



# PegaClad Series (338\_345\_365)

Core : TU-1300  
Prepreg : TU-1300P

PegaClad Series is an advanced material designed for Sub6G antenna application. It comprises Dk\_3.38, Dk\_3.45 and Dk\_3.65, to meet most of the antenna deigned application.

PegaClad Series is an advanced material designed for low PIM requirement and meet the antenna designer's need. It is an advanced hydrocarbon-based very low loss material, and it is capable for multi-layer circuit board design with excellent thermal reliability. PegaClad Series is the solution for double side and multi-layer radio frequency designs.

PegaClad Series laminates also exhibit excellent moisture resistance, improved CTE, superior chemical resistance, thermal stability, and also compatible with modified FR-4 processes.

## Applications

- Sub6G antenna
- mmWave
- Automotive radars and sensors
- Base Station Antenna
- CPE

## Performance and Processing Advantages

- Excellent electrical and thermal properties
- Dielectric constant is 3.38, 3.45, 3.65 ± 0.05 @ 10GHz
- Stable and flat Dk/Df performance over frequency and temperature variance.
- Compatible with modified FR-4 processes
- Excellent moisture resistance and Lead Free reflow process compatible
- Improved z-axis thermal expansion
- Superior dimensional stability, thickness uniformity and flatness
- Excellent through-hole and soldering reliability

## Industry Approvals

- IPC-4103 Specification Number: /17
- UL File Number: E189572
- ANSI Grade: non-ANSI
- Flammability Rating: 94V-0
- Maximum Operating Temperature: 140°C
- UL Registration Product Code : TU-1300 / TU-1300P
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## Standard Availability

- Thickness: 0.0020" [0.508 mm], 0.0030" [0.762mm], 0.0060" [1.524mm] in panel form
- Copper Foil Cladding : 1/2 and 1 oz with RTF, VLP or HVLP type
- Prepregs : 1078, 1086, 3313 prepreg types available in panel form





	Typical Values	Units	Test Method
<b>Electrical</b>			
Permittivity @ 10GHz Dk_338/345/365	3.38 / 3.45 / 3.65	-	IPC-2.5.5.5C
Loss Tangent @ 10GHz Dk_338/345/365	0.0032/0.0034/0.0036	-	IPC-2.5.5.5C
Thermal Coefficient of DK	30	ppm/°C	IPC-2.5.5.13
Volume Resistivity	~1.3x10 <sup>11</sup>	MΩ·cm	IPC-2.5.17.1
Surface Resistivity	~4.3x10 <sup>9</sup>	MΩ	IPC-2.5.17.1
Electric Strength	> 40	KV/mm	ASTM D149
<b>Thermal</b>			
Tg / DMA	220	°C	IPC-2.4.24.2
Tg / TMA	180		IPC-2.4.24.3
Td / TGA	390	°C	IPC-2.4.24.6
Thermal Conductivity	0.48	W/mK	ASTM-5470
CTE-x,y, α1	13-16	ppm/°C	IPC-2.4.24C
CTE-z, α1	35	ppm/°C	
CTE-z, α2	200	ppm/°C	
CTE z-axis	1.7	%	
Dimensional Stability	<0.3	mils/inch	IPC-2.4.4
Thermal Stress, Solder Float, 288°C	> 120 sec		IPC-2.6.8.1 IPC-2.6.16
T-260	> 60 min		IPC-2.4.24.1
T-288	> 60 min		
T-300	> 60 min		
Flammability	94V-0		UL 94
<b>Mechanical</b>			
Flexural Strength Lengthwise Crosswise	> 50,000 psi > 40,000 psi		IPC-2.4.4
Peel Strength 1.0 oz. HVLP Cu foil	4~5	lb/in	IPC-2.4.8
Water Absorption, Dk_365/60 mil	0.06	%	IPC-2.6.2.1

NOTE:

1. Property values are for information purposes only and not intended for specification.
2. Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.
3. This product is based on a patent pending technology.





● **Offering Combination :**

Material Offering	Thickness	Normal PIM	Better PIM	PIM Sensitive
PegaClad 338	20 mil			
PegaClad 345	30 mil			
PegaClad 365	60 mil			

