

Test Report IMEH0033-4 ClassAB 30-3000MHz

Oct 27th, 2022

Introduction

This amplifier is designed with Innegration 28V IMEH0033-4 Rev1 LDMOS

Demo and Transistor

Frequency band : 30-3500 MHz
 Application : Telecom
 Configuration : Class AB
 Test Signal : CW
 Transistor : IMEH0033-4 Rev1
 Date code :
 PCB : **20 Mil** Rogers 4350B

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- P1dB and P3dB Peak power measurement using the CW Signal.
- RF Test Bench **3**

Note: The PA is tested with a supply voltage of $V_{DS}= 12V$, $I_{DQ}=45$ mA $V_{gs} =2.8V$. all measurements unless otherwise noted.

Test Results:

1. CW Test

1.1 Table

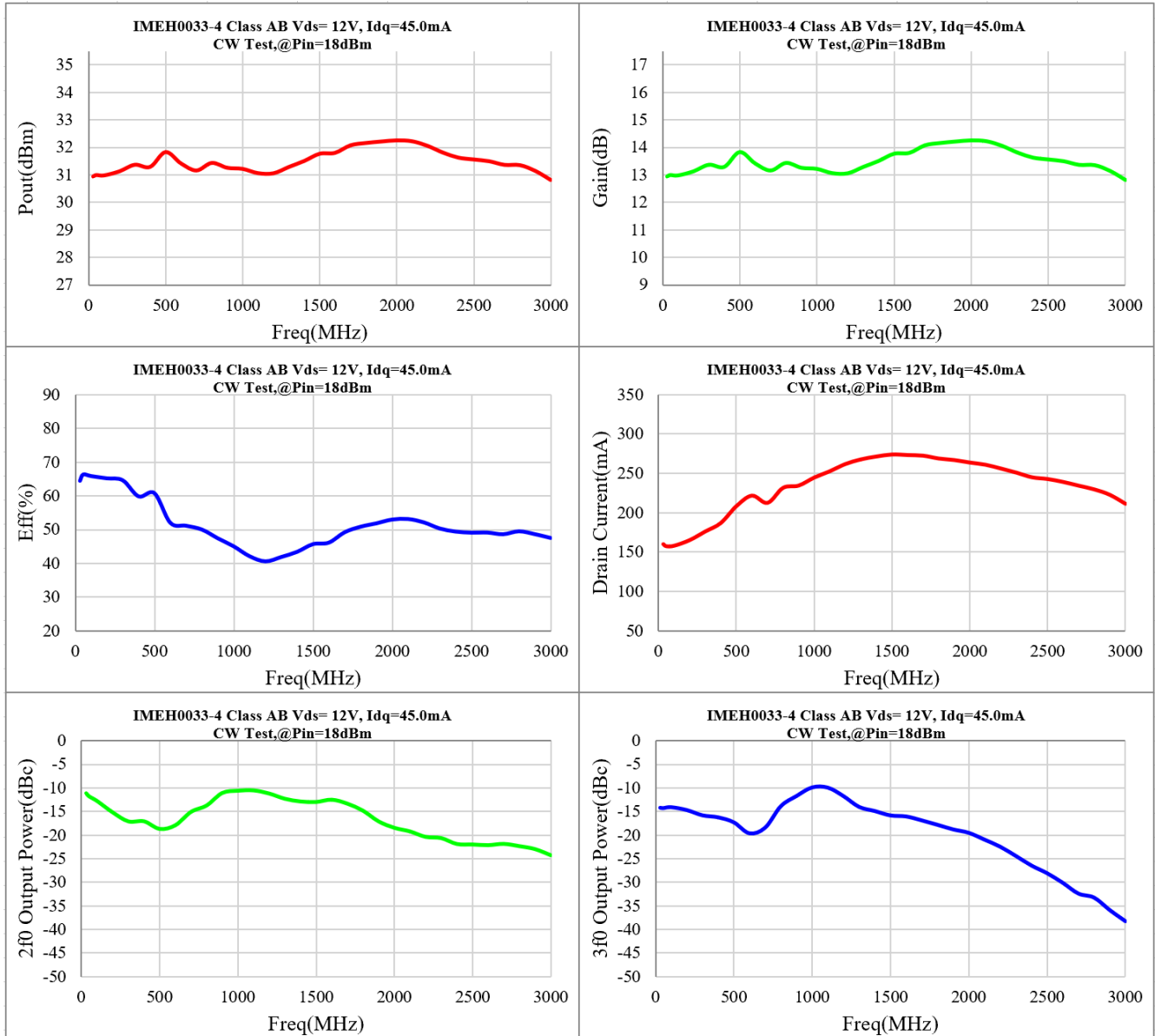
**$V_{DS}= 12V$, $I_{DQ}=45$ mA
 $V_{gs} =2.80V$**

Parameter	30MHz	500MHz	1.0GHz	1.5GHz	2.0GHz	2.5GHz	3.0GHz	Units
Linear Gain	16.0	15.2	14.8	14.5	15.5	15.1	15.1	dB
Pout@Pin=18dBm	1.2	1.5	1.3	1.5	1.7	1.4	1.2	W
Gain@Pin=18dBm	12.9	13.8	13.2	13.8	14.2	13.5	12.8	dB
Eff@ Pin=18dBm	65	61	45	46	53	49	48	%

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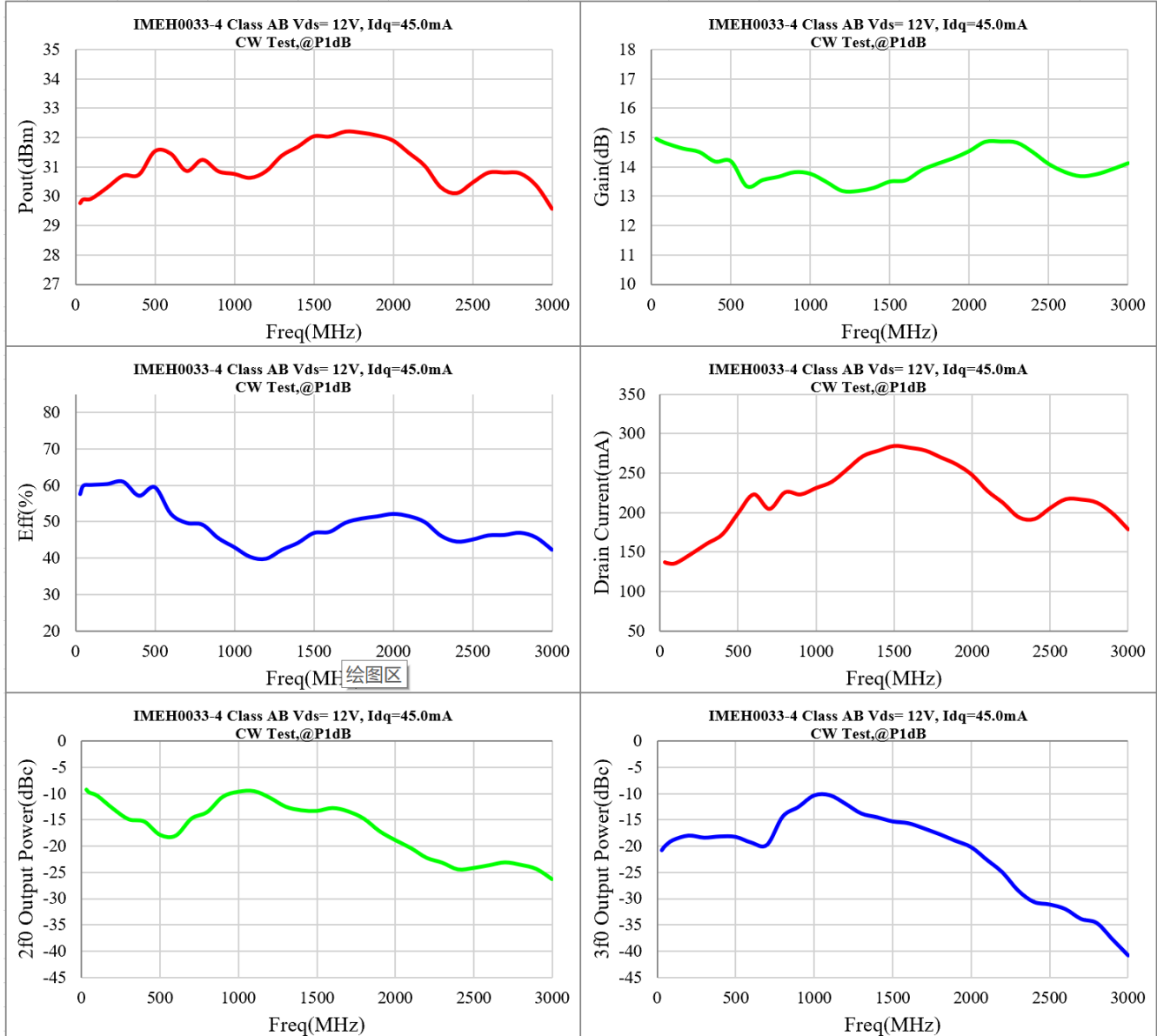
1.2 Pin=18dBm Plot



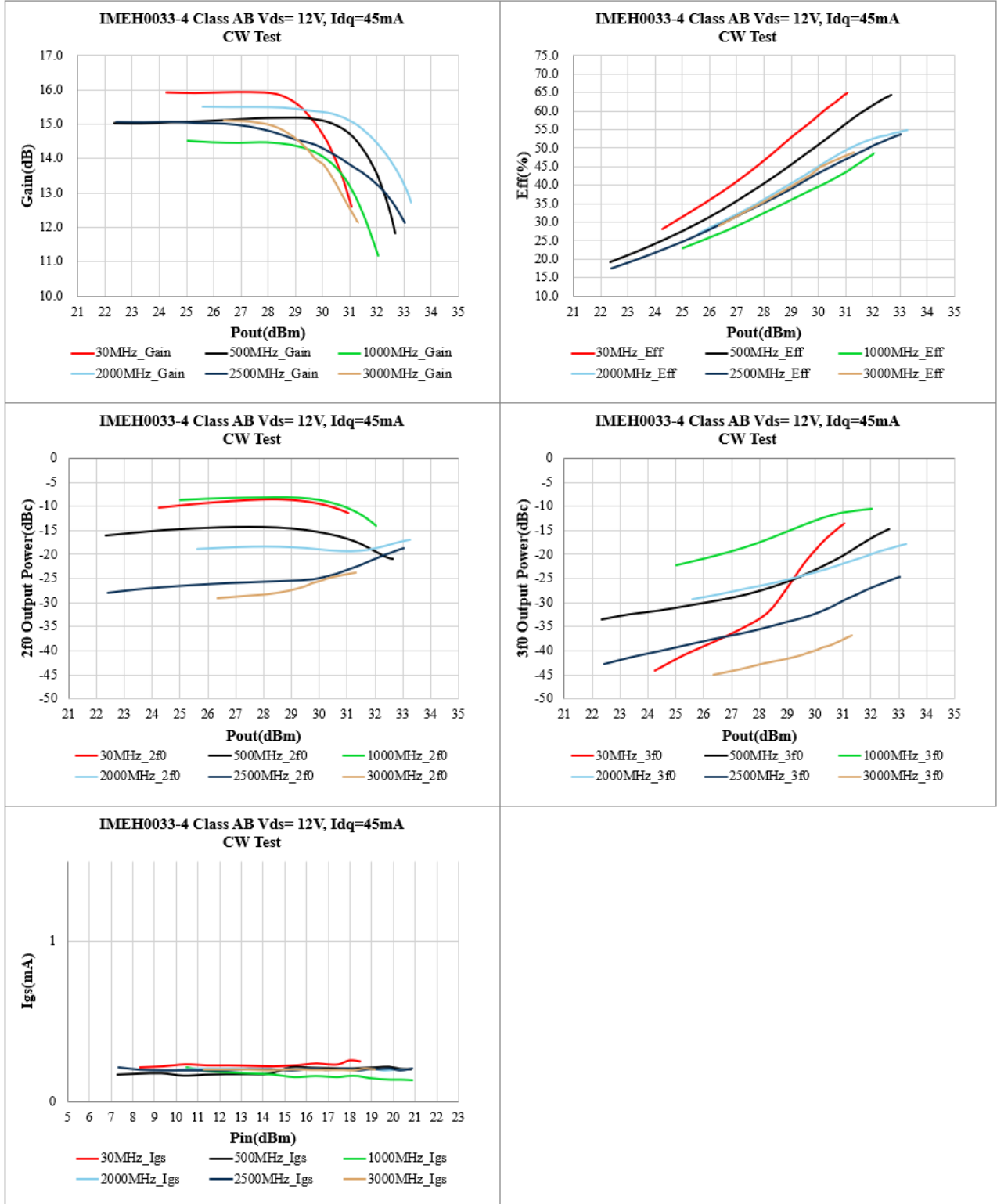
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1.3 P1dB Plot



1.4 AM-AM Plot

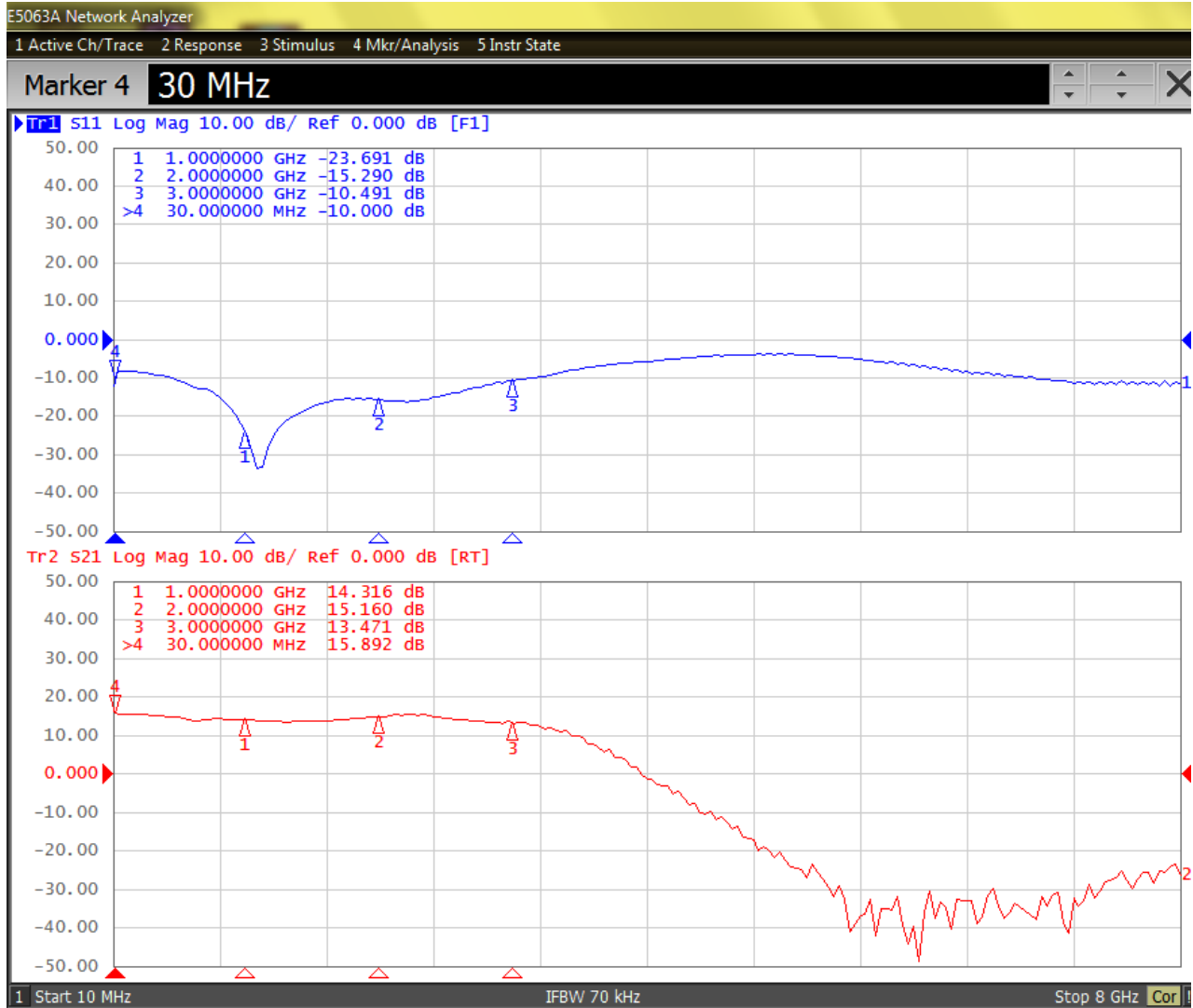


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2. S21 S11 Network Analyzer Results

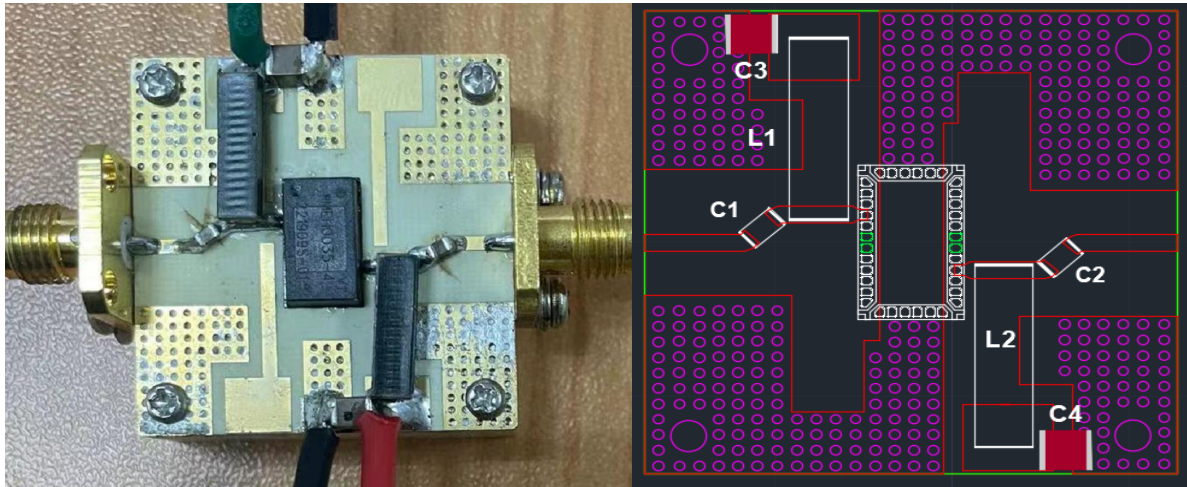
$V_{DS} = 12\text{ V}$, $I_{DQ} = 45\text{ mA}$ $V_{GS} = 2.8\text{ V}$



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3 DEMO And BOM Picture



		Part NO.	Vendor
C3,C4	10uF 100V chip Capacitor	C5750X7S2A106M230KB	TDK
C1,C2	50V 1uF Chip Capacitor	GRM21BR71H105KA12L	muRata
L1,L2	1.3 uH 4.2A Inductor	4310LC-132KEC	Coilcraft
PCB	RO4350B,20mil,er=3.48		