

High Frequency Ceramic Solutions

2.4GHz Impedance Matched Balun + embedded FCC/ETSI Band Pass Filter For Texas Instruments CC2620, CC2630, CC2640, CC2650 chipsets operated on INTERNAL BIAS MODE


P/N: 2450BM14G0011

Detail Specification: 3/7/2017

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For the Full App Note and Layout Files, go to: www.johansontechnology.com/ti

General Specifications

Part Number	2450BM14G0011		Phase Difference (deg.)	180 ± 10	
Frequency (MHz)	2400 - 2500		Amplitude Difference	2.0 max.	
Unbalanced Impedance	50 Ω		Power Capacity	2W max (CW)	
Balanced Differential Impedance	Conjugate match to TI CC2620, CC2630, CC2640, CC2650, chipsets operated on INTERNAL BIAS MODE		Qty/Reel (pcs)	4,000	
Insertion Loss when component measured by itself (passive insertion loss)	1.5 Typ. (1.8dB max. -40C to+85C)	Operating Temp. Range	-40 ~ +85°C	Storage Temp. Range	-40 ~ +85°C
Return Loss (dB)	9.5 min.	Recommended Storage Conditions of Unused Product on T&R	+5 ~ +35 °C, Humidity 45-75%		
Attenuation Differential mode (dB):			Storage Period	18 months max.	
25 typ. / 14dB min. @ 4800-5000 MHz					
20 typ. / 15dB min. @ 7200-7500 MHz					

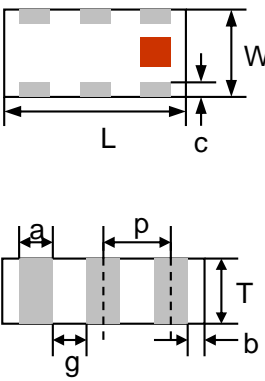
Do you need help selecting the best mini or micro 2.4GHz antenna for your application? Send us a message at: <http://www.johansontechnology.com/ask-a-question> and go to: <http://www.johansontechnology.com/antennas>

Part Number Explanation

P/N Suffix	Packaging Style	Bulk	Suffix = S	E.g. 2450BM14G0011S
	Termination Style	T & R	Suffix = T	E.g. 2450BM14G0011T
		100% Tin	Suffix = None	E.g. 2450BM14G0011(T or S)

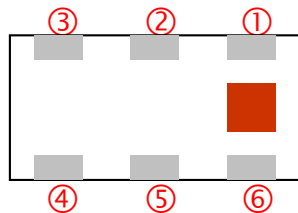
Mechanical Dimensions

	Inches	Millimeter
L	0.063 ± 0.004	1.6 ± 0.10
W	0.031 ± 0.004	0.8 ± 0.10
T	0.024 ± 0.004	0.6 ± 0.10
a	0.008 ± 0.004	0.2 ± 0.10
b	0.008 +0.1/-0.15	0.2 +0.1/-0.15
c	0.006 ± 0.004	0.15 ± 0.10
g	0.012 ± 0.004	0.3 ± 0.10
p	0.020 ± 0.002	0.5 ± 0.05



Terminal Configuration

No	Function	No	Function
1	Unbalanced Port	4	Balanced Port
2	NC	5	GND
3	Balanced Port	6	GND



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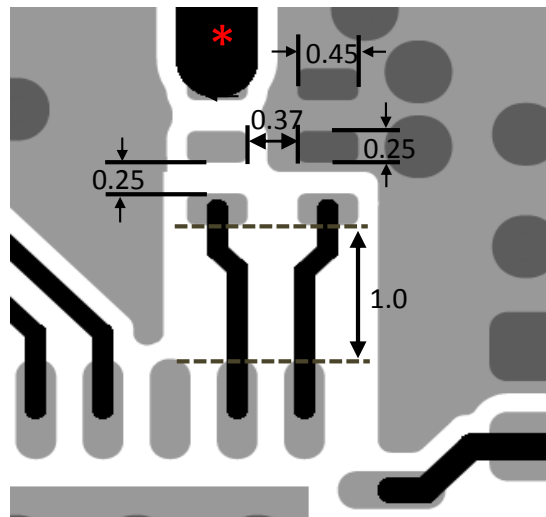
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Mounting Considerations



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

□ Land

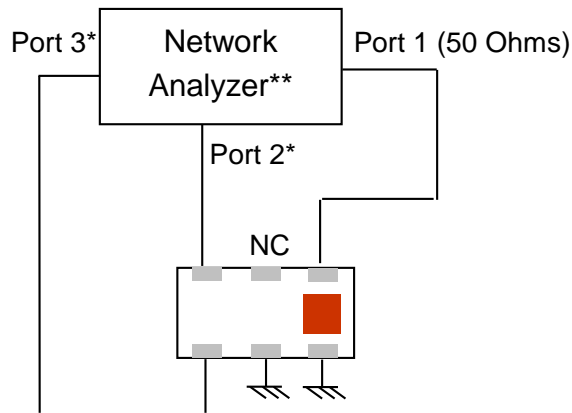
● Through-hole ($\phi 0.3/\phi 0.2$) vias to GND

Would you like us to provide the layout files of the TI chipset + 2450BM14G0011? Review your layout for free? Please go to this link to contact our RF team:
www.johansontechnology.com/ask-a-question "Applications Engineering" on the drop down question type

Units in mm

Do you need the layout/gerber files of the above? Go to: www.johansontechnology.com/ti or send us a message to review your layout at: <http://www.johansontechnology.com/ask-a-question>

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

You can download the s-parameters at: <http://www.johansontechnology.com/ti>

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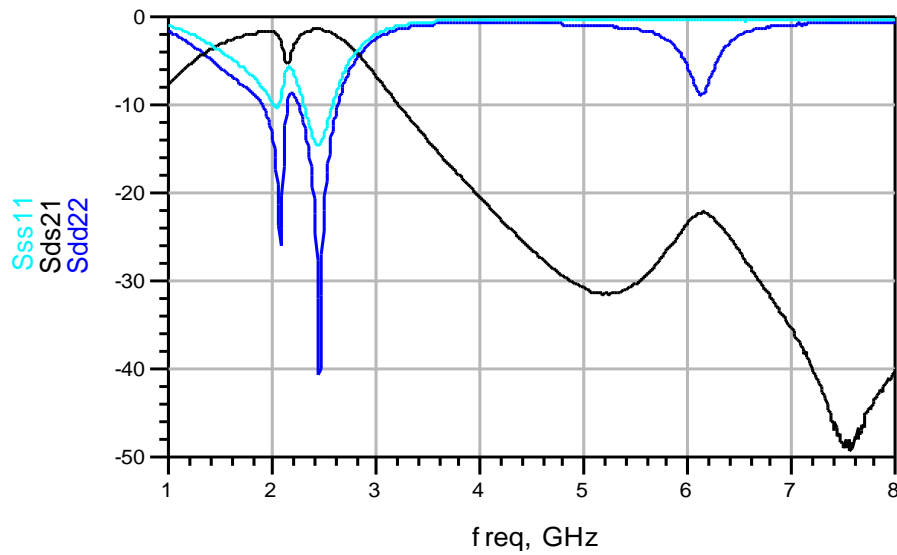
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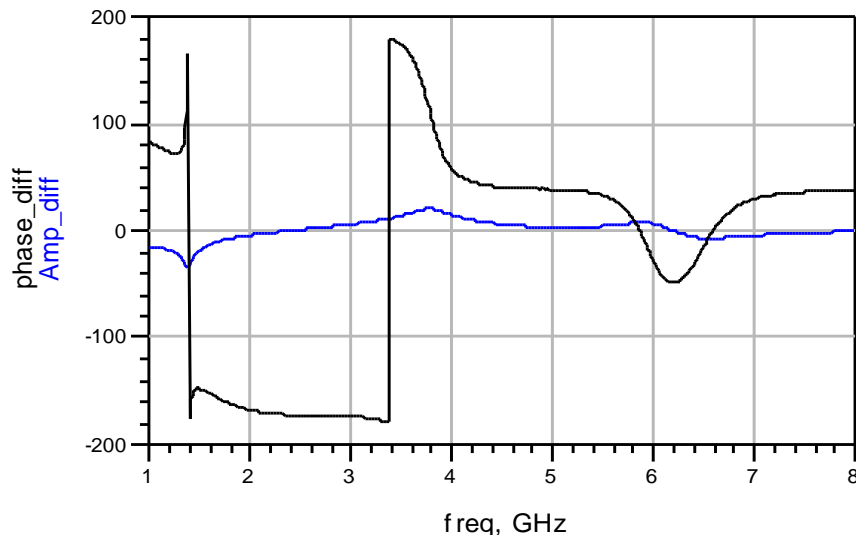
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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Application Notes, Layout Files, and more

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Packaging information

www.johansontechnology.com/tape-reel-packaging

Soldering Information

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MSL Info

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Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/recommended-storage-conditions

RoHS Compliance

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Antenna layout and tuning techniques

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Antenna layout review, tuning, and characterization services

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