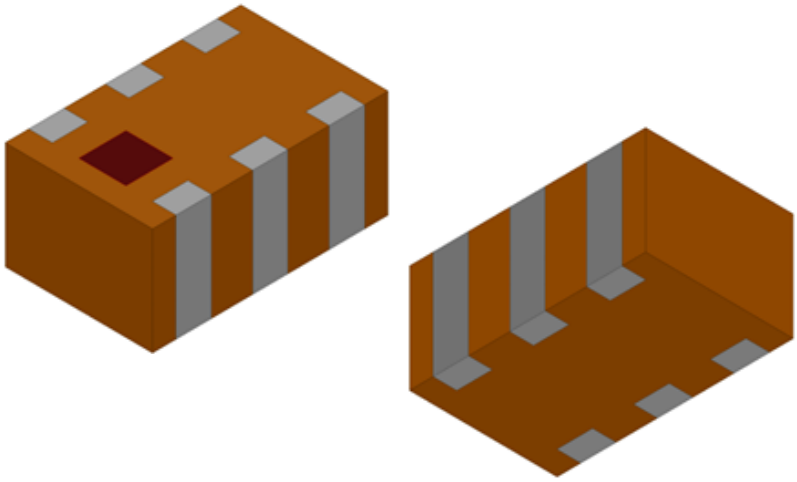
2.45 GHz Impedance Matched Balun-Filter for Texas Instruments CC2500, CC2510, CC2511 Chipsets

- Operating temperature up to 125°C (non-automotive)
- SMD, EIA 0805
- Designed for use with Texas Instruments chipsets:
  - CC2500
  - CC2510
  - CC2511



General Specifications[1]

Passband Frequency (MHz)	**2400 – 2500**
Balanced Impedance (Ω)	Impedance-matched to TI CC2500, CC2510, CC2511
Unbalanced Impedance (Ω)	50
Insertion Loss (dB)	1.7 Typ. / 2.2 Max.
Return Loss (dB)	10 Min.
Phase Difference (degree)	180 ± 12
Amplitude Difference (dB)	2.0 Max.
Differential Attenuation	
Frequency Range (MHz) Attenuation (dB)	4800 – 5000 20 Min.
Frequency Range (MHz) Attenuation (dB)	7200 – 7500 20 Min.
Common-mode Attenuation	
Frequency Range (MHz) Attenuation (dB)	4800 – 5000 17 Min.

[1] Typical value represents average measurement at 25°C. Min./Max. values represent measurements over specified operating temperature.

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Maximum Ratings

Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +125
Recommended Storage Conditions post-installation (°C)	-40 to +125
Recommended Storage Conditions and Period for Unused T&R Product[2]	45% - 75% RH +5 to +35°C 18 Months Max.

[2] 18 months max. in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags. For more info go to https://www.johansontechnology.com/silverleads-profile.

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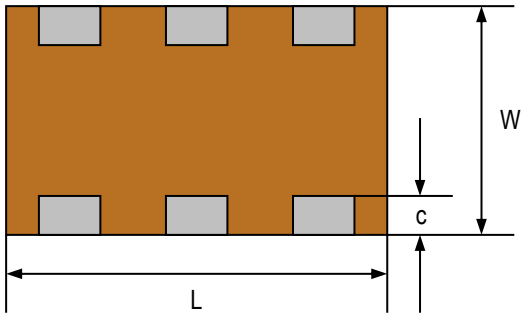
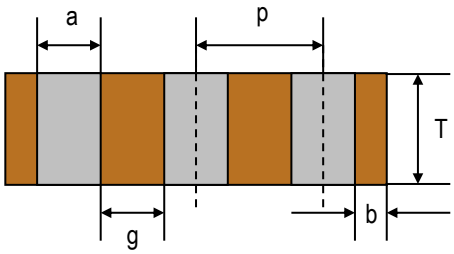
Mechanical Dimensions

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

Bottom view



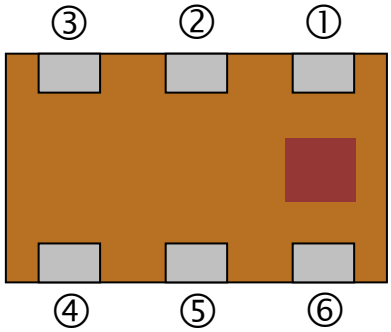
Side view



Terminal Configuration[3]

Pin Number	Function
1	Unbalanced Port
2	DC Feed + RF GND
3	Balanced Port
4	Balanced Port
5	GND
6	GND

Top view



[3] The termination type is Silver. Go to: https://www.johansontechnology.com/ipcsoldering-profile for Typical Soldering Profile.

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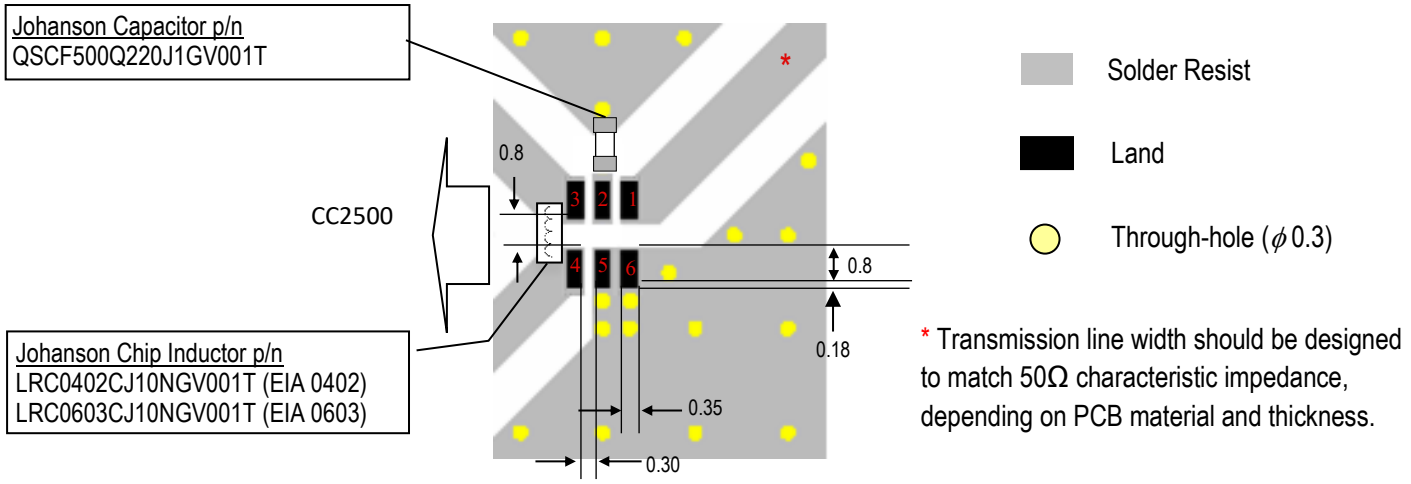
PCB Layout



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

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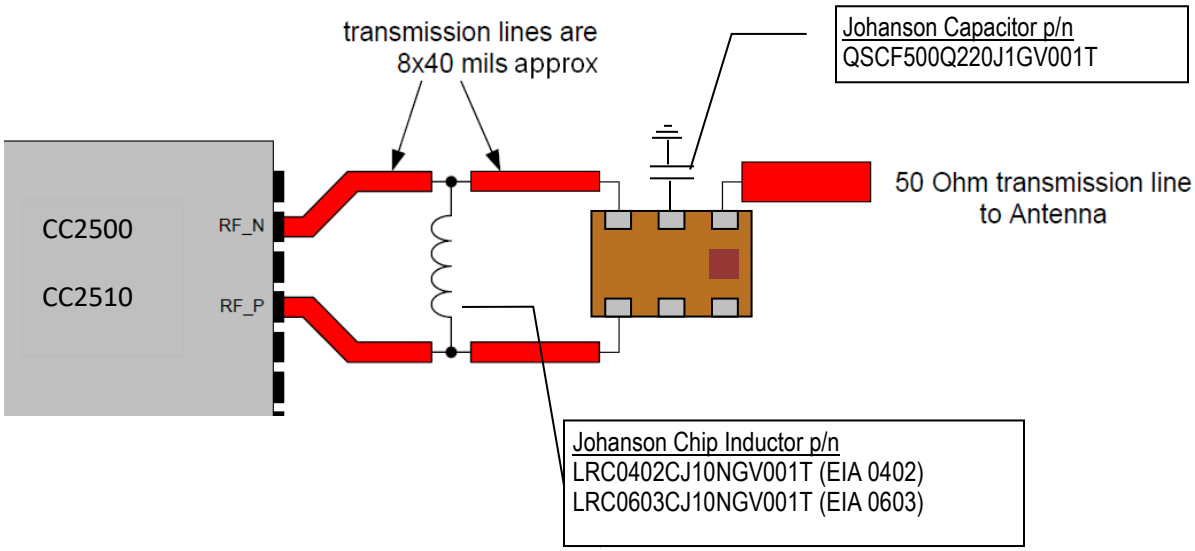
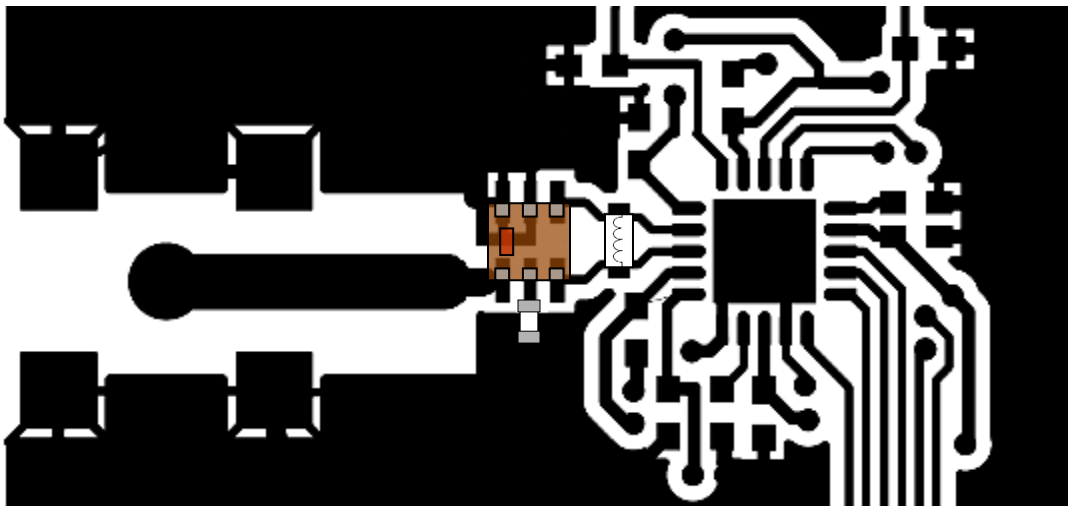
PCB Reference Design





For Gerber Files and TI Reference Notes: http://www.ti.com/tool/cc2530balun-refdes

If you would like the full reference design package or have any questions,
contact our application engineers at https://www.johansontechnology.com/ask-a-question

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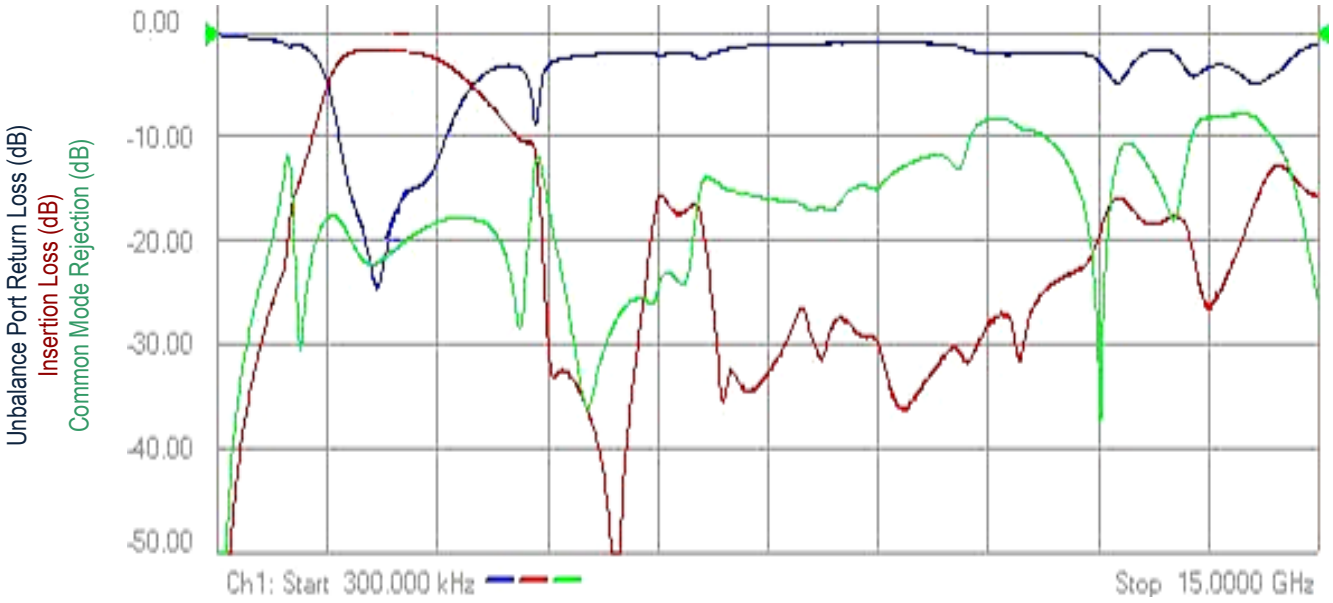
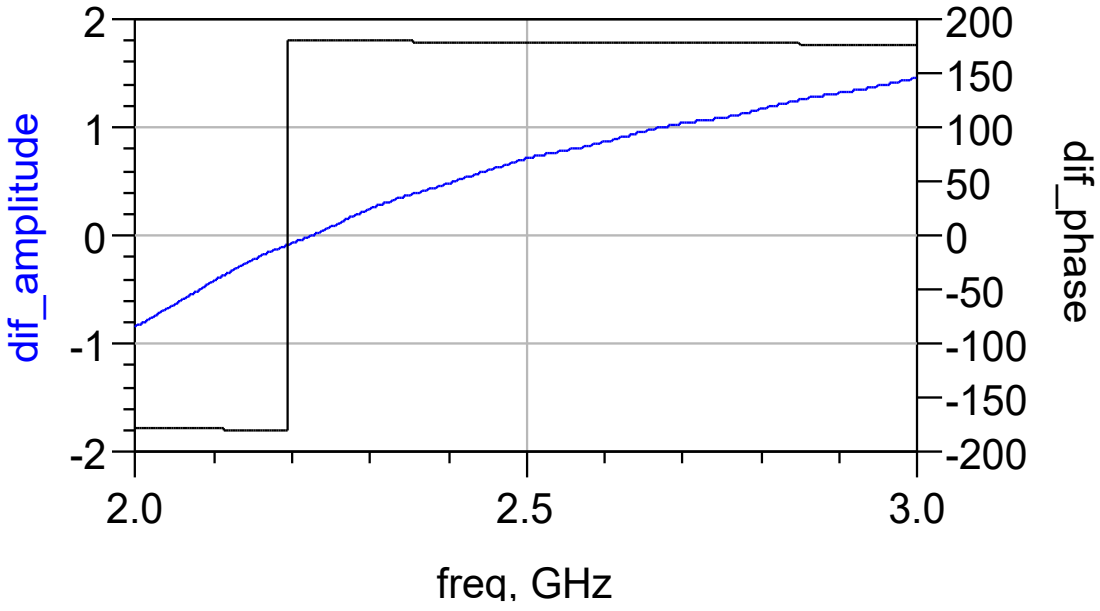
RF Measurement (T = 25°C)

Insertion Loss, Return Loss, Attenuation



Phase Difference, Amplitude Difference



S-parameters and layout files available upon request. Please contact us at https://www.johansontechnology.com/ask-a-question

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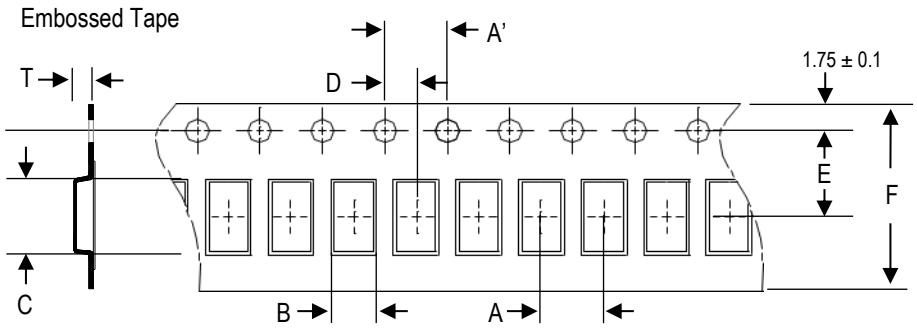
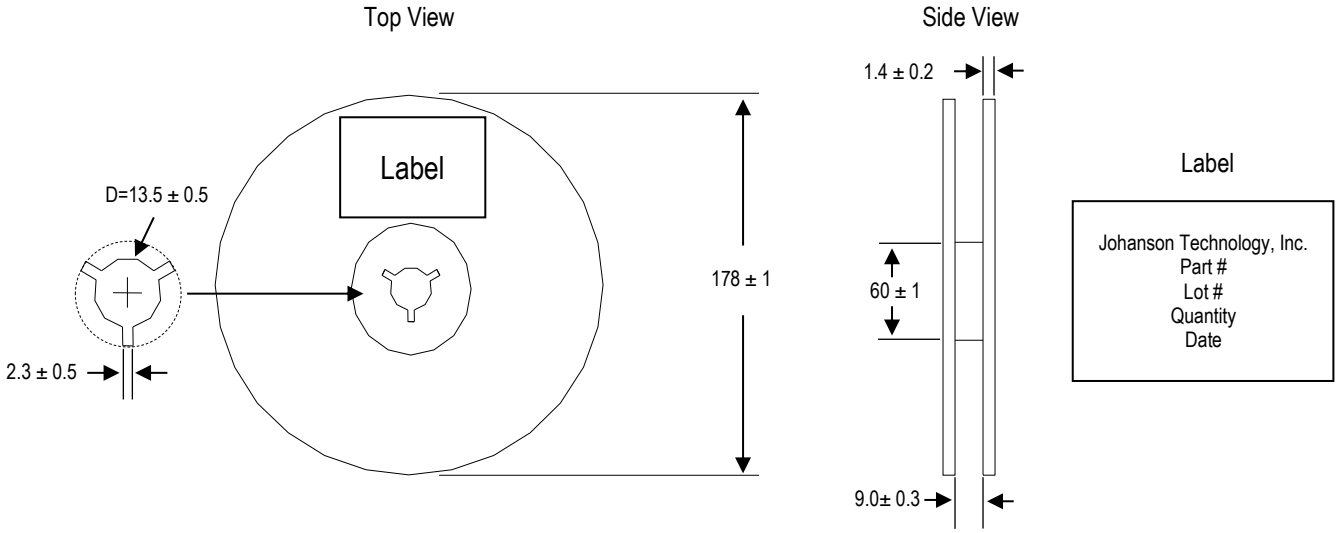
Tape and Reel Specification (Units in mm)

Tape Dimensions

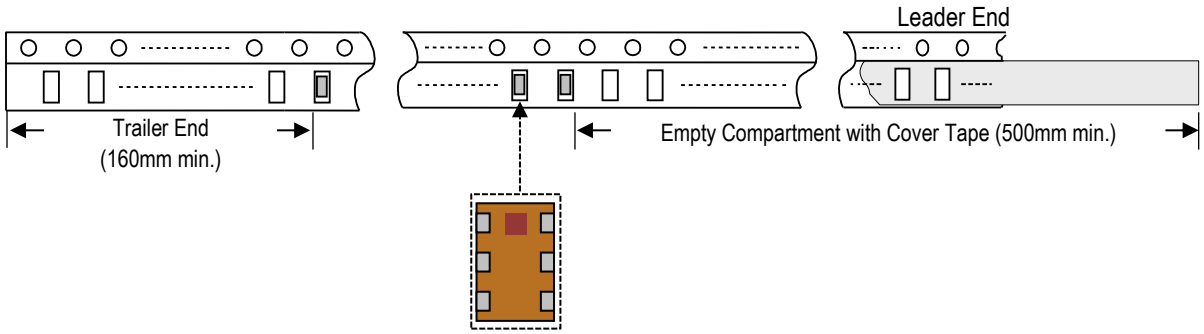


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0±0.1	4.0±0.1	1.35±0.05	2.15±0.05	2.0±0.05	3.5±0.1	8.0±0.1	1.00±0.05	4,000pcs	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



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Orderable Part Number

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450BM15B0003001B	Silver
T & R (7" Reel Embossed Tape)	2450BM15B0003001E (Qty: 4,000 pcs./reel)	

Important Links

2450BM15B0003001E Product Page

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Soldering Information

MSL Information

Packaging Information

Recommended Storage Condition and Max Shelf Life

RoHS Compliance

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