

# High Frequency Ceramic Solutions

**Impedance-Matched Highly Integrated Ceramic Passive Component for Texas Instruments CC112x, CC117x & CC12xx**

**P/N 0900PC15J0013**

Detail Specification: 1/15/2013

Page 1 of 5

## General Specifications

<b>Part Number</b>		0900PC15J0013	
<b>Frequency</b>		868 ~ 928MHz	
<b>Tx Mode</b>	<b>Insertion Loss</b>	2.0 dB max.	
	<b>Attenuation (min.)</b>	35.0 min. @ 2 x fo MHz	
	<b>Attenuation (min.)</b>	TX-ANT	35.0 min. @ 3 x fo MHz
	<b>Attenuation (min.)</b>		35.0 min. @ 4 x fo MHz
	<b>Attenuation (min.)</b>		35.0 min. @ 5 x fo MHz
	<b>Return Loss</b>	TX & ANT	9.5 dB min.
<b>Rx Mode</b>	<b>Frequency Range</b>	868~915 MHz	
	<b>Insertion Loss</b>	2.5 dB max.	
	<b>Return Loss</b>	TX-ANT	9.5 dB min.
	<b>Phase Diff. (deg)</b>	180±15	
	<b>Amp. Diff.</b>	2.0 dB max.	

<b>Reel Quantity</b>	4,000
<b>Operating Temperature</b>	-40 to +85°C
<b>Recommended Storage Conditions</b>	+5 ~ +35°C, Humidity: 45~75%RH, 18 mos. Max

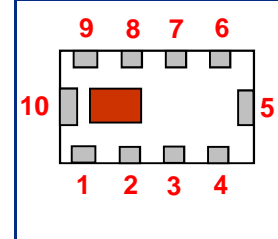


## Terminal Configuration

No.	Function
1	LNA_N
2	LNA_P
3	TRX
4	PA
5	GND
6	GND
7	ANT
8	GND
9	GND
10	GND

## Mechanical Dimensions

	In	mm
L	0.079 ± 0.008	2.00 ± 0.20
W	0.049 ± 0.008	1.25 ± 0.20
T	0.039 max.	1.0 max.
a	0.010 ± 0.004	0.25 ± 0.10
b	0.012 ± 0.006	0.30 ± 0.15
c	0.008 +.004/-0.006	0.20 +0.1/-0.15
p	0.020 ± 0.004	0.50 ± 0.10



## Mounting Considerations

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

Units: mm

Johanson Technology, Inc. reserves the right to make design changes without notice.  
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[www.johansontechnology.com](http://www.johansontechnology.com)

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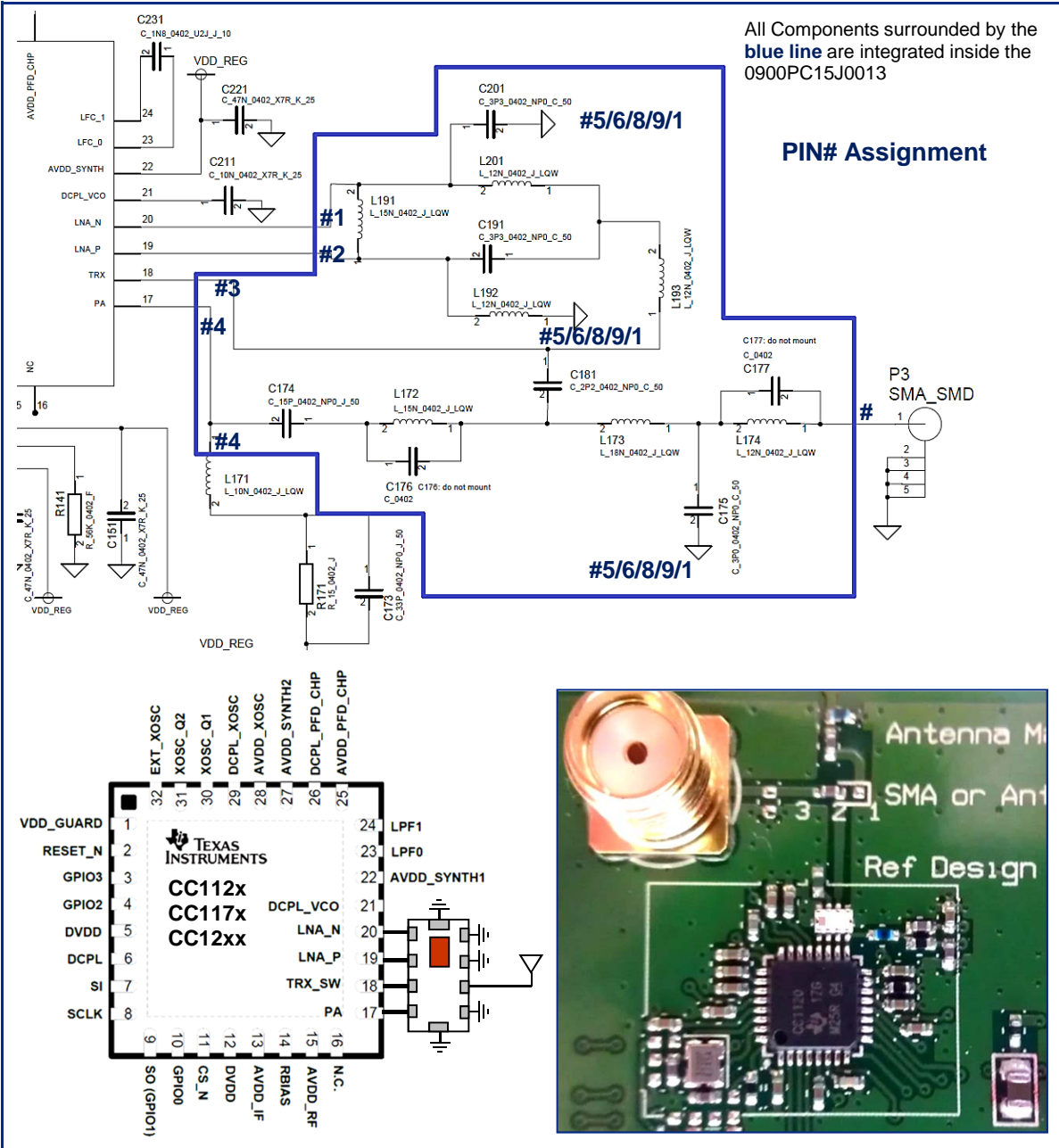
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Page 2 of 5

## Circuit Schematic and Application



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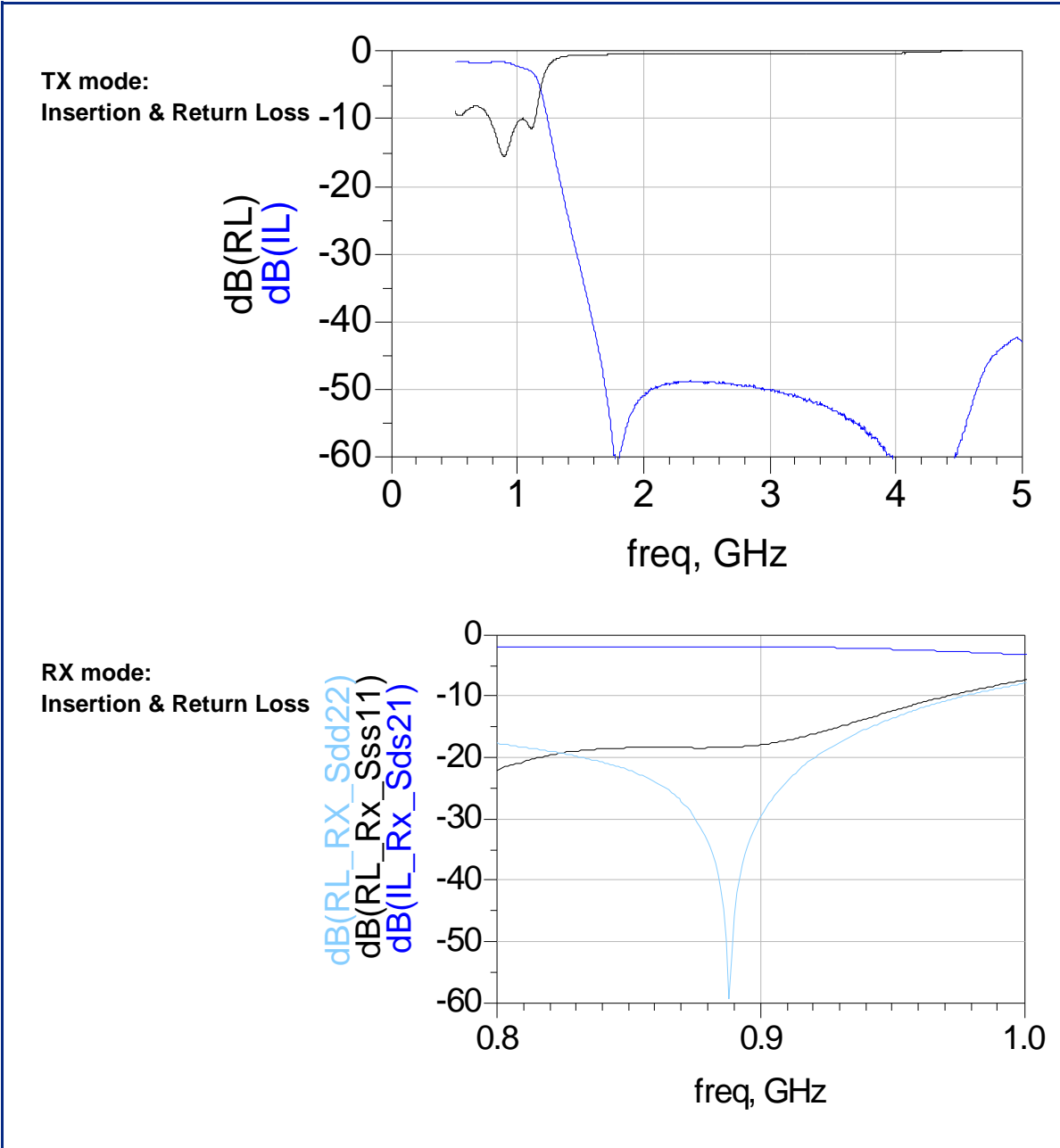
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P/N 0900PC15J0013

Detail Specification: 1/15/2013

Page 3 of 5

## Typical Electrical Performance (T=25°C)



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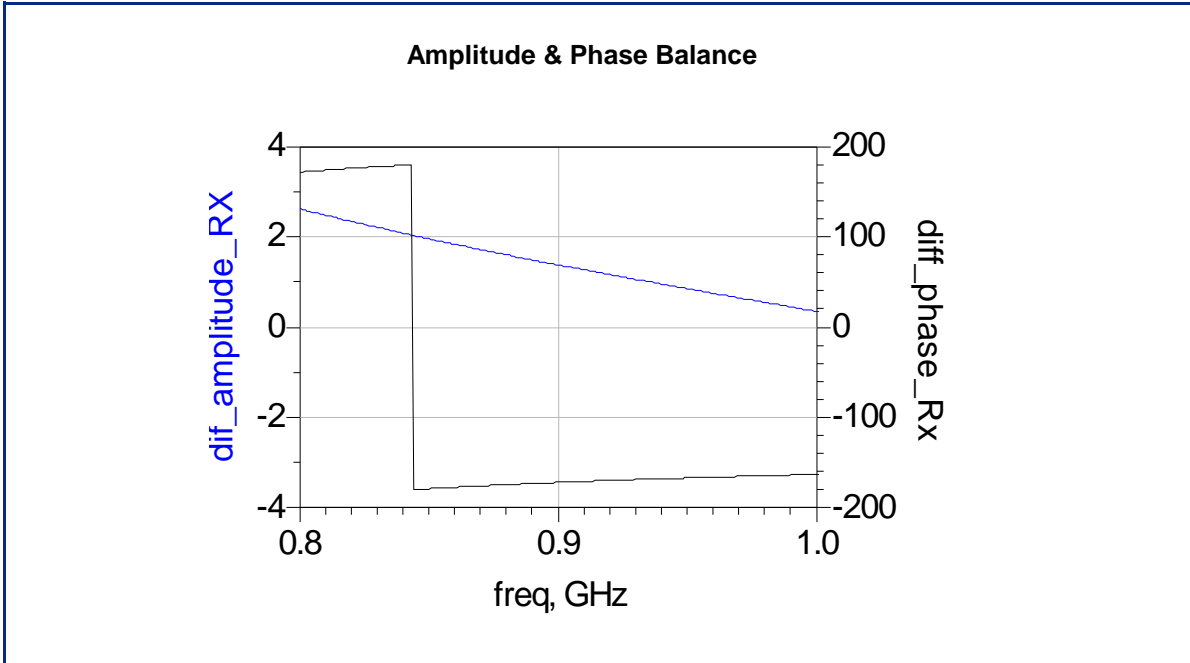
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P/N 0900PC15J0013

Detail Specification: 1/15/2013

4 of 5

## Typical Electrical Performance (T=25°C)



## P/N Ordering

<b>Packaging Style*</b>	Bulk	Suffix = S	Eg. 0900PC15J0013S
	T & R	Suffix = E	Eg. 0900PC15J0013E
	T & R (Reverse)	Suffix = R	Eg. 0900PC15J0013R
<b>Termination Style</b>	100% Tin	Suffix = None	Eg. 0900PC15J0013(E/R/S)
	Tin / Lead	Please consult Factory	

\*<http://johansontechnology.com/en/integrated-passives/integrated-passive-tape-a-reel-packaging.html>



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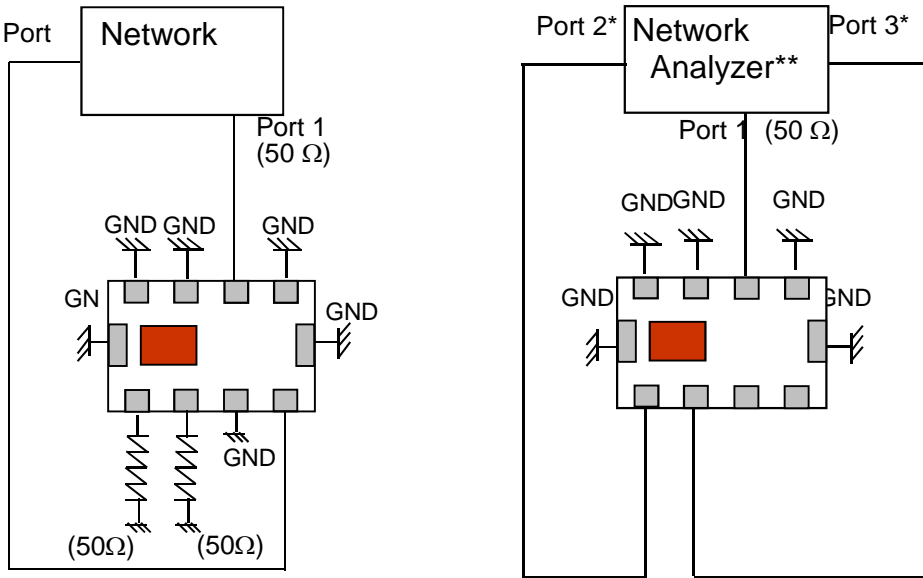
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Page 5 of 5

## Measuring Diagram



Tx :

Port1: Antenna Port  
Port1 Terminate impedance:  
50ohm  
Port2: PA Port  
Port2 Terminate impedance:  
Complex conjugate to  
impedance of TI CC112X PA  
pin  
IL = S21  
RL = S11 / S22  
\*\*E5071B / C from Agilent

RX:

Port 1: Antenna Port  
Port1 Terminate impedance: 50ohm  
Ports 2 and 3: Rx Balanced Port  
\*Port 2 and 3 Terminate impedance :  
Complex conjugate to 1/2 x (Balance  
impedance of TI CC112X LNA\_N /  
LNA\_P pins)  
IL=Sds21  
RL=Sss11 / Sdd22  
Amp\_balance = dB(S(3,1)/S(2,1))  
Phase\_balance = Phase(S(3,1)/S(2,1))

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