

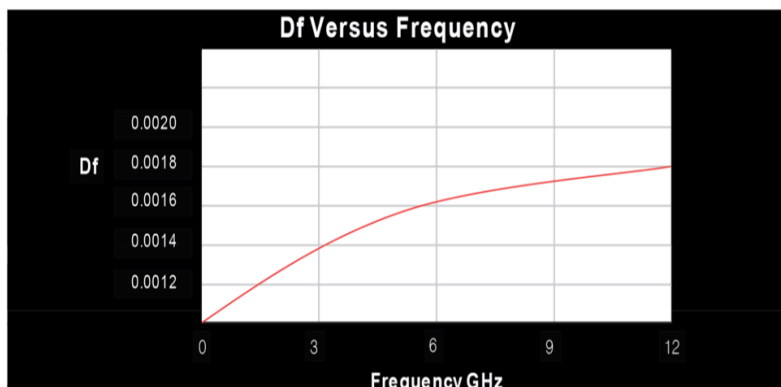
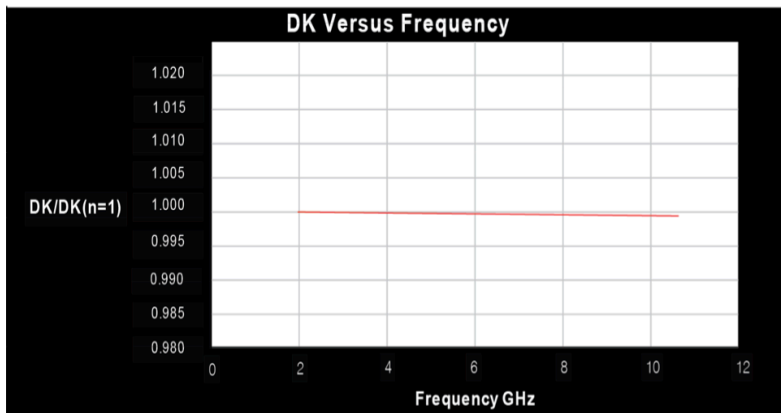
## RF-301 Cost Effective Antenna Laminate

RF-301 laminates are engineered to provide a cost effective substrate that offers the best value for the low cost, high performance demands of microwave and radio frequency antenna applications. Dielectric constant is typically offered as 2.97.

The low dissipation factor, thermal stability and smooth surface profile minimize phase shift with frequency and temperature and yield exceptionally low intermodulation performance.

### Benefits & Applications:

- Excellent PIM values in PCBs (measured at lower than -160 dBc\*)
- High Peel Strength
- Exceptionally Low Loss
- Excellent Price/Performance Ratio
- Enhanced Surface Smoothness
- Low Moisture Absorption



Measurement using manufactured PCB coupon with 20 watts per channel @ 800 and 1800 MHz.

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- Microwave Antennas
  - Radio Frequency Antennas

RF-301 Typical Values					
Property	Test Method	Unit	Value	Unit	Value
Dk @ 1 MHz	IPC-650 2.5.5.3	-	2.97	-	2.97
Dk @ 1.9 GHz	IPC-650 2.5.5.5.1 Mod.	-	2.97	-	2.97
Df @ 1.9 GHz	IPC-650 2.5.5.5.1 Mod.	-	0.0012	-	0.0012
Moisture Absorption	IPC-650 2.6.2.1	%	0.02	%	0.02
Dielectric Thickness (30 mil)	IPC-650 2.2.18	mm	0.762	mm	0.762
Dielectric Thickness (60 mil)	IPC-650 2.2.18	mm	1.524	mm	1.524
Peel Strength (1 oz. RTF Copper)	IPC-650 2.4.8 (Thermal Stress)	lb/in	10	N/mm	1.75
Volume Resistivity	IPC-650 2.5.17.1	Mohm/cm	10 <sup>9</sup>	Mohm/cm	10 <sup>9</sup>
Surface Resistivity	IPC-650 2.5.17.1	Mohm	10 <sup>8</sup>	Mohm	10 <sup>8</sup>
Flexural Strength (MD)	IPC-650 2.4.4	psi	11,000	N/mm <sup>2</sup>	75.84
Flexural Strength (CD)	IPC-650 2.4.4	psi	8,500	N/mm <sup>2</sup>	58.60
Thermal Conductivity	IPC-650 2.4.50	W/M*K	0.23	W/M*K	0.23
CTE (X axis) (50°C - 150°C)	IPC-650 2.4.41	ppm/°C	17	ppm/°C	17
CTE (Y axis) (50°C - 150°C)	IPC-650 2.4.41	ppm/°C	20	ppm/°C	20
CTE (Z axis) (50°C - 150°C)	IPC-650 2.4.41	ppm/°C	150	ppm/°C	150
Flammability Rating	UL-94		V-0		V-0

All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

Designation	Dk	Typical Thicknesses	
		Inches	mm
RF-301	2.97	0.0300	0.76
		0.0600	1.52

Available Sheet Sizes	
Inches	mm
12 x 18	305 x 457
16 x 18	406 x 457
18 x 24	457 x 610
16 x 36	406 x 914
24 x 36	610 x 914
18 x 48	457 x 1220

Standard sheet size is 36" x 48" (914 mm x 1220 mm). Please call for availability of other sizes.

Please see our Product Selector Guide for information on available copper cladding.

An example of our part number is: **RF-301-0300-CL1/CL1 - 18" x 24" (457 mm x 610 mm)**