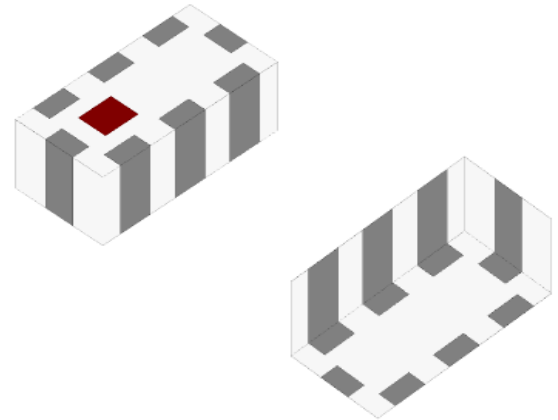


5.3 GHz Directional Coupler/Low Pass Filter Combination

- 4900 – 5850 Passband
- 5GHz WiFi, FPV applications
- SMD, EIA 0805
- RoHS compliant



General Specifications^{1 2}

Impedance	4900 – 5850 MHz	50 Ω
Insertion Loss (dB)	4900 – 5850 MHz	0.8 Max.
Return Loss (dB)	4900 – 5850 MHz	20 Min.
Coupling (dB)	4900 – 5850 MHz	15 ± 1
Isolation (dB)	4900 – 5850 MHz	22 Min.
Attenuation (dB)	9800 – 11700 MHz	20 Min.

Maximum Ratings

Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +85
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.

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

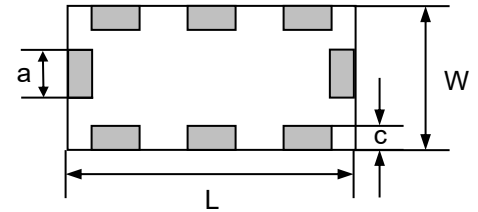
² General specifications measured on Johanson's evaluation board PN 5300CF15A0950001CE1.



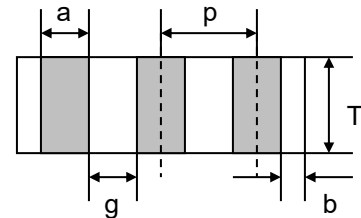
Mechanical Dimensions

	Inches			Millimeters		
L	0.079	±	0.004	2.0	±	0.1
W	0.049	±	0.004	1.25	±	0.1
T	0.020	±	0.004	0.50	±	0.1
a	0.012	±	0.004	0.30	±	0.1
b	0.008	±	0.004	0.20	±	0.1
c	0.012	+0.004/-0.008		0.30	+0.1/-0.2	
g	0.014	±	0.004	0.35	±	0.10
p	0.026	±	0.002	0.65	±	0.05

Bottom view



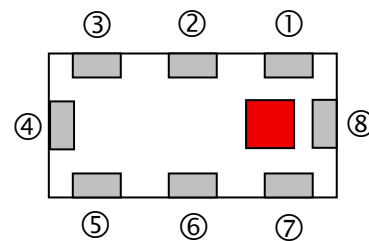
Side view



Terminal Configuration³

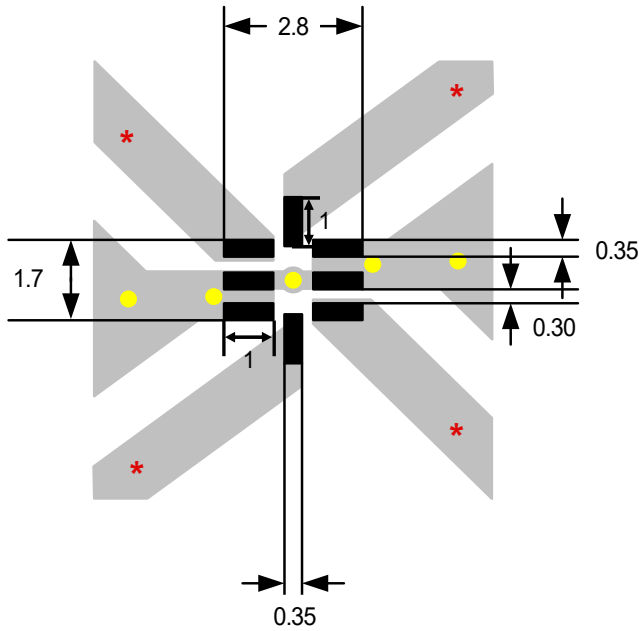
Pin Number	Function
1	TERMINATION
2	GND
3	GND
4	INPUT
5	COUPLED OUT
6	GND
7	GND
8	OUTPUT

Top view



³ The termination type is Nickel Tin. Go to: <https://www.johansontechnology.com/tech-notes/typical-soldering-profile-ipc/> for Typical Soldering Profile.


Recommended PCB Layout



Units in mm

 Solder Resist

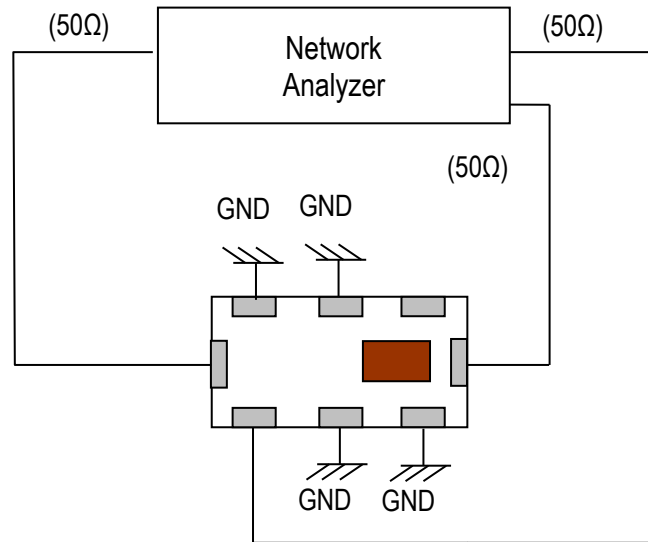
 Land

 Through-hole (ϕ 0.3)

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

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>

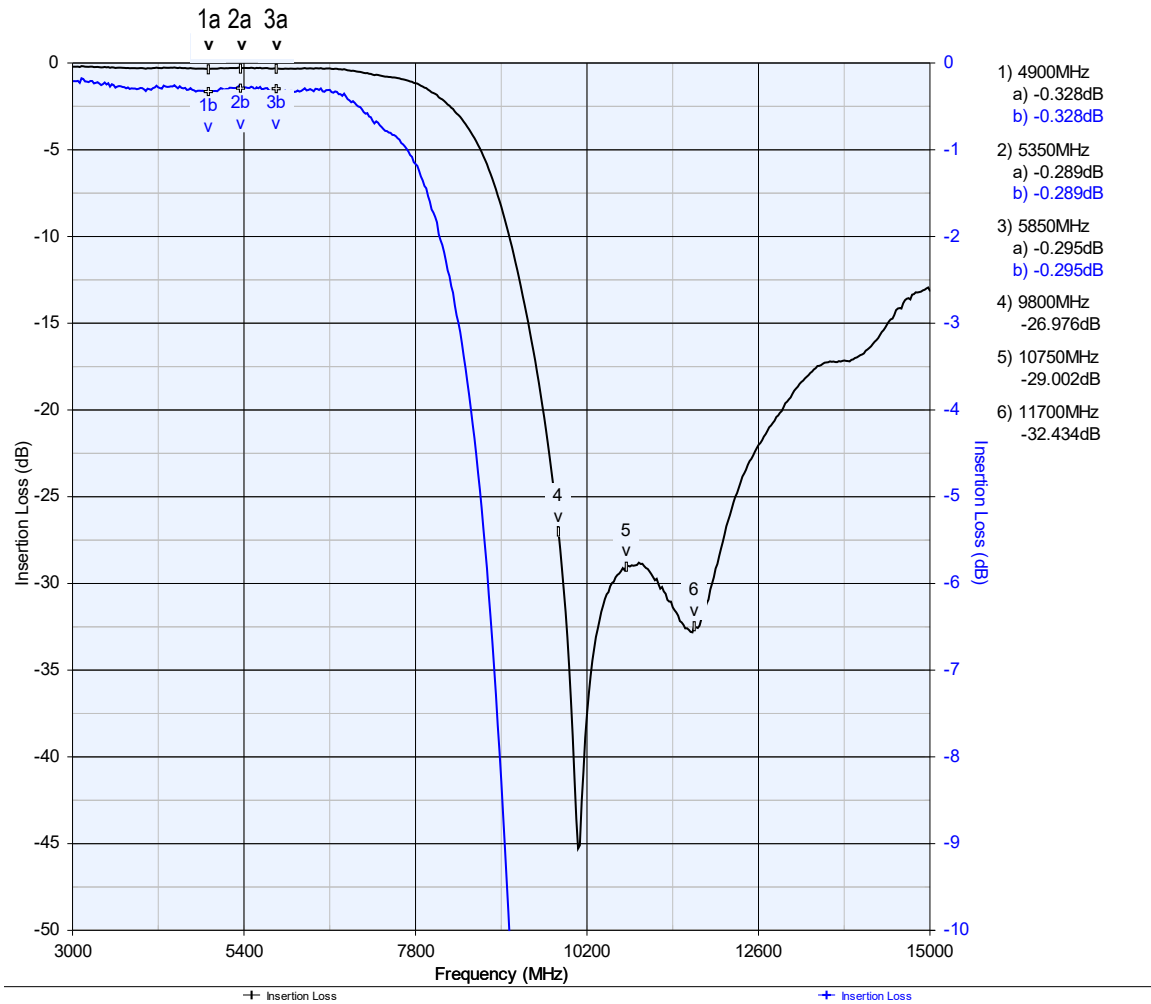
Measuring Diagram



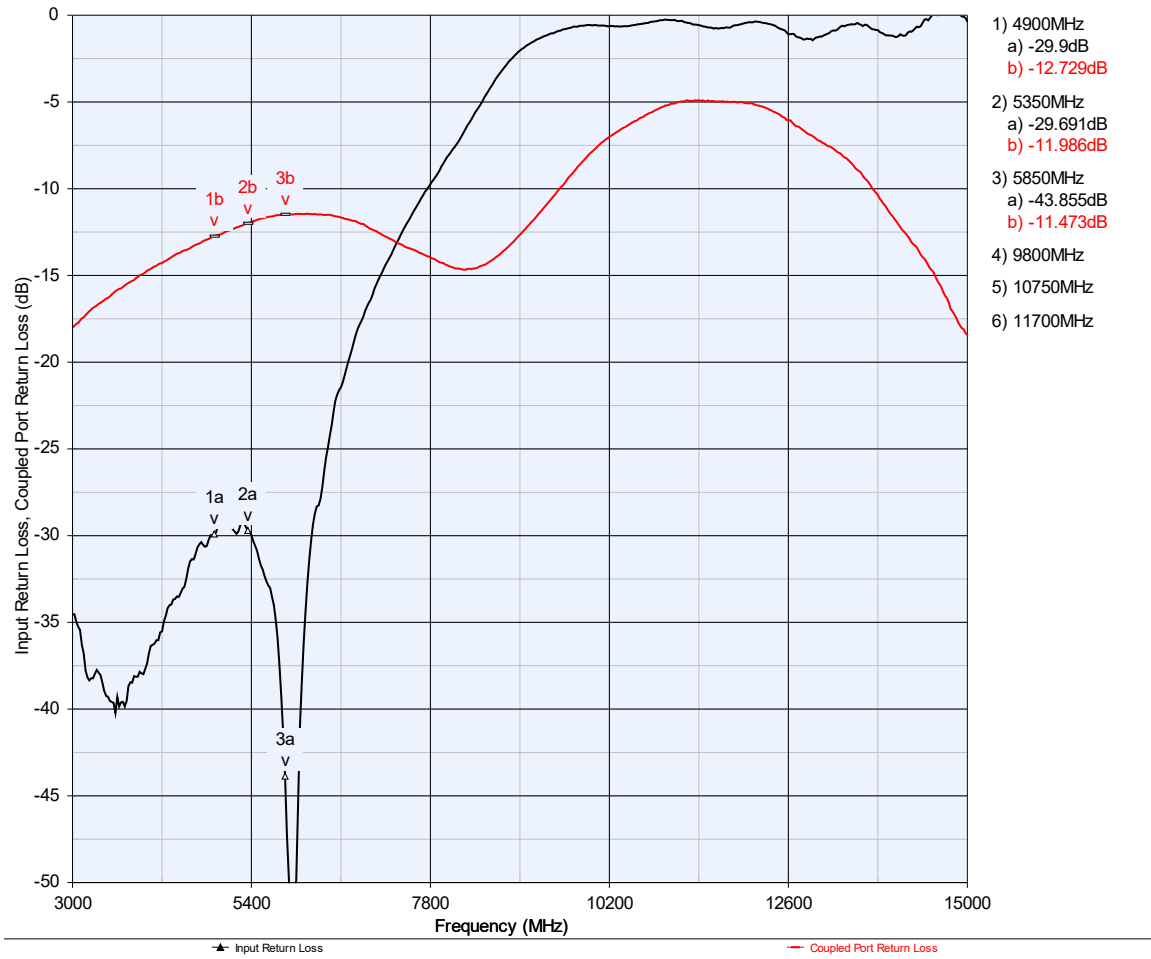


RF Measurement (T=25°C)

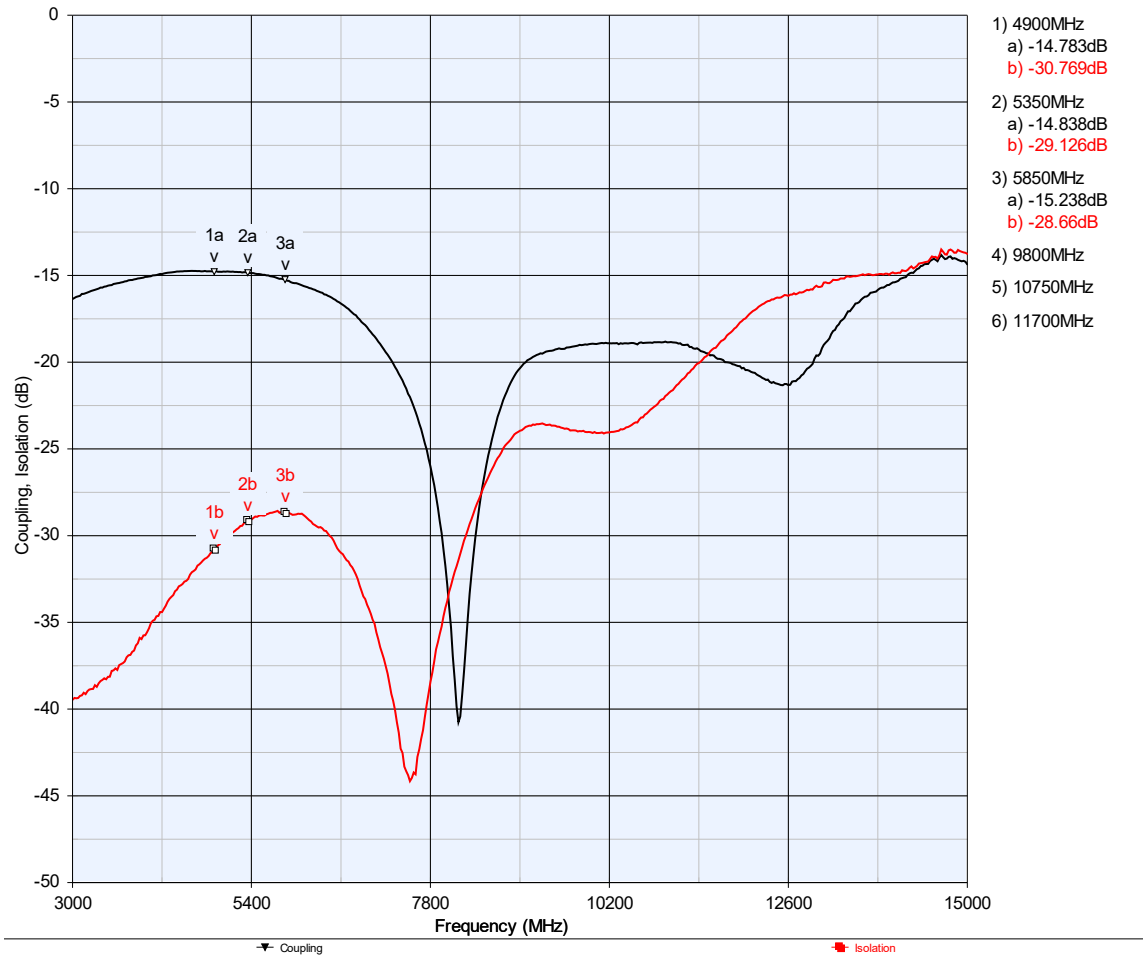
Insertion Loss 1 & 2



Return Loss 1 & 2



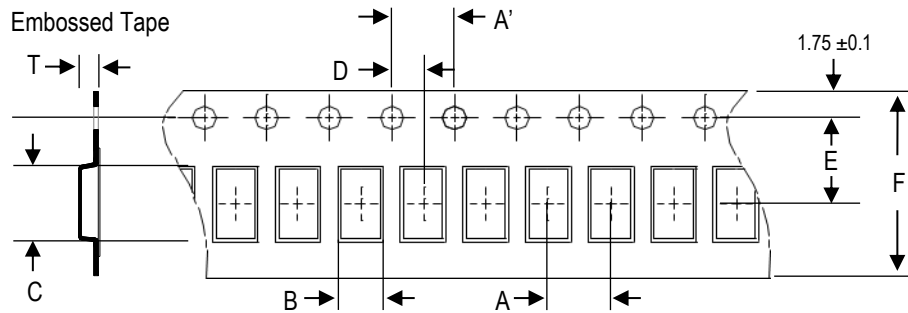
Coupling and Isolation



S-parameter and layout file available upon request, contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

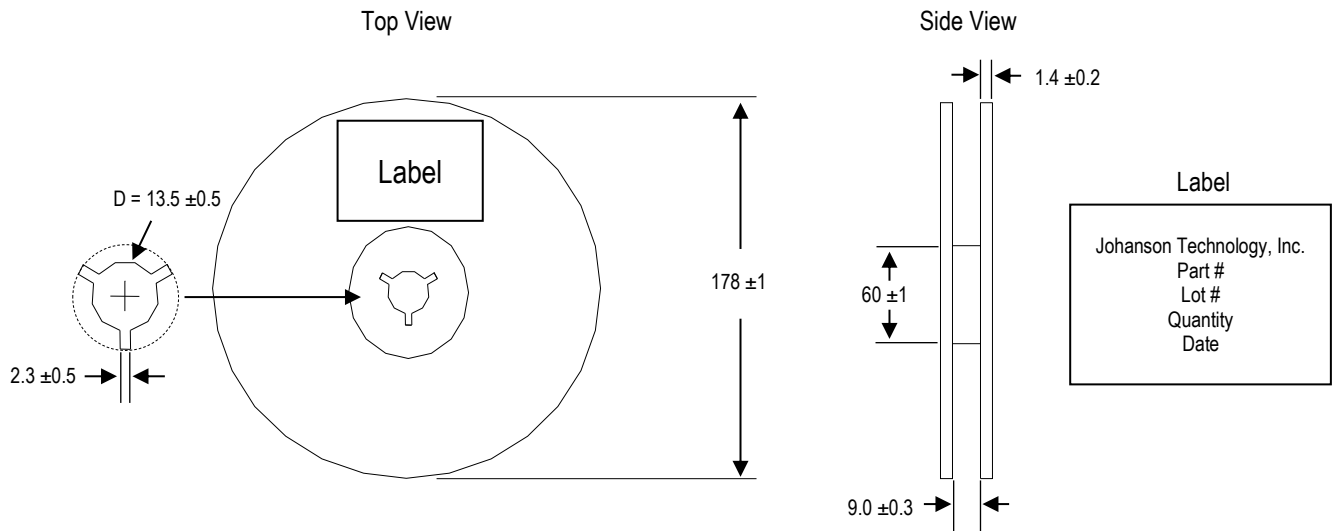
Tape and Reel Specifications (Units in mm)

Tape Dimensions

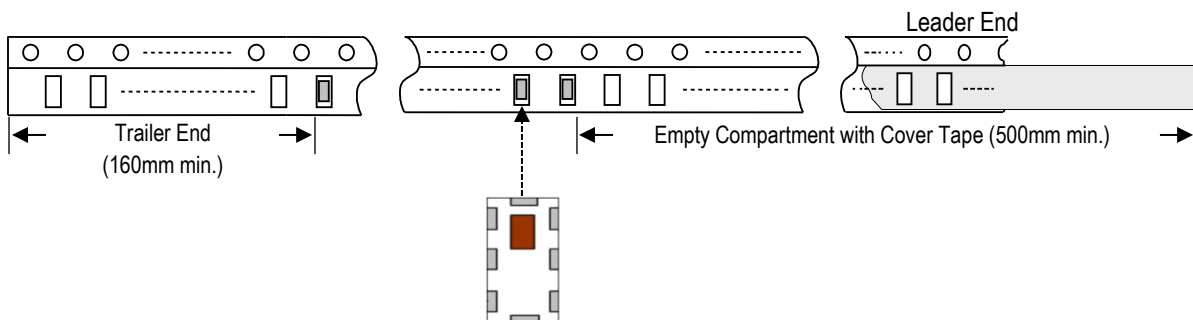


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0 ±0.1	4.0 ±0.1	1.35 ±0.05	2.15 ±0.05	2.0 ±0.05	3.5 ±0.1	8.0 ±0.1	1.0 ±0.05	4,000pcs.	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



Orderable Part Numbers

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	5300CF15A0950001B	Nickel Tin
T & R (7" Reel Embossed Tape)	5300CF15A0950001E (Qty: 4,000 pcs./reel)	
Evaluation Board with 4 SMA Connector	5300CF15A0950001CE1	

Important Links

[5300CF15A0950001E Product Page](#)

[More Couplers](#)

[More Low Pass Filters](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[Recommended Storage Condition and Max Shelf Life](#)

[RoHS Compliance](#)

Contact our application engineers for a PCB layout review.

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