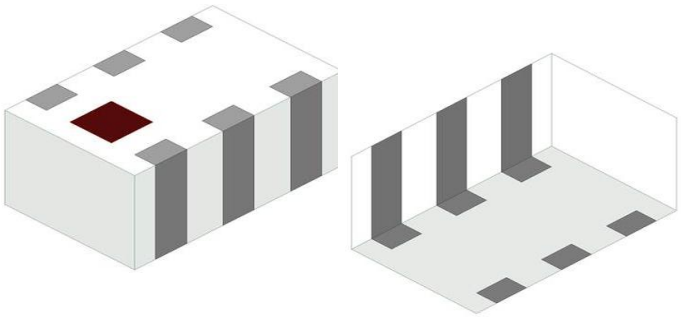
2.45 GHz Impedance Matched Balun-Filter for Texas Instruments CC2520 Chipset

- Operating temperature up to 125°C (non-automotive)
- SMD, EIA 0805
- Designed for use with Texas Instruments chipset CC2520



General Specifications[1]

Passband Frequency (MHz)	**2400 – 2500**
Balanced Impedance (Ω)	Impedance-matched to TI CC2520
Unbalanced Impedance (Ω)	50
Insertion Loss (dB)	1.5 Max. (-40°C to +85°C) 1.7 Max. (-40°C to +125°C)
Return Loss (dB)	9.5 Min.
Phase Difference (degree)	180 ± 15
Attenuation	
Frequency Range (MHz) Attenuation (dB)	1000 12 Min.
Frequency Range (MHz) Attenuation (dB)	4800 – 5000 18 Min.
Frequency Range (MHz) Attenuation (dB)	7200 – 7500 20 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 +85
Recommended Storage Conditions and Period for Unused T&R Product	45% - 75% RH +5 to +35°C 18 Months Max.

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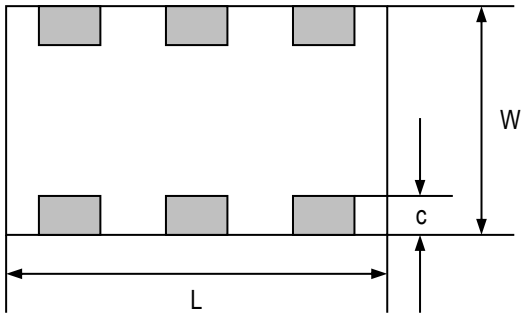
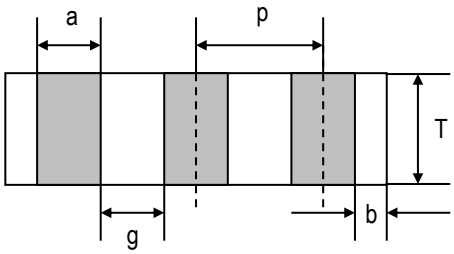
Mechanical Dimensions

	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



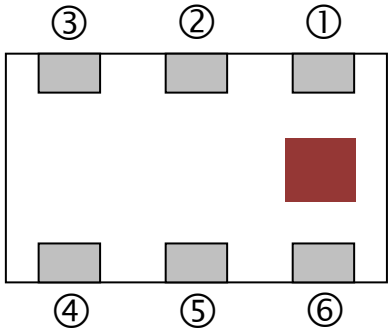
Side view



Terminal Configuration[2]

Pin Number	Function
1	Unbalanced Port 2.2nH Inductor[3]
2	GND
3	Balanced Port
4	Balanced Port
5	GND
6	GND

Top view



[2] The termination type is Nickel Tin. Go to: https://www.johansontechnology.com/ipcsoldering-profile for Typical Soldering Profile.
[3] Recommended inductor PN LRC0402CS2N2GV001T

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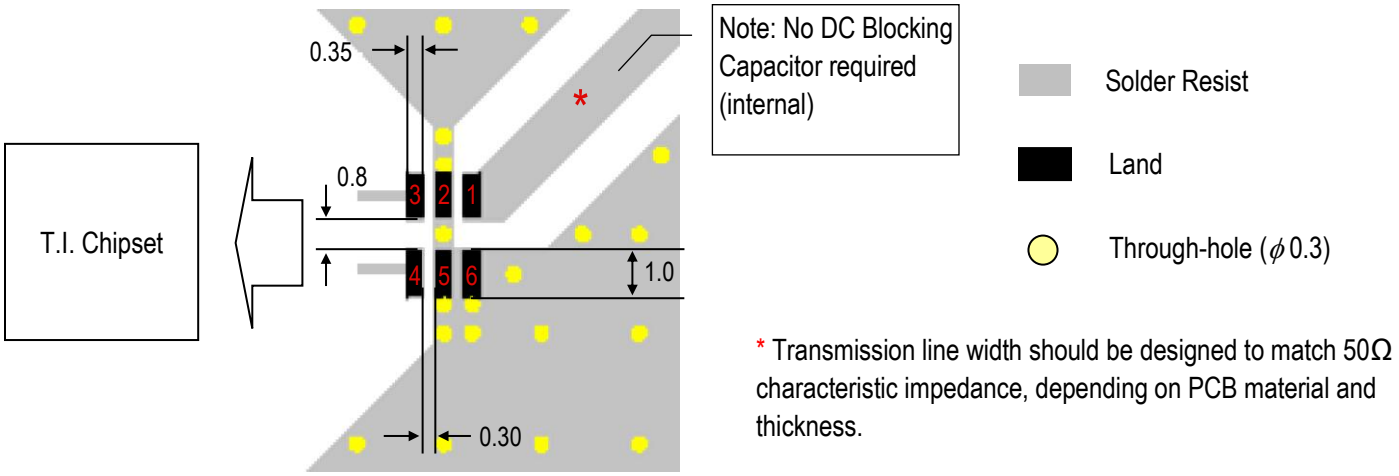
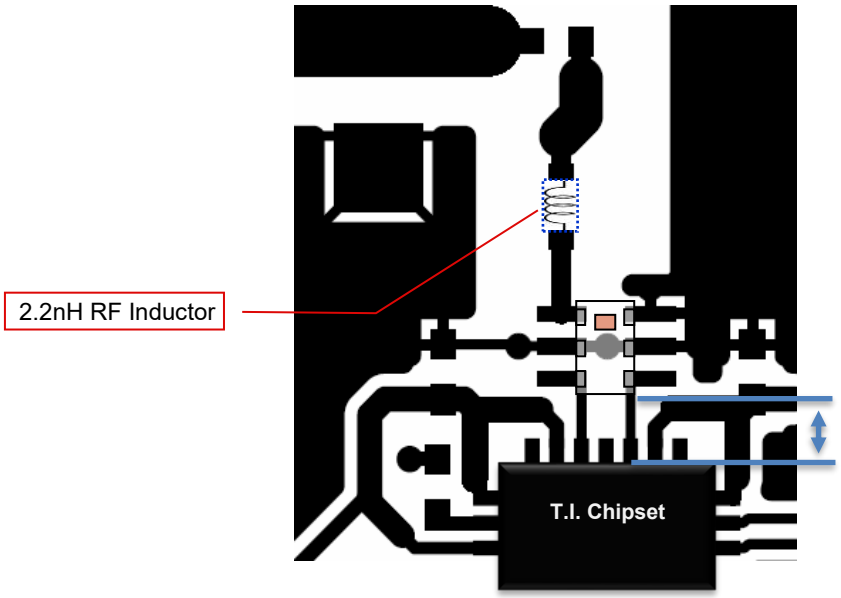
PCB Layout



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

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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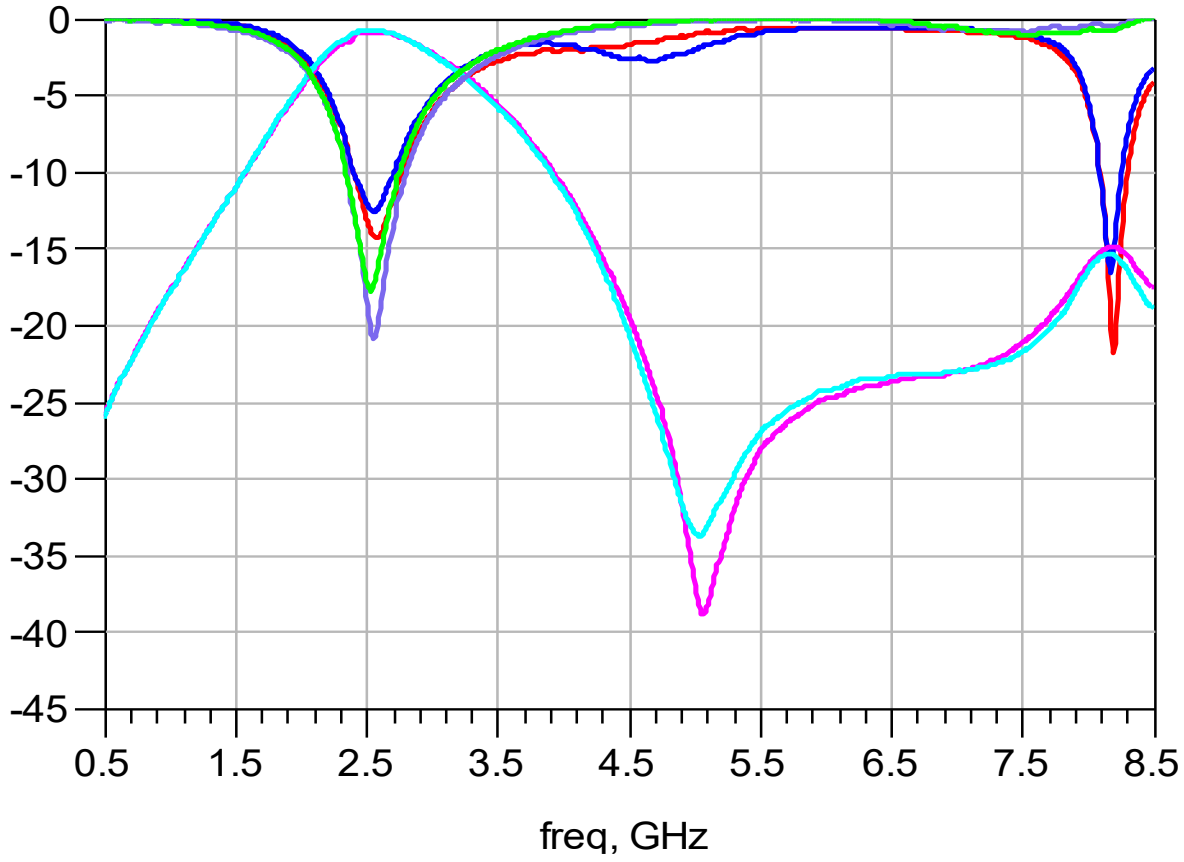
RF Measurement (T = 25°C, 125°C)

Insertion Loss, Return Loss, Attenuation



25°C Unbalanced RL
25°C Balanced Return Loss
25°C Insertion Loss/Attenuation (Differential Mode)
125°C Unbalanced RL
125°C Balanced Return Loss
125°C Insertion Loss/Attenuation (Differential Mode)

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

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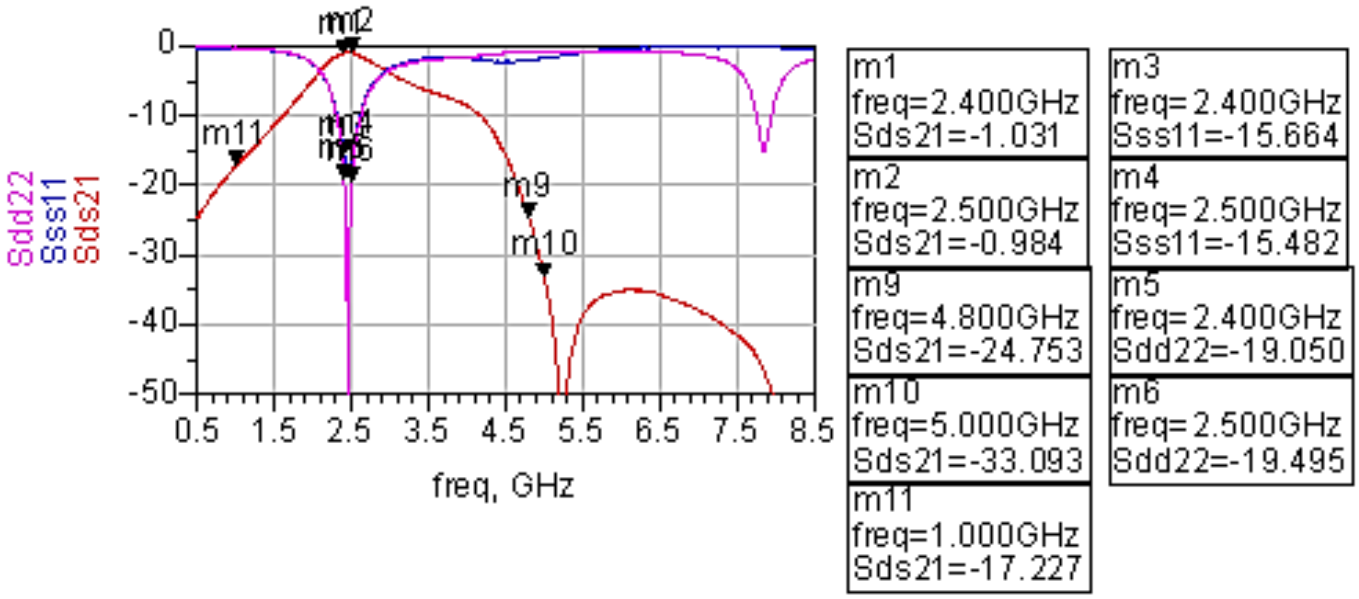
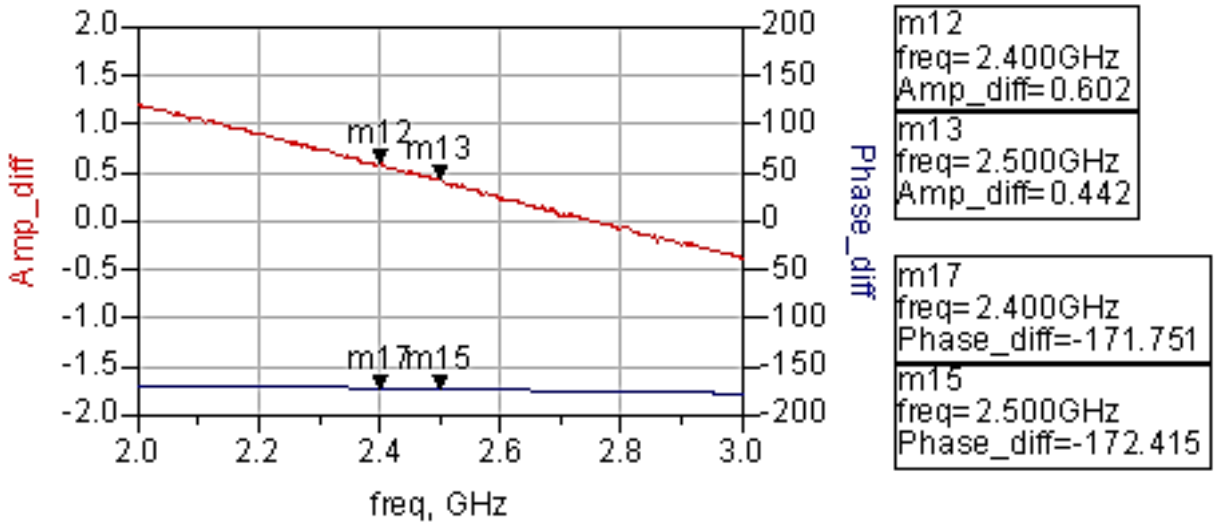
RF Measurement with 2.2nH Inductor (T = 25°C)

Insertion Loss, Return Loss, Attenuation



Phase Difference, Amplitude Difference



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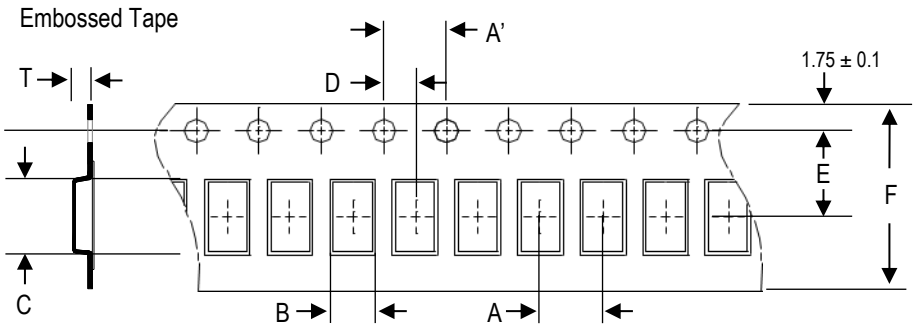
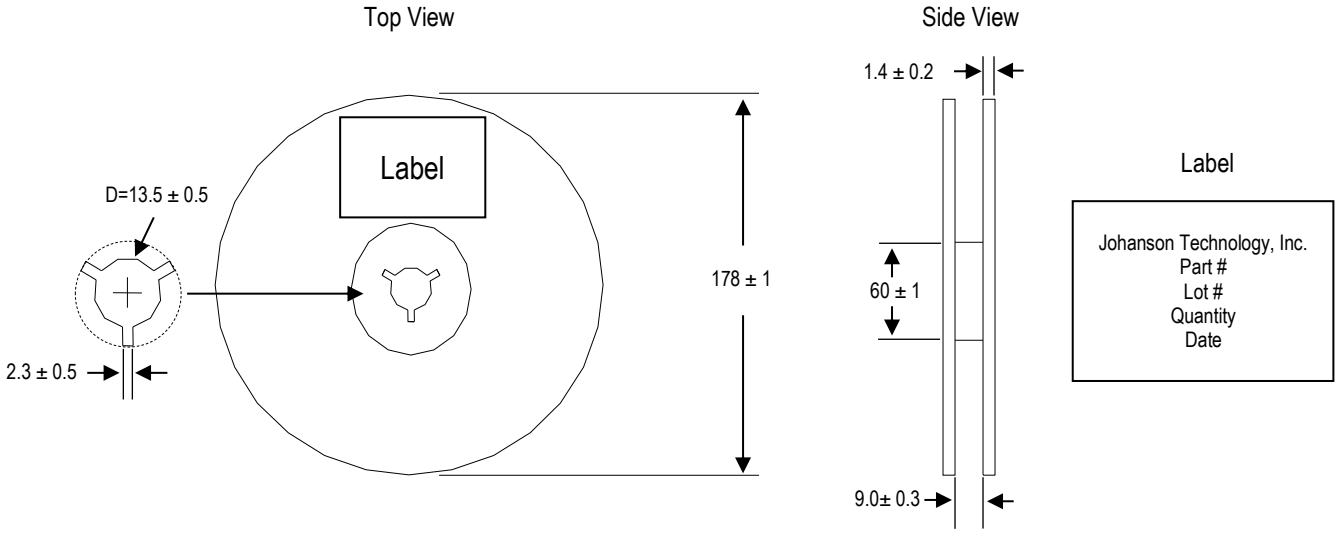
Tape and Reel Specification (Units in mm)

Tape Dimensions

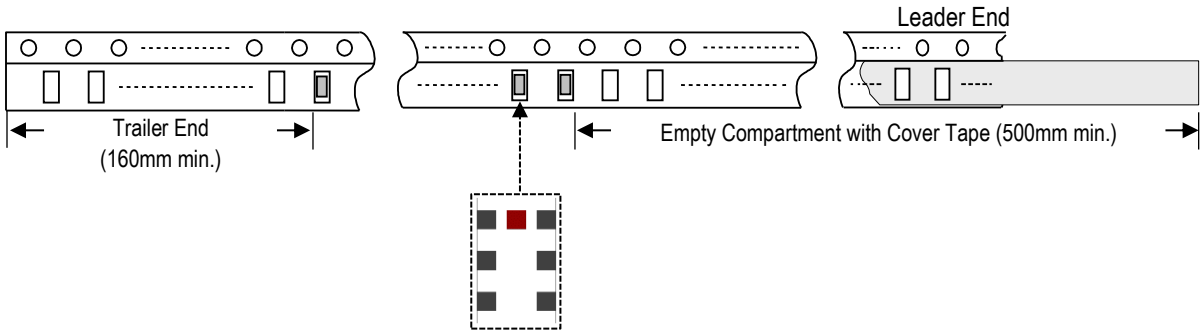


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0±0.1	4.0±0.1	1.35±0.05	2.15±0.05	2.0±0.05	3.5±0.1	8.0±0.1	1.00±0.05	4,000pcs	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



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Orderable Part Number

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450BM15B0002001B	Ni/Sn
T & R (7" Reel Embossed Tape)	2450BM15B0002001E (Qty: 4,000 pcs./reel)	

Important Links

2450BM15B0002001E 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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