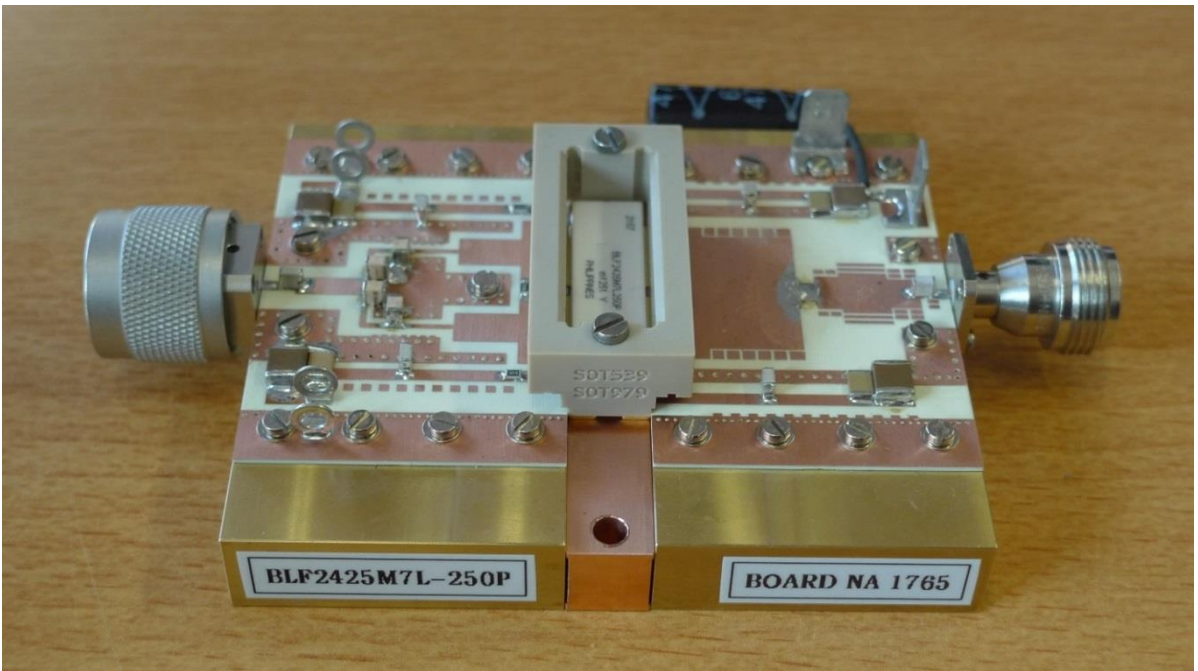
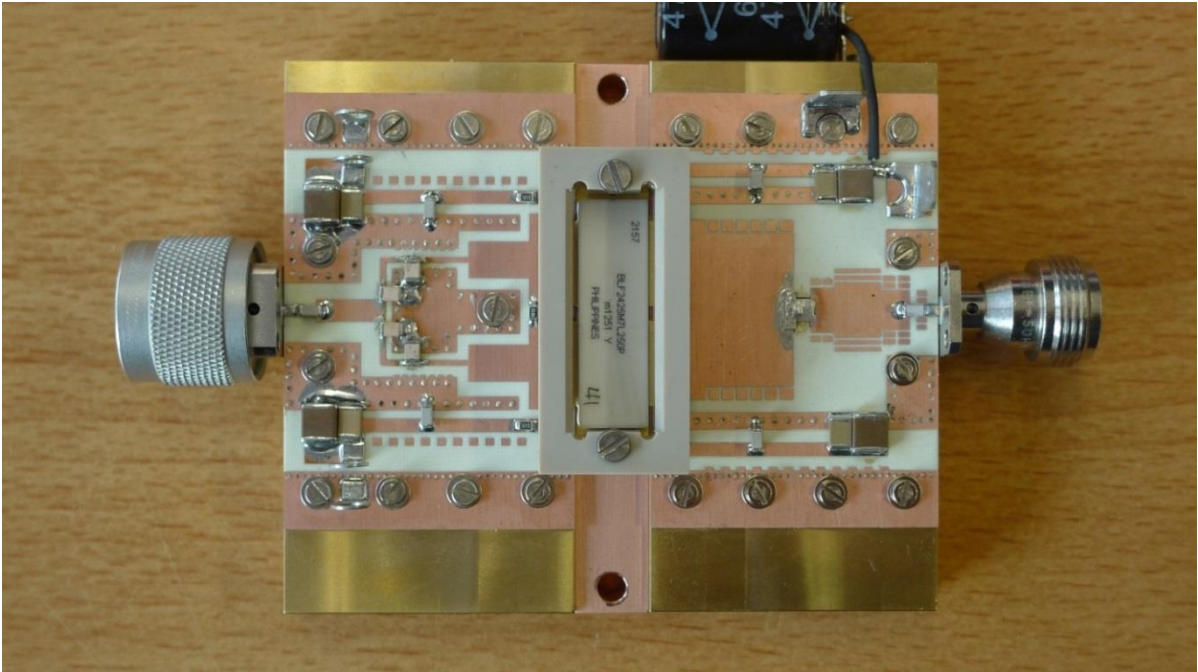
#### 3.1 PCB Layout Drawing



#### 3.2 Component list

Components list circuit.			
C1,C10,C11,C12,C13,C14	36pF	ATC800B	
C8,C9,15,C16	470nF	SMD, 50V	
C6,C7,C17,18	10uF	SMD, 50V	
C2,C3	1.4pF	ATC100B	
C4,C5	1.8 pF	ATC100B	
C19	470uF	Electrolytic Capacitor	63V
R1	9.1 Ω	SMD Resistor 0805	
R2,R3	5.1 Ω	SMD Resistor 0805	
PCB Material: Rogers RO4350B, Thickness 0,76 mm, εR = 3.5, Cu = 35 micron, double sided copper			

3.3 Photos Demo Board



4. Attachments

Please see the attachment for the support files.

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