

NA-1690

BLS7G2729L-350P at 2700-2900 MHz

AMPLEON

Rev. 3 — 05 October 2015

Application Measurement
Report

Document information

Info	Content
Keywords	NA-1690
Abstract	Measurement results of a demo board for 2700-2900 MHz with 1x BLS7G2729L-350P.

Revision history

Rev	Date	Description
1	20130114	
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

1.1 General Description

This document contains measurement results of a 2700-2900 MHz demo amplifier (Board NA-1690) with 1x BLS7G2729L-350P.

1.1.1 Test object details

Transistor type: BLS7G2729L-350P (Bold down)

Production code:

Package: SOT539

Board: BLS7G2729L-350P R2 -Output
BLS7G2729L-350P R2 -Input

Demo number: NA-1690

1.2 Used Test signals

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

1.3 Testcircuit

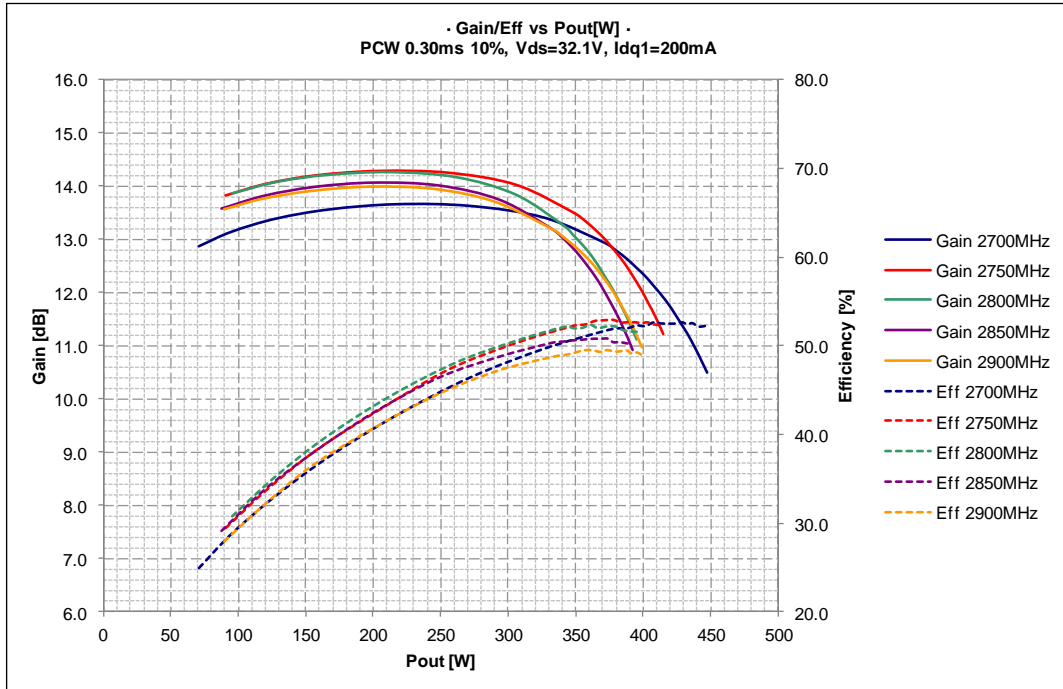
A description of this circuit can be found in **chapter 3**. The test circuit has been designed on Rogers 3006, $h=0.635\text{mm}$, $\epsilon_r=6.15$, $2\times 35\mu\text{m}$. Supply voltage (drain-source) is typical 32V. Increase V_{gs} until the total I_{dq} will be 200mA.

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

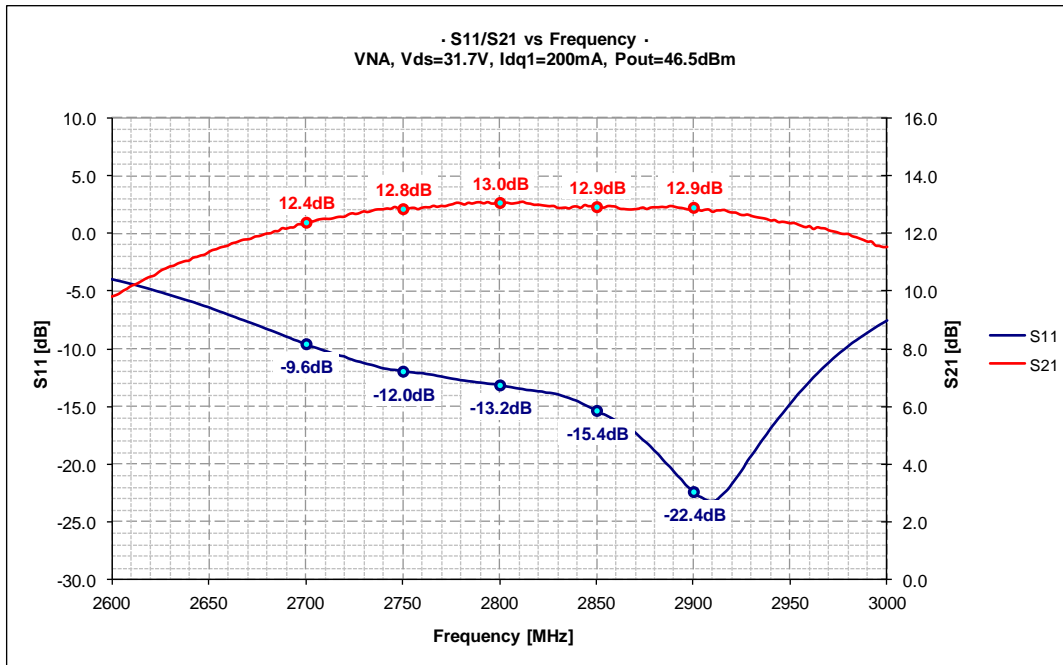
2.1 Pulsed CW – Power Sweep

2.1.1 Gain & Efficiency @ Frequency=2700-2900MHz



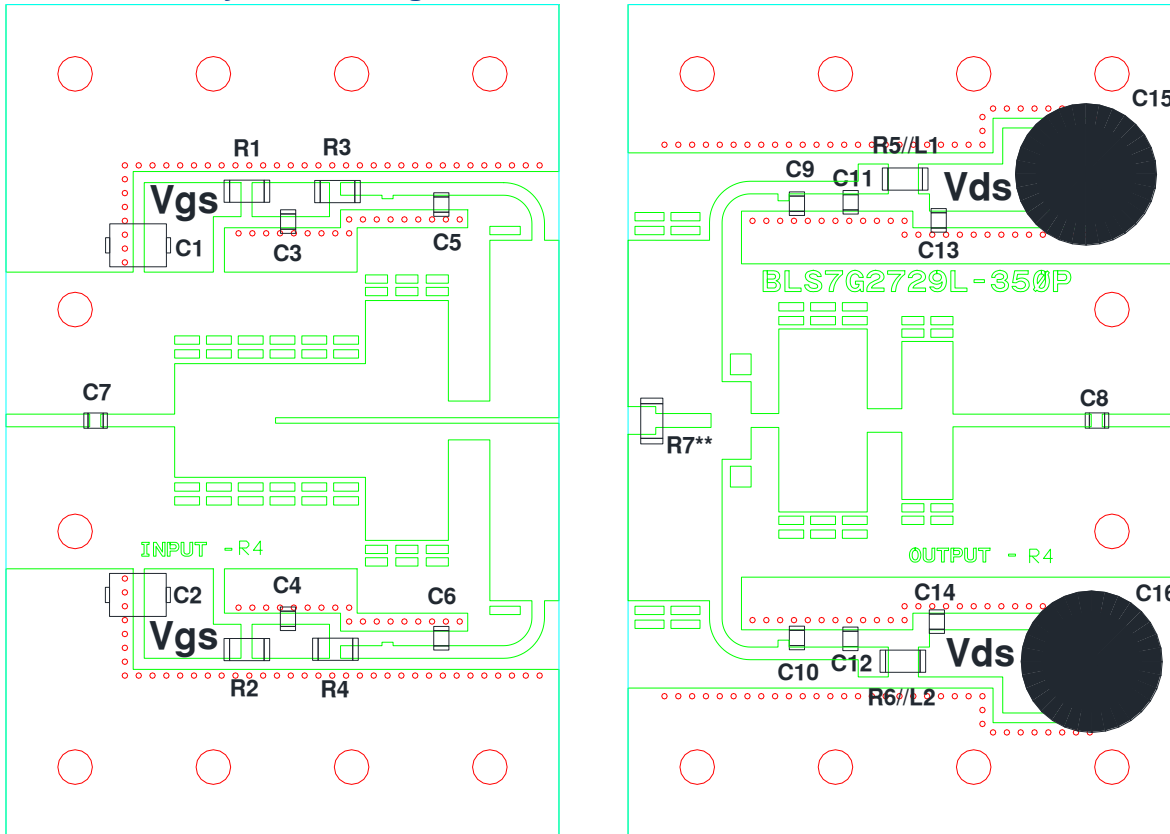
2.2 NWA-sweep

2.2.1 Gain and IRL @ Pout=46.5dBm



3. PCB Layout

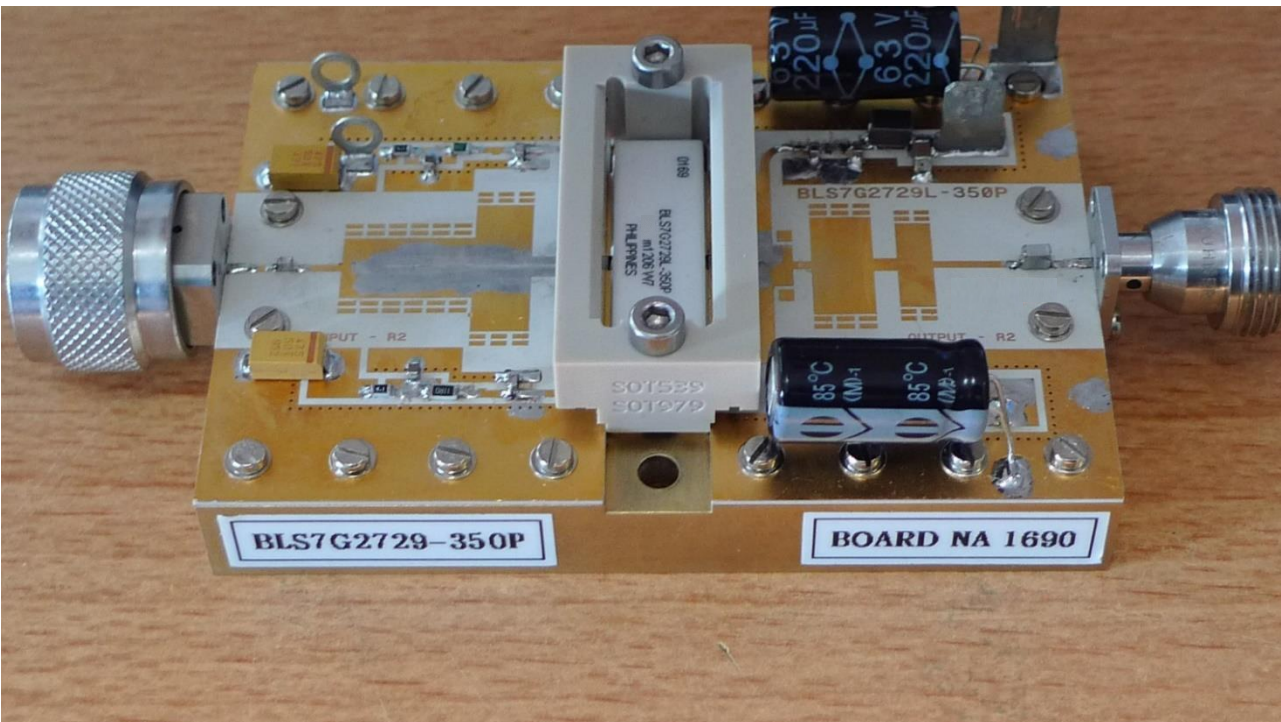
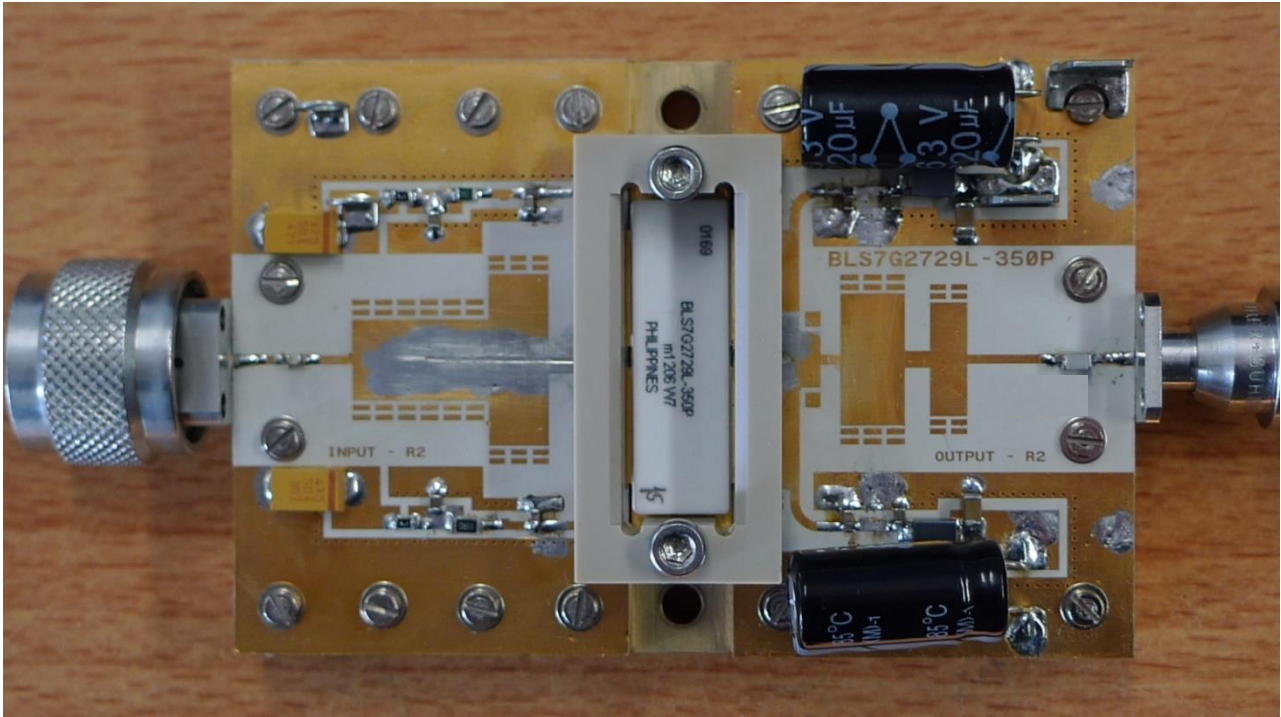
3.1 PCB Layout Drawing



3.2 Component list

Partslist BLS7G2729L-350P 2x 40x60mm application circuit			
Input / Output			
no.	value	type	comment
C1,C2	4,7uF	Tantalum Tekelec	
C3,C4,C11,C12	1nF	ATC700A	soldered on the side
C5,C6	12pF	ATC800A	soldered on the side
C7	20pF	ATC800A	soldered on the side
C8	30pF	ATC800B	soldered on the side
C9,C10	12pF	ATC800A	soldered on the side
C13,C14	1nF	ATC700A	soldered on the side
C15,C16	220uF / 63V	Electrolytic Capacitor	
R1,R2	9.1Ω	SMD 0805	
R3,R4	8.2Ω	SMD 0805	
R7*	5.1Ω	SMD 1206	* Soldered on the leads of the device
R5//L1	5.7Ω//Ferrite SM bead, 2773021447, Fair-Rite		
R6//L2	5.7Ω//Ferrite SM bead, 2773021447, Fair-Rite		
PCB	Rogers 3006	h=0.64mm, Cu=35um	Er=6.15
		Input 40mmx60mm	Output 40mmx60mm

3.3 Photo's Demo Board



4. Attachments

Please see the attachment for the support files.

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