

NA-1473

BLF571 at 470-860 MHz

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AMPLEON

Application Measurement
Report

Document information

Info	Content
Keywords	NA-1473
Abstract	Measurement results of a demo board for 470-860 MHz with 1x BLF571.

Revision history

Rev	Date	Description
1	20120228	
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 470-860 MHz demo amplifier (Board NA-1473) with 1x BLF571.

1.1.1 Test object details

Transistor type: BLF571 (bolded down)
Production code: 8228 – m1122 Philippines
Package: SOT467C
Board: BLF871 -Output (used for demo BLF571UHF)
BLF871 -Input (used for demo BLF571UHF)
Demo number: NA-1473

1.2 Used Test signals

DVB-T: DVB-T signal wit IMD3 @ 4.3MHz from fc

1.3 Testcircuit

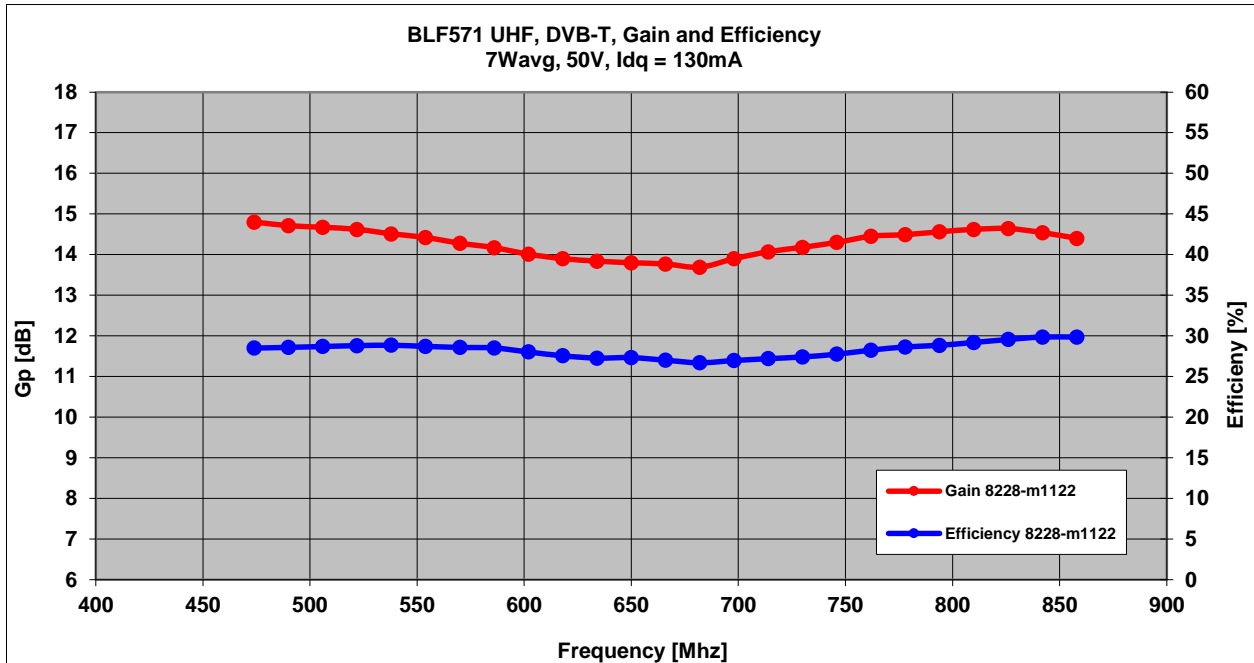
A description of this circuit can be found in **chapter 3**. The test circuit has been designed on Rogers 5880, $h=0.79\text{mm}$, $\epsilon_r=2.2$. Supply voltage (drain-source) is typical 50V. Start with $V_{gs}=1\text{V}$ and increase until $I_{dq}=130\text{mA}$.

Please note that the pcb's we used are the same as for the BLF871 demo.

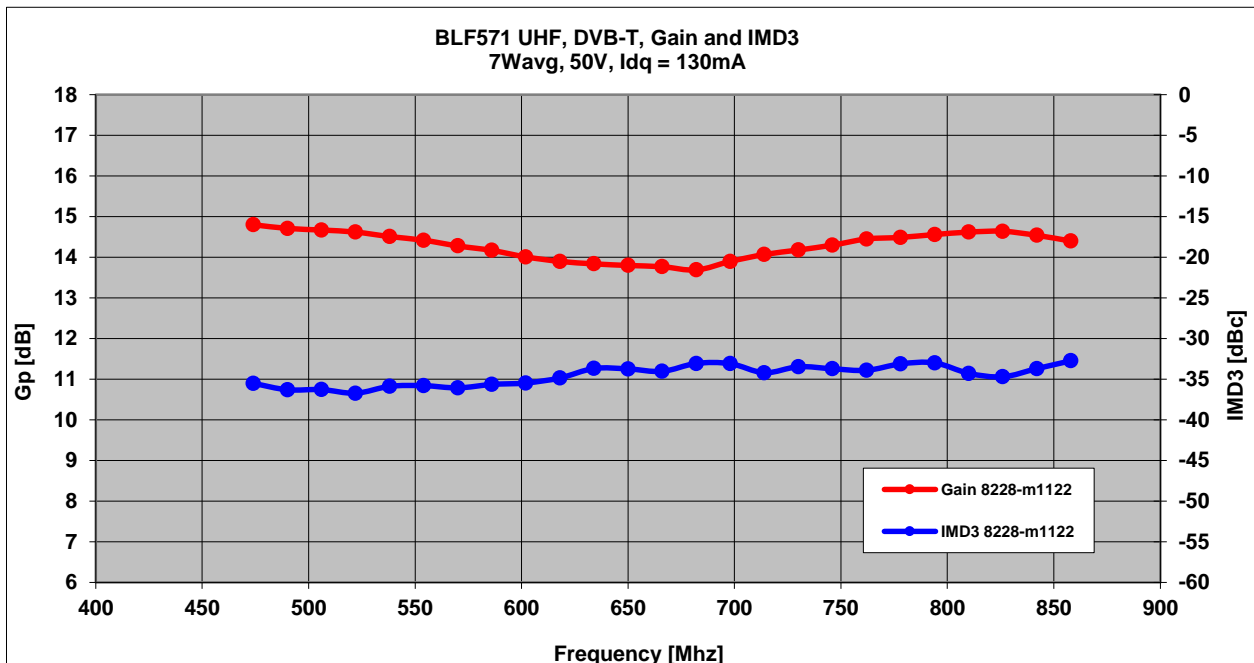
2. Measurement Results

2.1 DVB-T-Frequency Sweeps @ Vds=50V

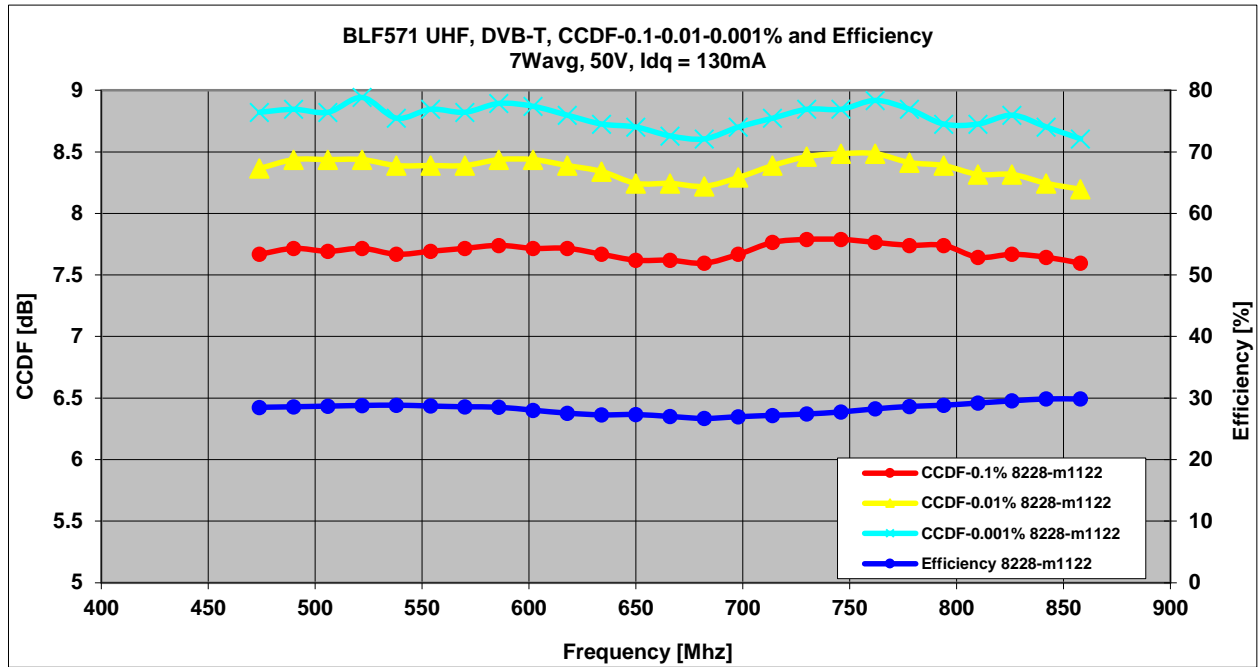
2.1.1 Gain & Efficiency @ Vds=50V



2.1.2 Gain & ACLR @ Vds=50V

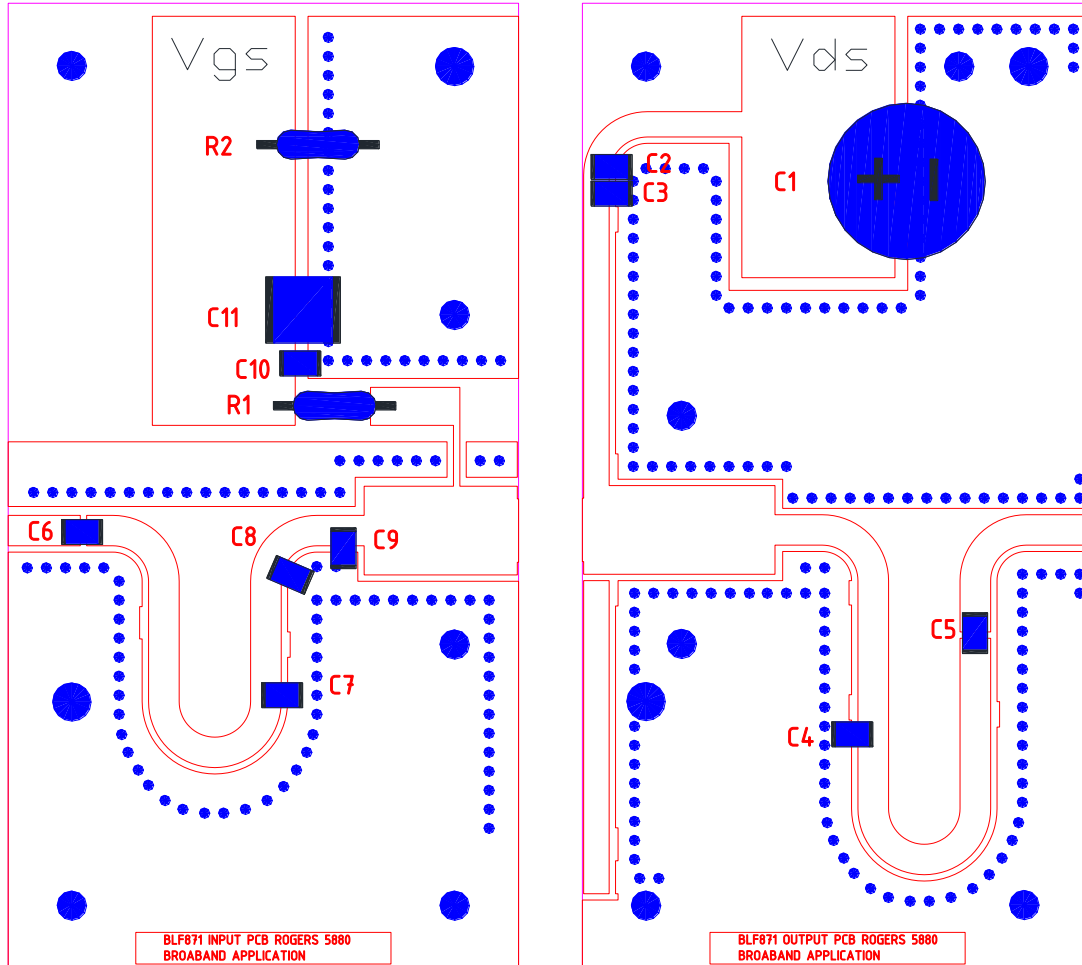


2.1.3 Efficiency & CCDF @ Vds=50V



3. PCB Layout

3.1 PCB Layout Drawing

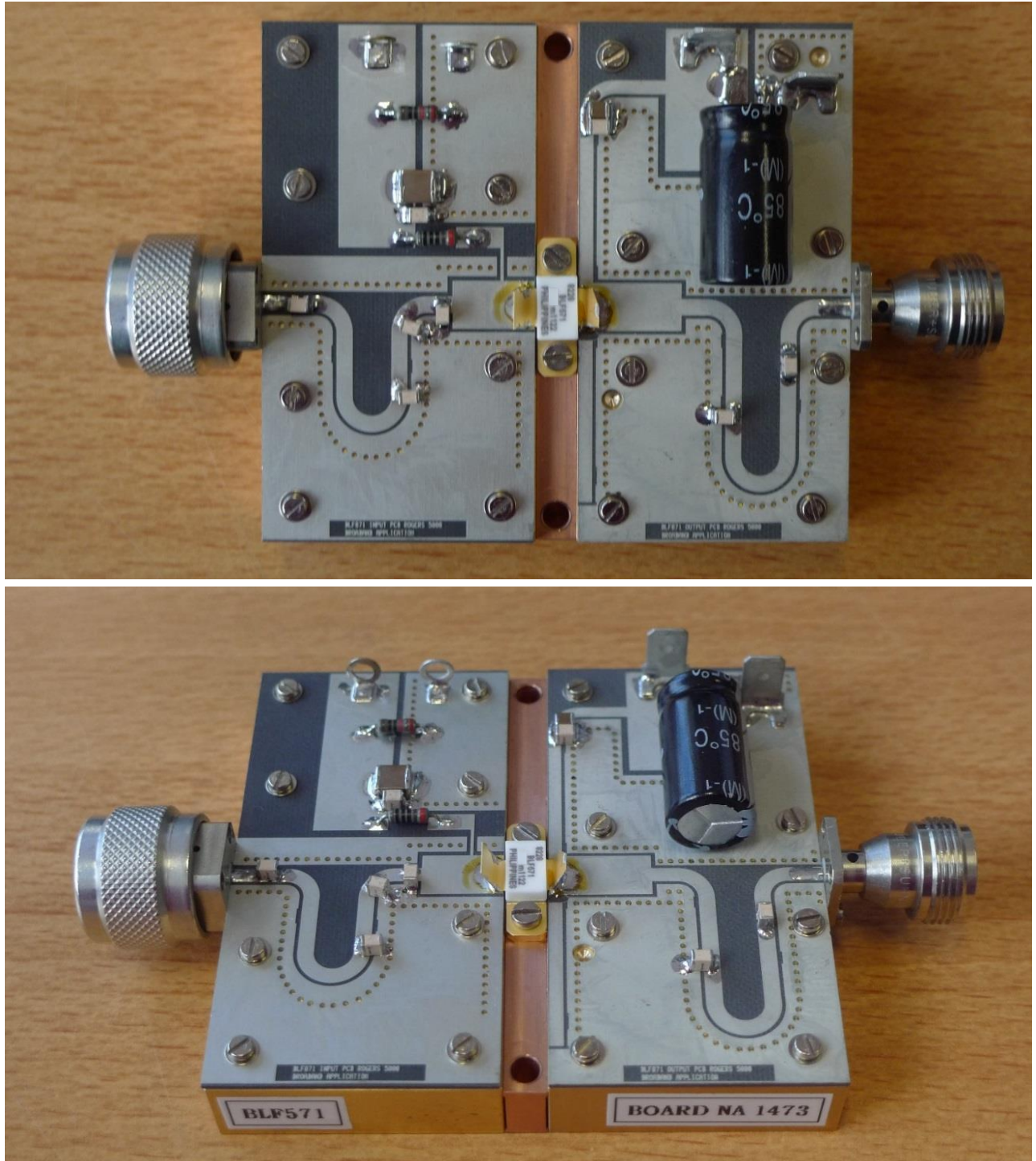


3.2 Component list

Table 3: List of components BLF571 325MHz

Component	Description	Component	Description
C1,C4,C5	Cap 1uF Murata GRM31MR71H105KA88L	Q1	Regulator JRC 78L08
C2,C3	Cap 100nF Murata GRM21BR71H104KA01L	Q2	Transistor NXP PMBT2222
C6,C8,C11,C12	Cap RF 1nF ATC100B		
C7	Cap RF 11pF ATC100B	R1	Res, 0805 2kΩ, 1%
C9	Cap RF 4.7uF TDK	R2	Pot 200Ω Bourns 3214W
C10	Cap RF 7.5pF ATC100B	R3	Res, 0805 75Ω, 1%
C13	Cap 10uF/50V Murata GRM32ER71H106KA12L	R4,R5	Res, 0805 430Ω, 1%
C14	Cap Elco 470 uF / 63V	R6,R9	Res, 0805 1,1kΩ, 1%
L1	Ferrobead small	R8	Res, 0805 11kΩ, 1%
L2	N=2 turns, D=4.6mm, L=3.9mm, CU -wire 0.7mm	R10	Res, 0805 5,1Ω, 1%
L3	N=1 turns, D=4.2mm, L=4.2mm, CU -wire 0.7mm	R11,R17	Res, 0805 9,1Ω, 1%
L4	Ferrobead big	R12	Res, 2x4kΩ//, 0.6W
S1,S2	Metal Strip	R13	Res, 0805 5,1kΩ, 1%
		R14	Res, 0805 910Ω, 1%
		R15	Res, 1kΩ, 0.6W
		R16	Res, 0805 10Ω, 1%

3.3 Photo's Demo Board



4. Attachments

Please see the attachment for the support files.

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