

High Frequency Ceramic Solutions

868/915MHz Impedance Matched, Multi-Function, Integrated Ceramic Passive Component for Texas Instruments CC112x, CC117x & CC12xx Chipsets

P/N 0900PC15J0013

Detail Specification: 9/17/2013

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General Specifications

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



RF Specifications

Tx Mode	Oper. Frequency	TX-ANT	868 ~ 928MHz
	Insertion Loss		2.0 dB max.
	Attenuation (min.)		35.0 min. @ 2 x fo MHz
	Attenuation (min.)		35.0 min. @ 3 x fo MHz
	Attenuation (min.)		35.0 min. @ 4 x fo MHz
	Attenuation (min.)		35.0 min. @ 5 x fo MHz
Return Loss	TX & ANT	9.5 dB min.	
Rx Mode	Oper. Frequency	RX-ANT	868~928 MHz
	Insertion Loss		2.5 dB max.
	Phase Diff. (deg)		180±15
	Amp. Diff.		2.0 dB max.
	Return Loss		RX & ANT

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/-.006	0.20 +0.1/-0.15
p	0.020 ± 0.004	0.50 ± 0.10

Terminal Configuration for CC12XX and CC112X

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

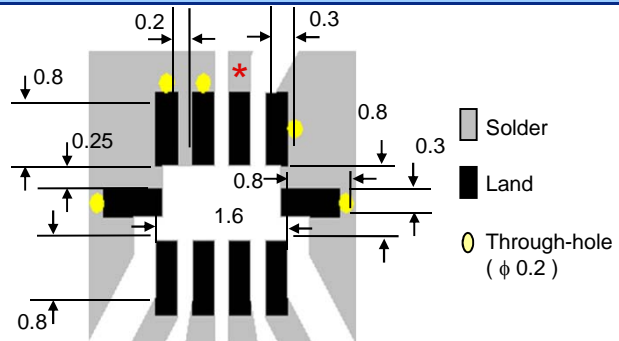
Part Number Explanation

Packing Style	Bulk	Suffix = S	Eg. 0900PC15J0013S
	T & R	Suffix = E	Eg. 0900PC15J0013E
Termination style	T & R (Reverse)	Suffix = R	Eg. 0900PC15J0013R
	100% Tin	Suffix = None	Eg. 0900PC15J0013(E/R/S)
	Tin / Lead	Please Consult Factory	

Go to page 5 for more details

Mounting Considerations

* Line width should be designed to provide 50 ohm impedance, depending on PCB material and thickness
 Gerbers links available for download on [page 20](#) of CC112x, CC117x & CC12xx Design Note DN039:
www.johansontechnology.com/images/stories/ip/hipc/swra407.pdf



Units: mm

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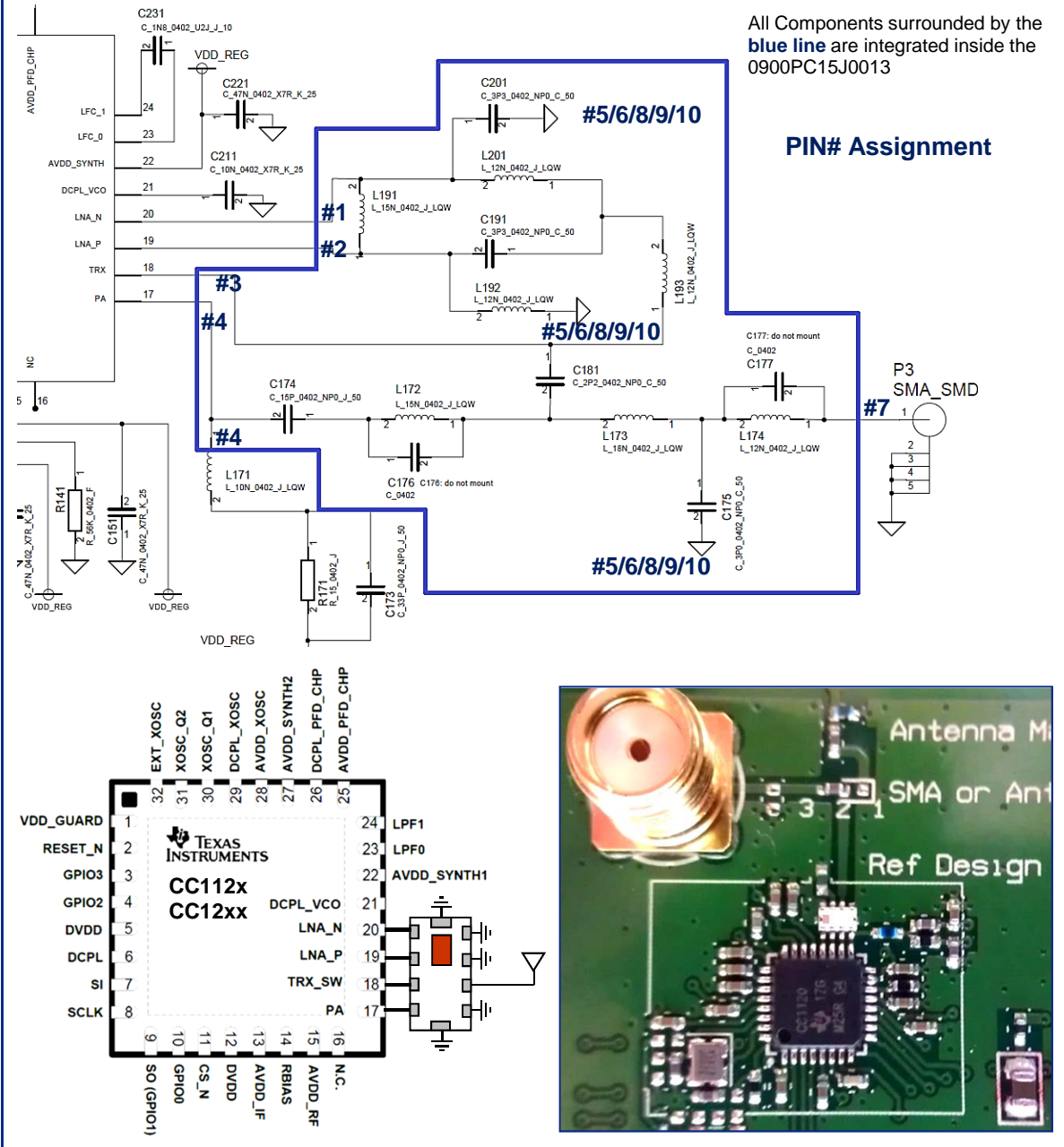
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Circuit Schematic and Application



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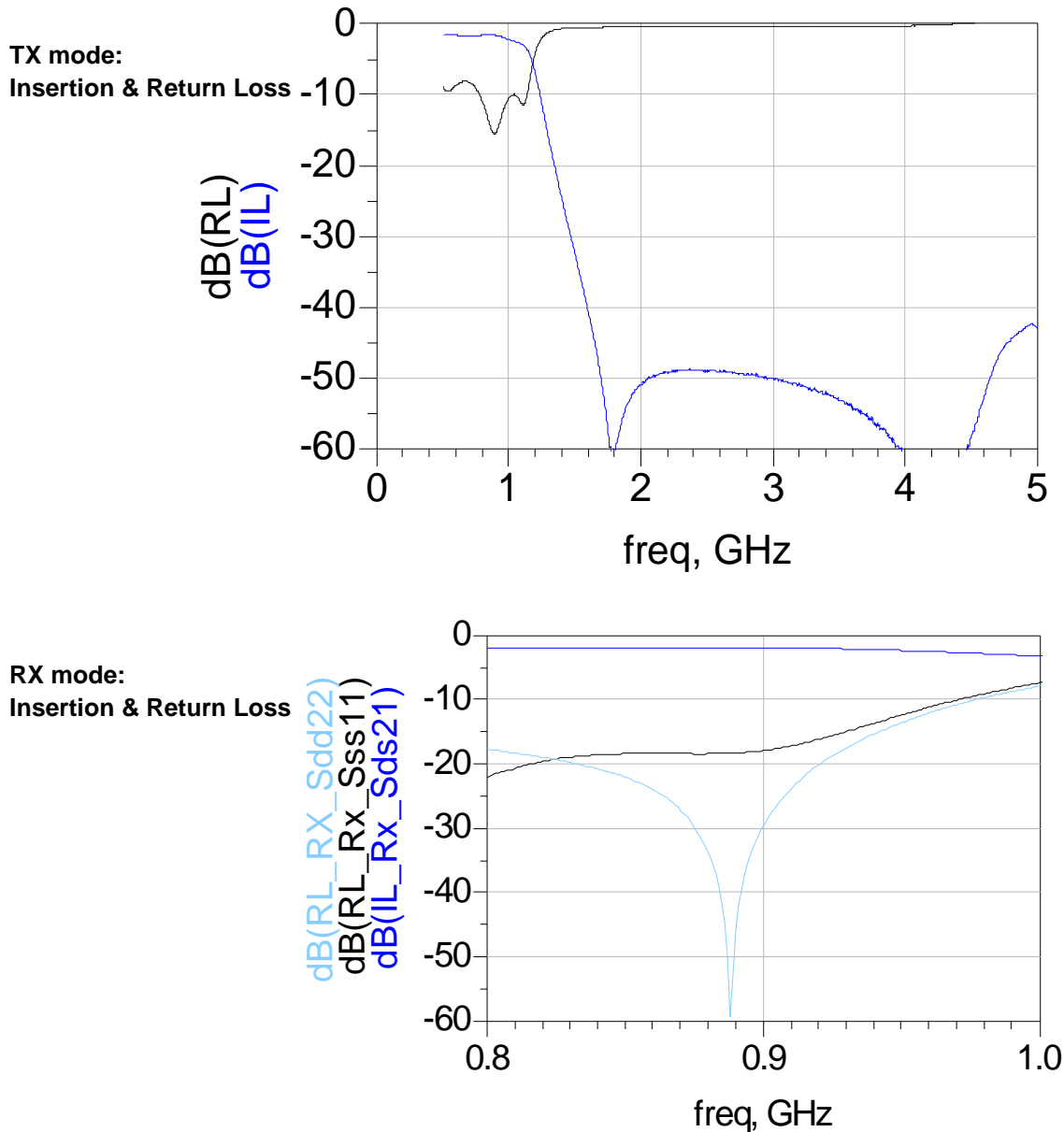
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Typical Electrical Performance (T=25°C)



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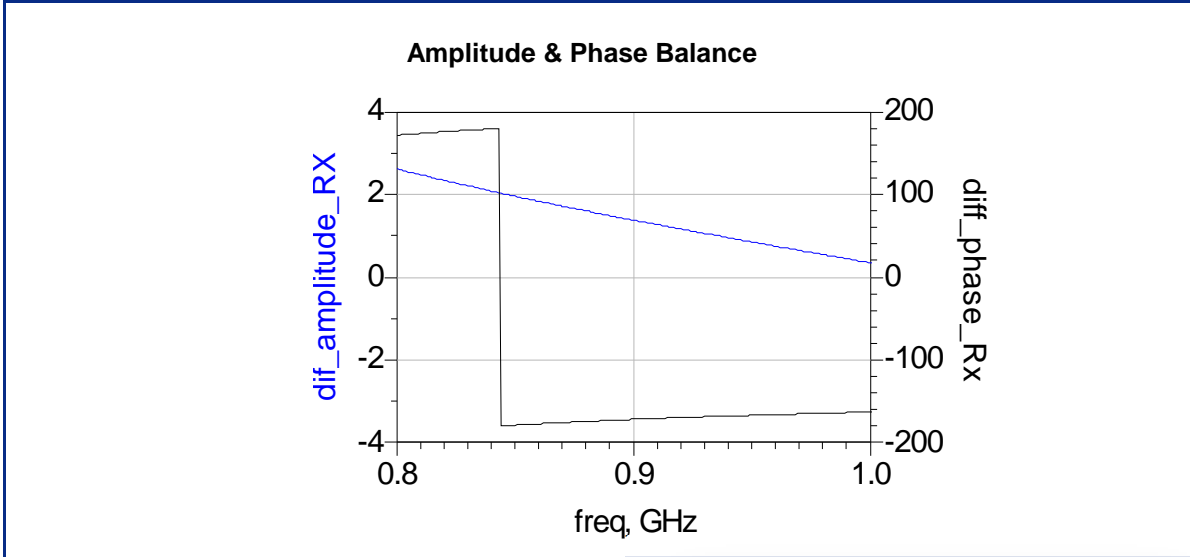
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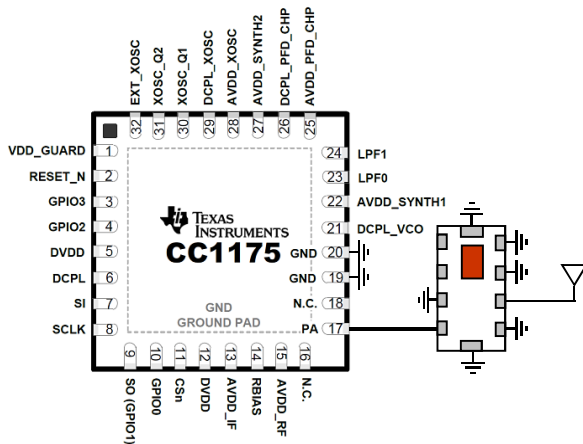
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Typical Electrical Performance (T=25°C)



Terminal Configuration for CC1175			
No.	Function		
1	NC or GND	6	GND
2	NC or GND	7	ANT
3	GND	8	GND
4	PA	9	GND
5	GND	10	GND



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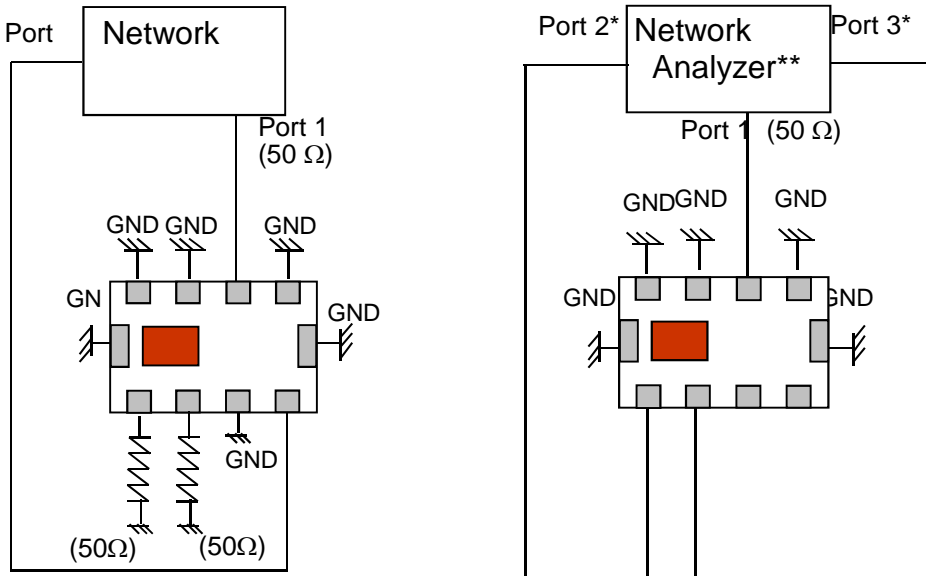
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Measuring Diagram



Tx :
 Port1: Antenna Port
 Port1 Terminate impedance: 50ohm
 Port2: PA Port
 Port2 Terminate impedance:
 Complex conjugate to impedance of TI
 CC112X PA pin
 $IL = S_{21}$
 $RL = S_{11} / S_{22}$
 **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 $1/2 \times$ (Balance impedance of TI
 CC112X LNA_N / LNA_P pins)
 $IL = S_{ds21}$
 $RL = S_{ss11} / S_{dd22}$
 $Amp_balance = dB(S(3,1)/S(2,1))$
 $Phase_balance = Phase(S(3,1)/S(2,1))$

Packaging information

www.johansontechnology.com/ipcpackaging.html

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

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