

# High Frequency Ceramic Solutions

**NXP (Freescale) KW40, KW30, and KW20 Impedance Matched Front End Balun + BPF (FCC/ETSI-compliant filter embedded)** P/N: 2450BM15B0026

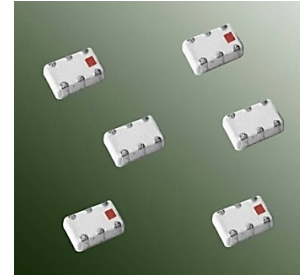
Detail Specification: 5/26/2016

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## General Specifications

<b>Part Number</b>	2450BM15B0026
<b>Frequency (MHz)</b>	2400-2500
<b>Unbalanced Impedance</b>	50
<b>Balanced Impedance</b>	Conj. match to NXP Freescale KW40/30/20 RF Chipsets*
<b>Insertion Loss</b>	1.0 dB Typ (1.5 dB max.)
<b>Return Loss</b>	9.5 dB min.
<b>Phase Diff.</b>	180±10 deg.
<b>Amp. Diff.</b>	2.0 max.
<b>Attenuation</b>	15 dB min. @ 1170 MHz 22 dB min. @ 4800~5000MHz 18 dB min. @ 7200~7500 MHz
<b>Q'ty/Reel</b>	4,000 pcs
<b>Power Capacity</b>	2W max. CW

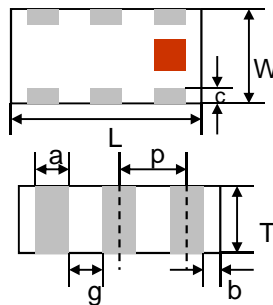


<b>Operating Temperature</b>	-40°C to +85°C
<b>Storage Temperature Range</b>	-40°C to +85°C
<b>Storage Period</b>	18 months max
<b>Recommended Storage Conditions for unused product on T&amp;R</b>	+5 to +35°C, Humidity: 45-75%RH, 18 mos. Max

\*Do you need help with the layout (free service)? Send us a message and we'll put you in touch with an RF Engineer!  
[www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

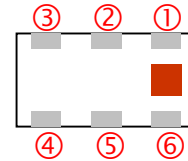
## Mechanical Dimensions

	In	mm
<b>L</b>	0.079 ± 0.004	2.00 ± 0.10
<b>W</b>	0.049 ± 0.004	1.25 ± 0.10
<b>T</b>	0.028 ± 0.004	0.70 ± 0.10
<b>a</b>	0.012 ± 0.004	0.30 ± 0.10
<b>b</b>	0.008 ± 0.004	0.20 ± 0.10
<b>c</b>	0.012 +.004/-.008	0.30 +0.1/-0.2
<b>g</b>	0.014 ± 0.004	0.35 ± 0.10
<b>p</b>	0.026 ± 0.002	0.65 ± 0.05



## Terminal Configuration

No.	Function	No.	Function
1	Unbalanced Port	4	Balanced Port
2	GND or DC Feed	5	GND
3	Balanced Port	6	GND



## Part Number Explanation

P/N Suffix	Packing Style			
		Bulk	Suffix = S	eg. 2450BM15B0026S
		T & R	Suffix = E	eg. 2450BM15B0026E
		100% Tin	Suffix = None	eg. 2450BM15B0026(E or S)

Download the measured s-parameters (to simulate our component), schematic, and gerber/layout files at:  
[www.johansontechnology.com/nxp](http://www.johansontechnology.com/nxp)

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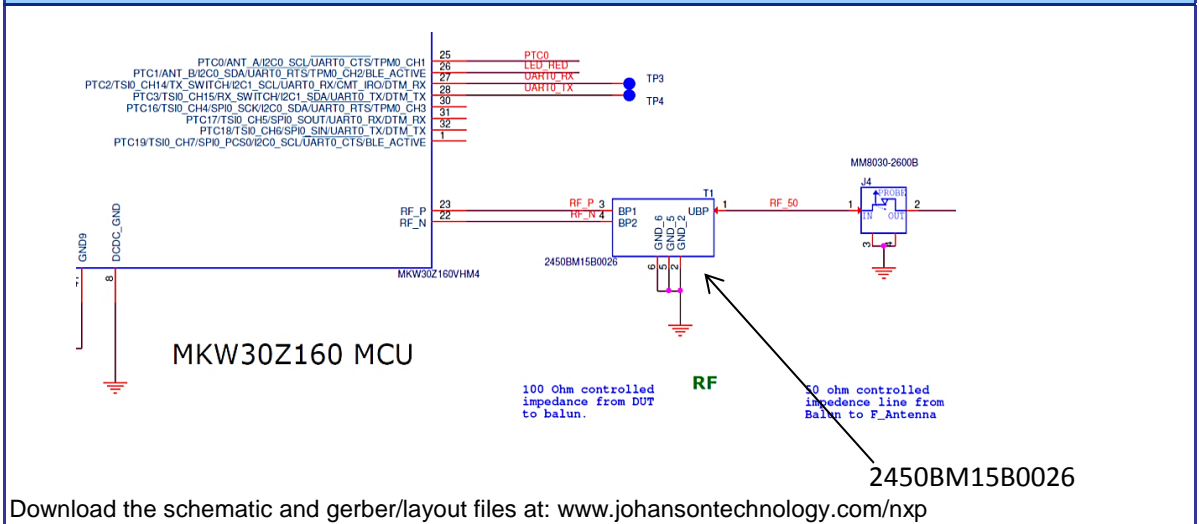
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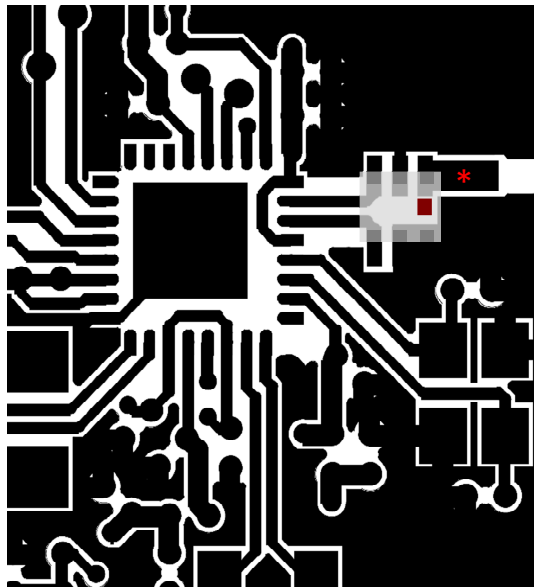
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## Schematic



## Layout Mounting Considerations



Need help with the layout of the component or help choosing a mini 2.4GHz antenna? Contact us at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

\* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness. Grounded CPWG is recommended.

Download the complete layout file at at: [www.johansontechnology.com/nxp](http://www.johansontechnology.com/nxp)

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## Mounting Considerations

**Without DC Feed**

**With DC Feed**

6.8pF RF GND (DC block) cap  
Johanson p/n:  
(EIA0201) 250R05L6R8CV4T  
(EIA0402) 201R07S6R8CV4T  
(EIA 0603) 251R14S6R8CV4T

By-pass Capacitor (6.8pF chip Capacitor)    
 Solder Resist    
 Land    
 Through-hole ( $\phi$  0.3/0.55)

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

## Mounting Diagram

Port 3: Unbalanced Port  
Ports 1 and 2: Balanced Port  
 $IL = S_{ds21}$   
 $RL = S_{ss11}, S_{dd22}$   
 $Amp\_balance = dB(S(2,3)/S(1,3))$   
 $Phase\_balance = Phase(S(2,3)/S(1,3))$

\* Impedance for ports 1 and 2  
= Conjugate to Balanced Impedance/2  
 \*\* E5071B from Agilent

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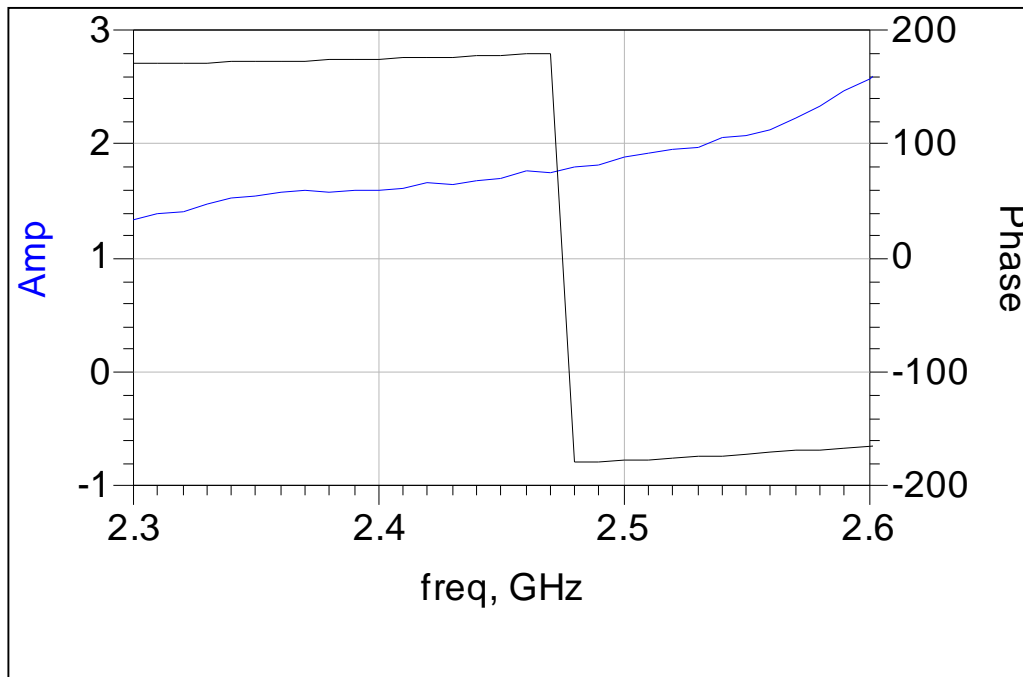
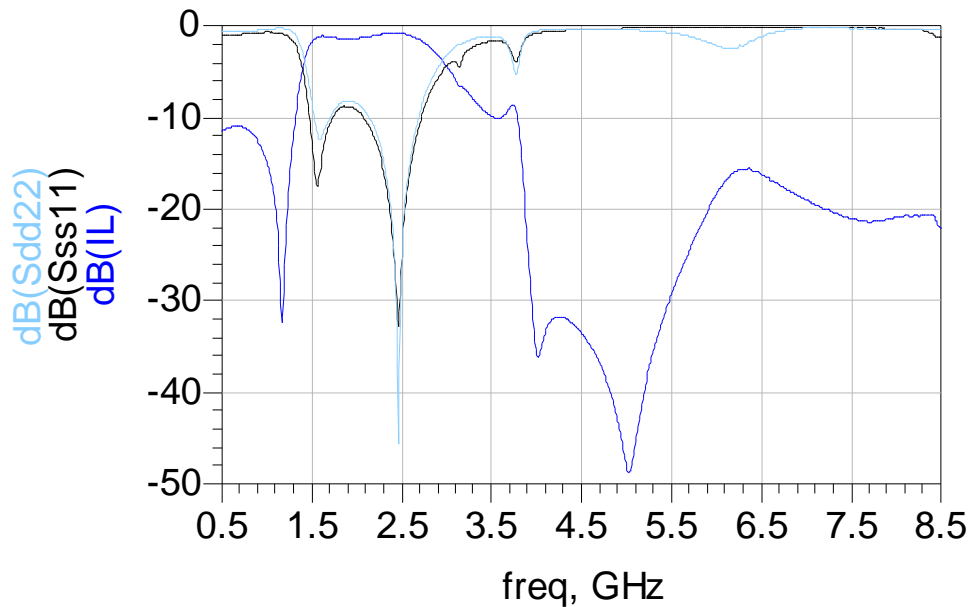
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## Typical Electrical Characteristics (T=25°C)



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## Application Notes, Layout Files, and more

[www.johansontechnology.com/nxp](http://www.johansontechnology.com/nxp)

## Mini Antennas for BLE applications

[www.johansontechnology.com/antennas](http://www.johansontechnology.com/antennas)

## Antenna layout and tuning techniques

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipc-antenna-services.html](http://www.johansontechnology.com/ipc-antenna-services.html)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

## Recommended Storage Condition and Max Shelf Life

<http://www.johansontechnology.com/recommended-storage-conditions>

## Packaging information

[www.johansontechnology.com/ipcpackaging.html](http://www.johansontechnology.com/ipcpackaging.html)

## RoHS Compliance

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