

High Frequency Ceramic Solutions

Preliminary

Impedance-Matched Highly Integrated Ceramic Passive Component for Atheros Qualcomm AR6004 Chipset

P/N 2450PC14A0017

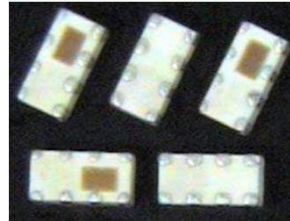
Detail Specification: 08/07/12

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General Specifications

Part Number	2450PC14A0017	
Frequency	2400 ~ 2500	5150 ~ 5850
Insertion Loss	3.8 dB max.	2.6 dB max.
Unbalanced Impedance	50 Ω	50 Ω
Balanced Impedance	Conjugate match to AR6004 _Rx BGA	
Phase Diff. (degree)	180 \pm 15	-135 \pm 20 @ 5.15GHz 165 \pm 20 @ 5.85GHz
Amp. Diff.	-1.5 +/- 2.0	0+/-2 @ 5.15GHz -4.0+/-2 @ 5.85GHz

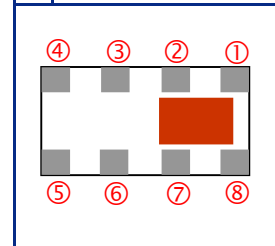
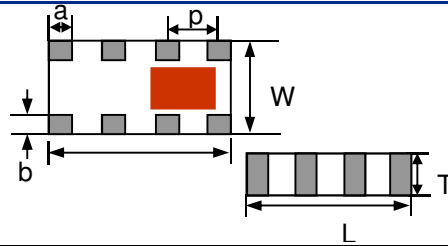
Reel Quantity	4,000
Operating Temperature	-40 to +85°C
Recommended Storage Conditions	+5 ~ +35°C, Humidity: 45~75%RH, 18 mos. Max
Power Capacity	2W max.



Terminal Configuration	
No.	Function
1	GND
2	Rx5
3	GND
4	Rx2
5	Rx2_a
6	Rx2_b
7	Rx5_a
8	Rx5_b

Mechanical Dimensions

	In	mm
L	0.063 \pm 0.004	1.60 \pm 0.10
W	0.031 \pm 0.004	0.80 \pm 0.10
T	0.039 max.	0.7 max.
a	0.008 +.004/-0.006	0.20 +0.1/-0.05
b	0.006 +.004/-0.006	0.15 +0.1/-0.05
p	0.020 \pm 0.004	0.50 \pm 0.10



Mounting Considerations

* Line width should be designed to provide 50 ohm impedance, depending on PCB material and thickness

Units: mm

- Solder
- Land
- Through-hole (ϕ 0.2 / 0.3)

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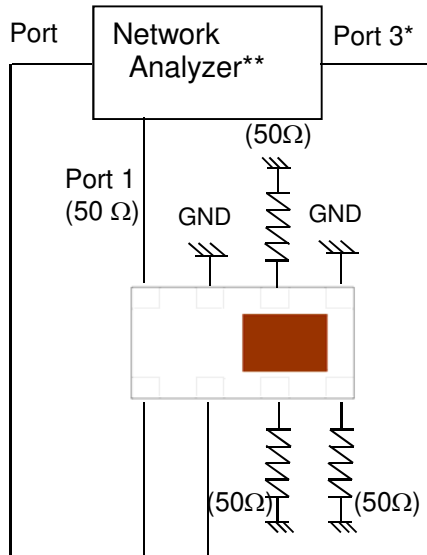
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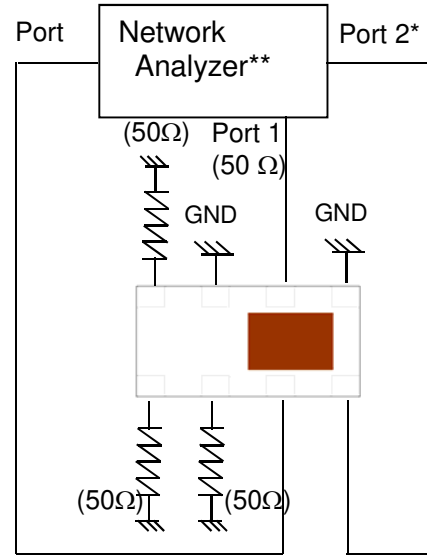
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Circuit Application

Rx2



Rx5



Port 1: Unbalanced Port
Ports 2 and 3: Balanced Port
 $IL = S_{ds21}$
 $RL = S_{ss11}$
 $Amp_balance = dB(S(2,1)/S(3,1))$
 $Phase_balance = Phase(S(2,1)/S(3,1))$

*Impedance for ports 2 and 3 = Conjugate to Balanced Impedance/2

**E5071B / C from Agilent

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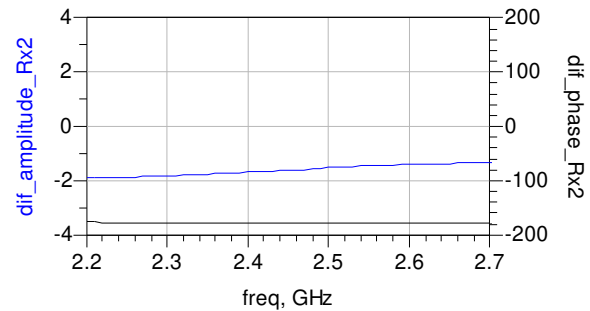
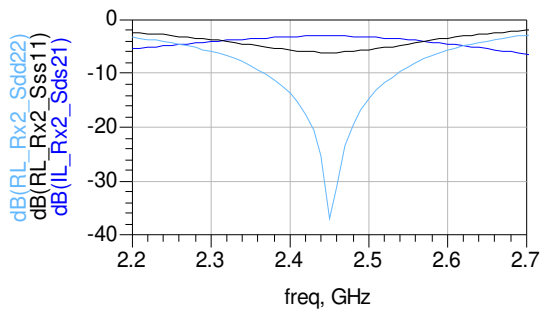
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Typical Electrical Performance (T=25°C)

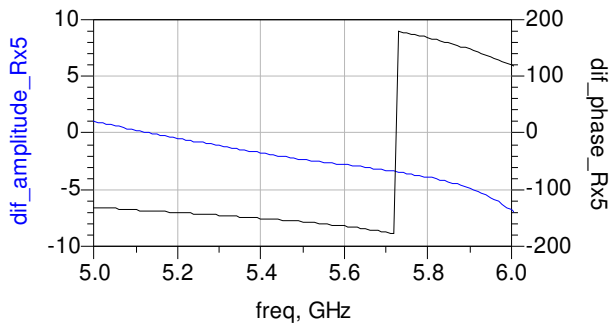
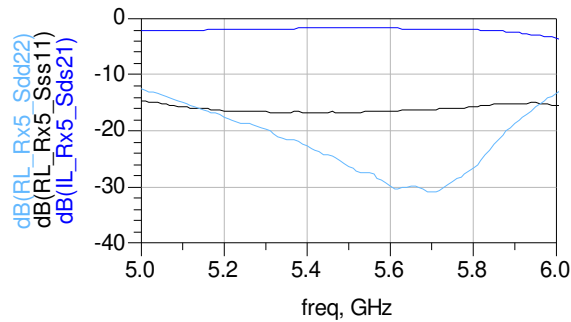
Insertion & Return Loss

Amplitude & Phase Balance

2.4GHz Band Path



5GHz Band Path



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