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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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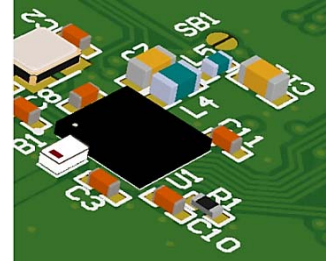
High Frequency Ceramic Solutions

2.45GHz Impedance Matched Balun + Band Pass Filter: Optimized for Nordic's Chipset nRF51822-CEAA, nRF51822-CDAB, nRF51822-CFAC, nRF51422-CEAA, nRF51422-CDAB, nRF51422-CFAC P/N 2450BM08B0003

Detail Specification: 7/29/2015

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General Specifications	
Part Number	2450BM08B0003
Frequency (MHz)	2400 - 2500
Unbalanced Impedance	50 Ω
Balanced Differential Impedance	Conjugate match to: nRF51822-CEAA, nRF51822-CDAB, nRF51822-CFAC, nRF51422-CEAA, nRF51422-CDAB, nRF51422-CFAC
Average Insertion Loss when connected to the nRF51XX chipset (Active OP)	1dB Typ @25C, 1.5dB max. (-40 to +85C), 2.4dB max (+85 to +105C)
Insertion Loss when component measured by itself (passive insertion loss)	1.88dB Typ. @25C, 3.65dB @105C
Return Loss (dB)	14 Typ./9.5 min.
Attenuation Differential mode (dB):	
24 typ. /15dB min. @ 800-928 MHz	
20 typ. / 10dB min. @ 1000-1200 MHz	
36 typ. / 14dB min. @ 4800-5000 MHz	
25 typ. / 15dB min. @ 7200-7500 MHz	
Phase Difference (deg.)	180° \pm 10



Phase Difference (deg.)	180° \pm 10
Amplitude Difference	2.0 max.
Qty/Reel (pcs)	4,000
Operating Temp. Range	-40 ~ +105°C
Storage Temp. Range	-40 ~ +85°C
Recommended Storage Conditions of Product on T&R	+5 ~ +35 °C, Humidity 45-75%RH, 18 months max on vacuum package, 1 week max after opened ¹
Storage Period	18 months max.
Power Capacity	2W max (CW)

You can download layout files, schematics, output power measured results (App Note AN030), and s-parameters at: <http://www.johansontechnology.com/nordic>

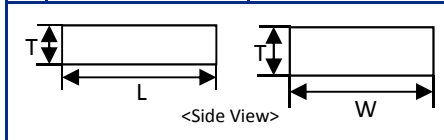
Part Number Explanation

P/N Suffix	Packaging Style	Bulk	Suffix = S	E.g.. 2450BM08B0003S
		Termination Style	T & R	Suffix = T
		AgPt ¹	Suffix = None	E.g.. 2450BM08B0003(T or S)

¹Silver Pad component. Vacuum package required. For handling info go to: www.johansontechnology.com/silverleads

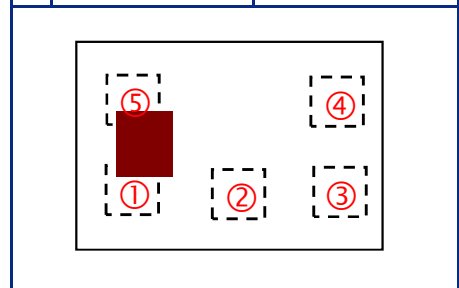
Mechanical Dimensions

	Inches	Millimeter
L	0.055 \pm 0.006	1.40 \pm 0.15
W	0.039 \pm 0.006	1.00 \pm 0.15
T	0.027 max.	0.69 max.
a	0.009 +/- 0.002	0.22 +/- 0.05
b	0.004 +/- 0.002	0.0975 +/- 0.05
c	0.011 +/- 0.002	0.28 +/- 0.05
d	0.007 +/- 0.002	0.18 +/- 0.05



Terminal Configuration

No	Function	No	Function
1	Unbalanced Port	4	Balanced Port
2	DC Feed	5	GND
3	Balanced Port		



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High Frequency Ceramic Solutions

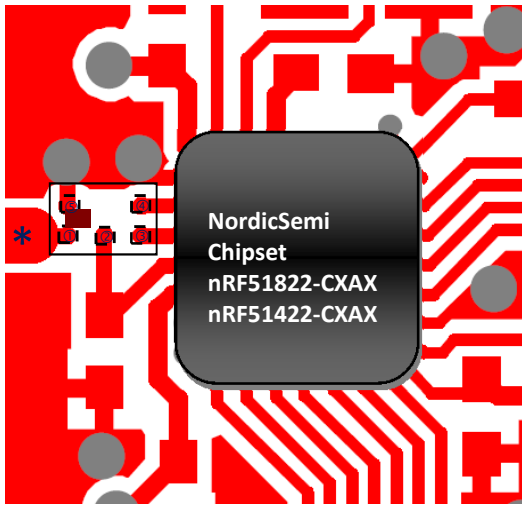
2.45GHz Impedance Matched Balun + Band Pass Filter: Optimized for Nordic's Chipset nRF5188-CEAA, nRF5188-CDAB, nRF5188-CDAB, nRF51422-CEAA, nRF51422-CDAB, nRF51422-CFAC

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Mounting Considerations



*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

□ Land

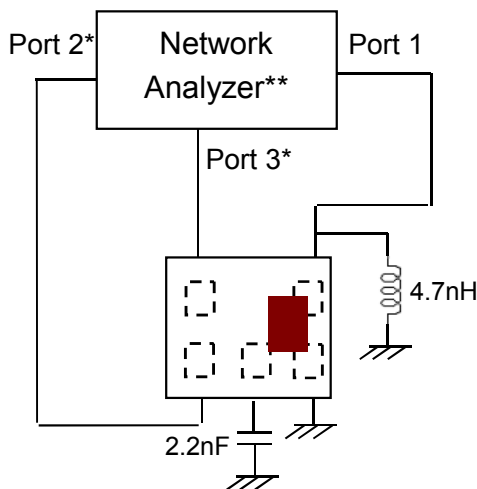
● Through-hole (ϕ 0.3)

Download the gerber files at:
www.johansontechnology.com/nordic

Would you like us to review your layout for free? Please go to this link to contact our RF team:
<http://www.johansontechnology.com/ask-a-question> select "Applications Engineering" on the drop down

If you need 2.45GHz mini-antennas to go with your compact design, go to: <http://johansontechnology.com/antennas>

Measuring Diagram



Port 1: Unbalanced Port
 Ports 2 and 3: Balanced Port

$$IL = S_{ds21}$$

$$RL = S_{ss11}$$

$$\text{Amp_balance} = \text{dB}(S(2,1)/S(3,1))$$

$$\text{Phase_balance} = \text{Phase}(S(2,1)/S(3,1))$$

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

**E5071C from Agilent

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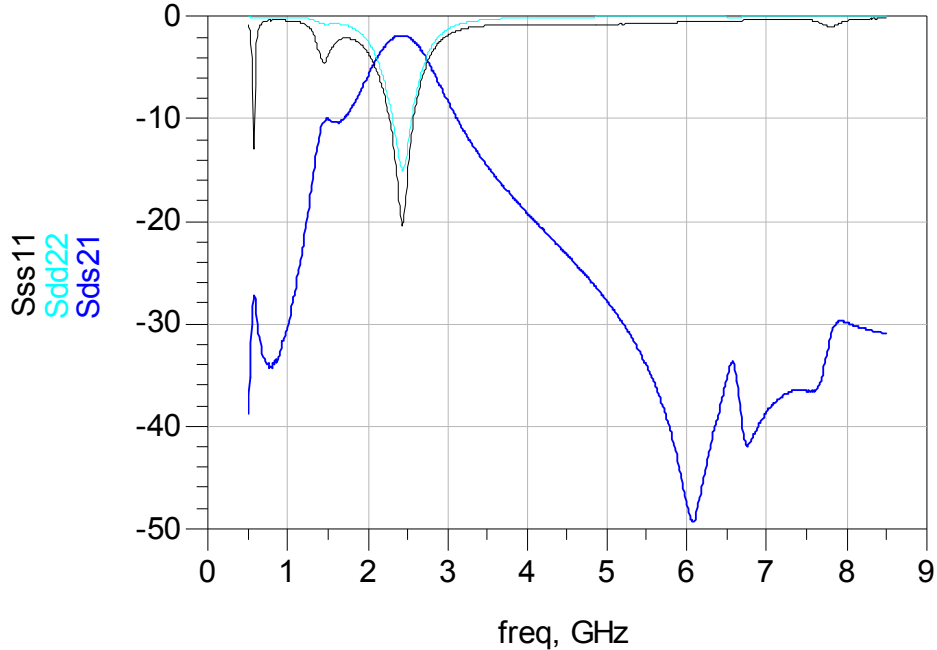
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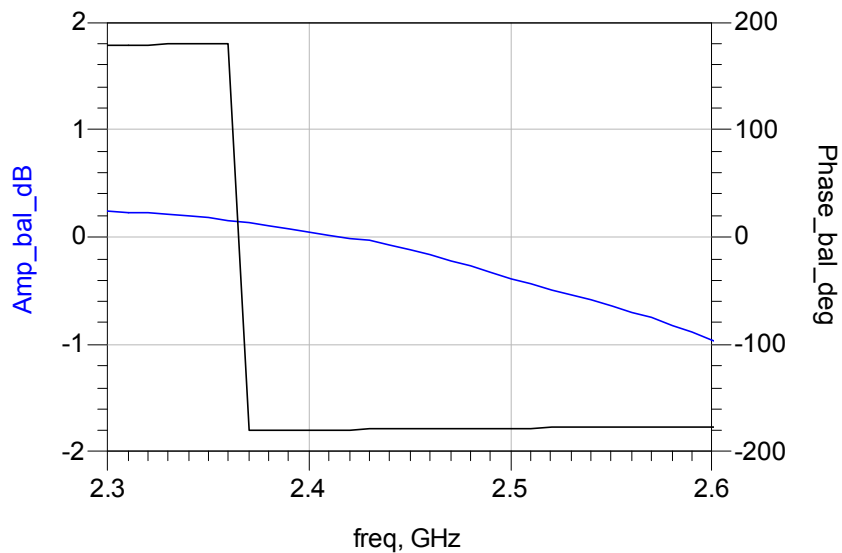
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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Application Notes, Layout Files, and more

<http://johansontechnology.com/nordic>

Packaging information

www.johansontechnology.com/ipcpackaging.html

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

MSL Info

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

Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/ipcstorage-shelflife

RoHS Compliance

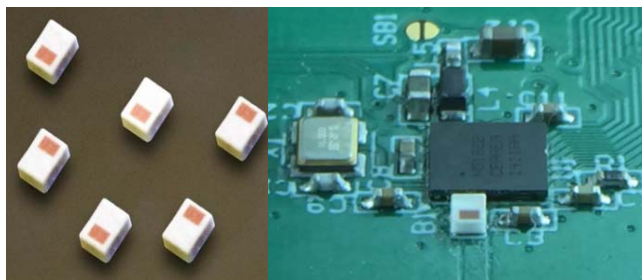
www.johansontechnology.com/technical-notes/rohs-compliance.html

Antenna layout and tuning techniques

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipcantennaservices



In-Application Image

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