

# NA-1716

BLS7G3135-350P at 3100-3500 MHz

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AMPLEON

Application Measurement  
Report

## Document information

Info	Content
<b>Keywords</b>	NA-1716
<b>Abstract</b>	Measurement results of a demo board for 3100-3500 MHz with 1x BLS7G3135L-350P.

## Revision history

Rev	Date	Description
1	20121113	
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 contains measurement results of a 3100-3500 MHz demo amplifier (Board NA-1716) with 1x BLS7G3135L-350P.

#### 1.1.1 Test object details

Transistor type: BLS7G3135L-350P (Bold down)  
Production code: 1465-m1239W13 **Note that this is a preliminary sample!!!**  
Package: SOT539  
Board: BLS7G3135L-350P Rev1-Output  
BLS7G3135L-350P Rev1-Input  
Demo number: NA-1716

### 1.2 Used Test signals

Pulsed CW: Pulsed CW, Pulse Width 300us, Duty Cycle 10%

### 1.3 Testcircuit

A description of this circuit can be found in **chapter 3**. The test circuit has been designed on Rogers 3006,  $h=0.635\text{mm}$ ,  $\epsilon_r=6.15$ ,  $2\times 35\mu\text{m}$ . Supply voltage (drain-source) is typical 32V. Increase  $V_{gs}$  until the total  $I_{dq}$  will be 100mA.

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

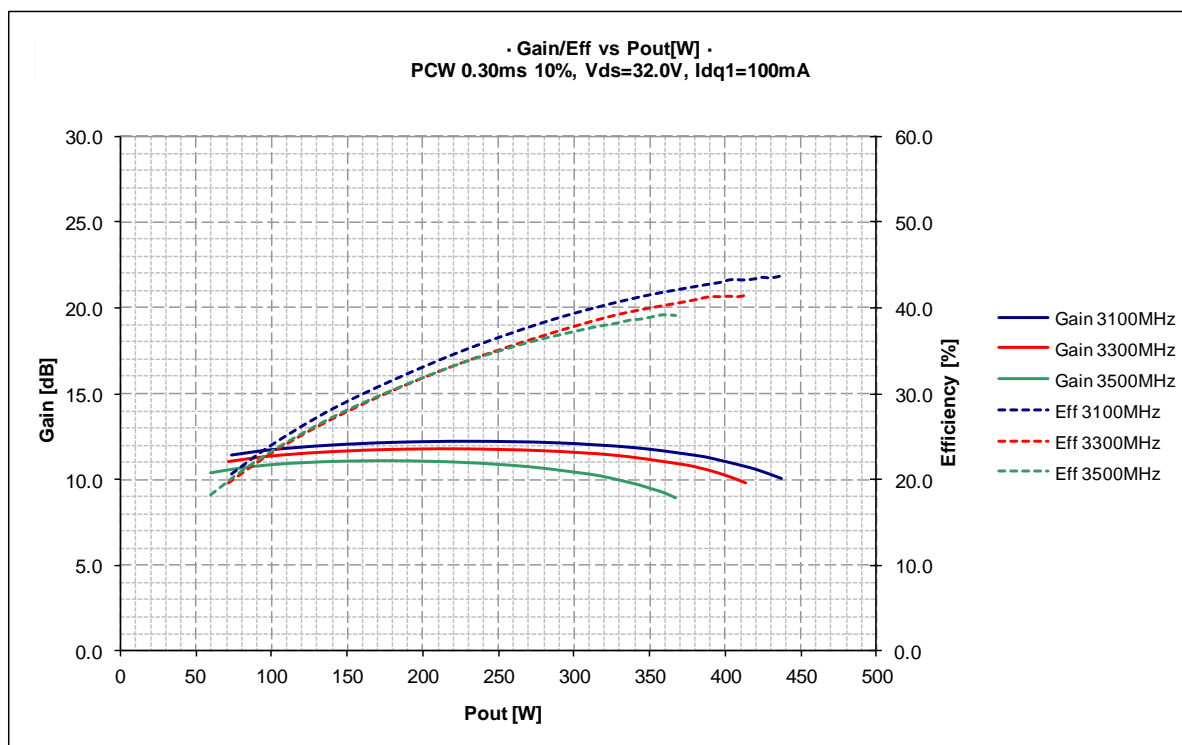
## 2. Measurement Results

### 2.1 Summary

Freq [MHz]	MaxGain [dB]	MaxEff [%]	P1dB [dBm]*	P1dB [W]*	Eff@P1dB [%]*	Gain [dB]@350W	Compr [dB]@350W	Eff [%]@350W
3100.0	12.2		43.8	55.9	42.8	11.7	-0.49	41.5
3300.0	11.8		41.5	55.7	40.8	11.1	-0.66	39.9
3500.0	11.1		39.1	55.1	38.0	9.5	-1.57	38.8

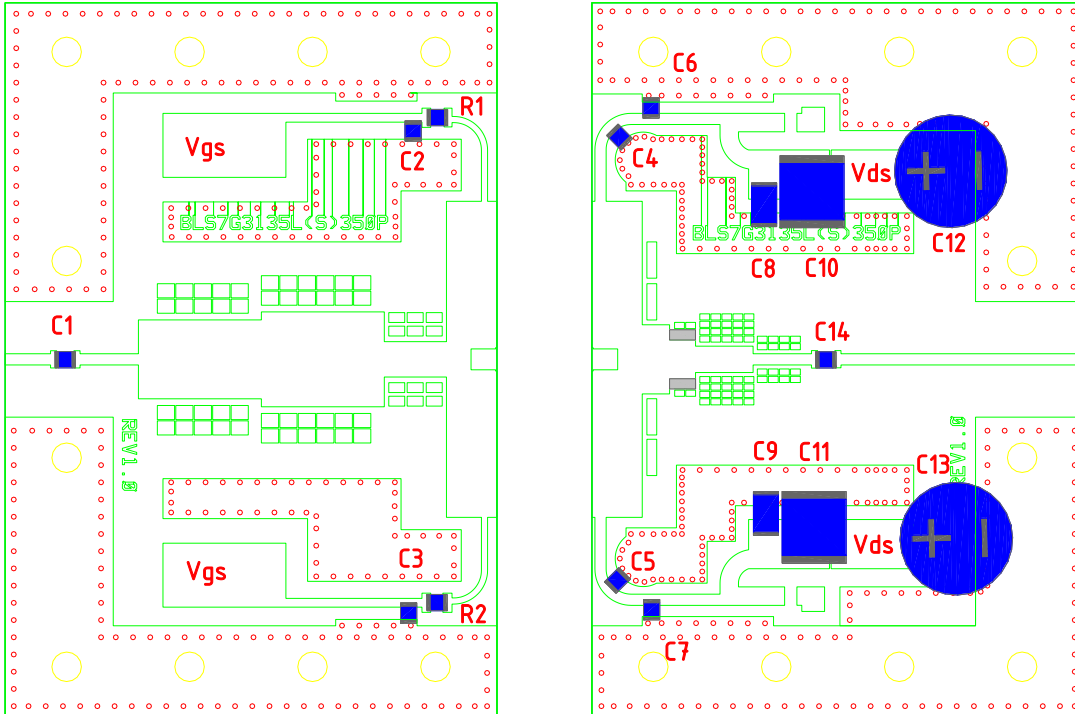
### 2.2 Pulsed CW – Power Sweep

#### 2.2.1 Gain & Efficiency @ Frequency=3100-3500MHz, Idq=100mA



### 3. PCB Layout

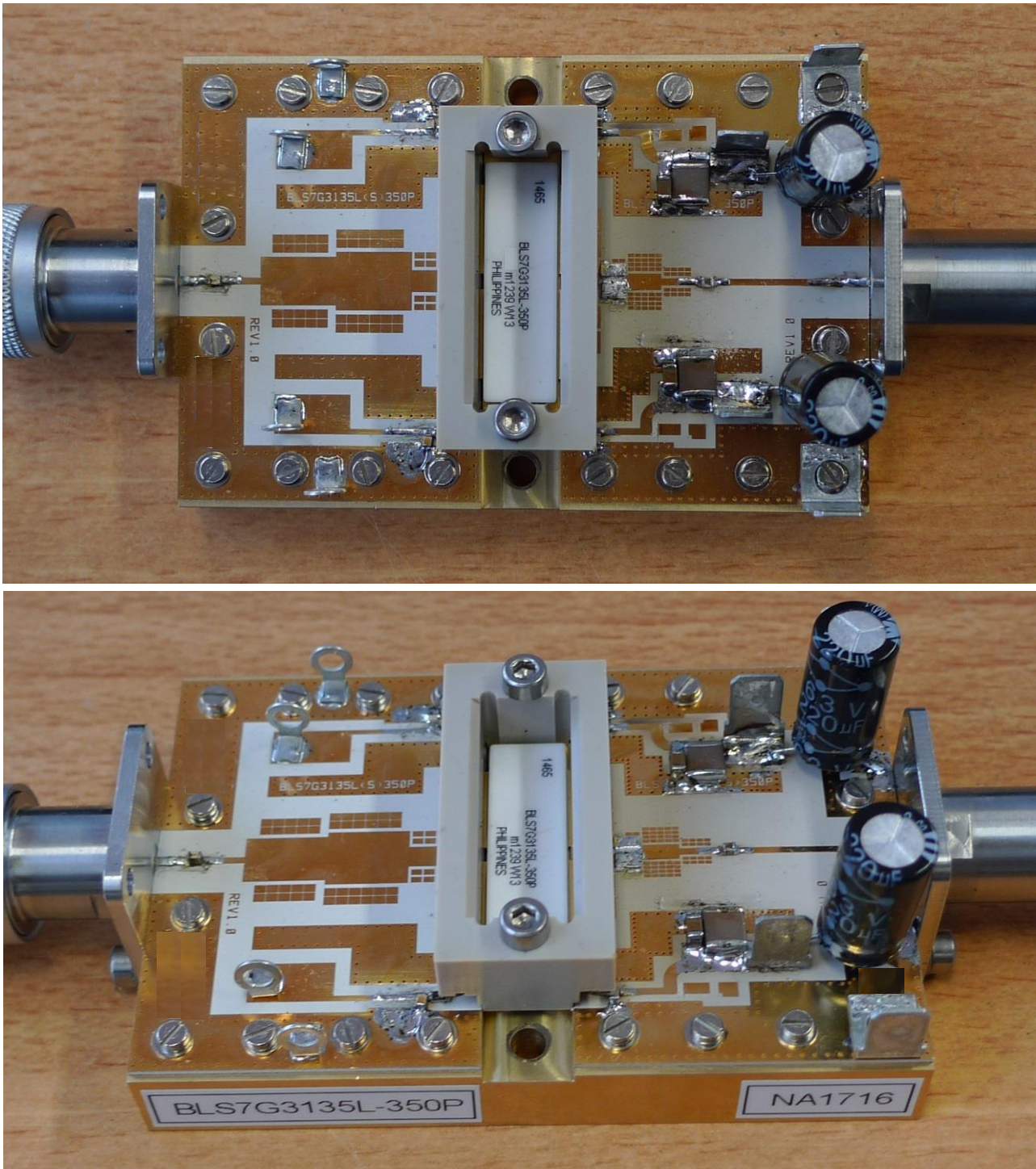
#### 3.1 PCB Layout Drawing



#### 3.2 Component list

Partslist BLS7G3135L-350P 2x 40x58mm application circuit			
Input / Output			
no.	value	type	comment
C1,C2,C3	8.2pF	ATC100A	soldered on the side
C4,C5	12pF	ATC800A	soldered on the side
C6,C7	100pF	ATC800A	soldered on the side
C8,C9	1uF/50V	TDK	soldered on the side
C10,C11	10uF/50V	TDK	
C12,C13	220uF / 63V	Electrolytic Capacitor	
C14	15F	ATC800A	
R1,R2	10Ω		
PCB	Rogers 3006	h=0.64mm, Cu=35um Input 40mmx60mm	Er=6.15 Output 40mmx58mm

3.3 Photos Demo Board



4. Attachments

Please see the attachment for the support files.

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