



Halogen-free Ultra-low transmission loss Multi-layer circuit board materials

ハロゲンフリー超低伝送損失多層基板材料

Laminate **R-5515**
Prepreg **R-5410**

Applications 用途

Antenna(Automotive millimeter-wave radar, Base station), Etc.
アンテナ(車載ミリ波レーダ、基地局)など



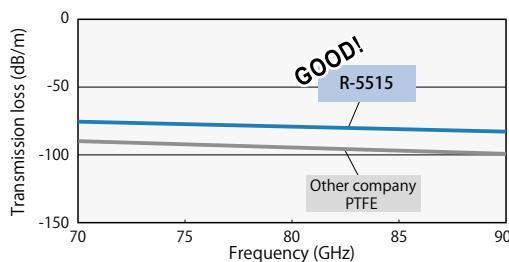
Achieve higher efficiency and lower loss of millimeter-wave antenna, and reduce processing cost of circuit board.
Prepreg R-5410 enables multi-layer antenna constructions and improves the design flexibility of high-frequency circuit boards.
高周波アンテナの信号の高利得化と基板の加工コスト低減に貢献。
アンテナ層の多層化、高周波基板の設計自由度向上に寄与

Dk 3.0 Df 0.002
@10GHz

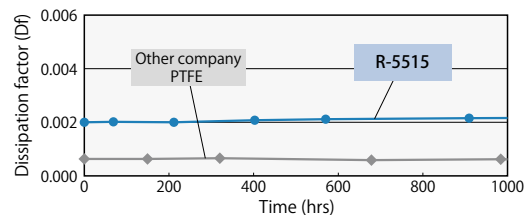
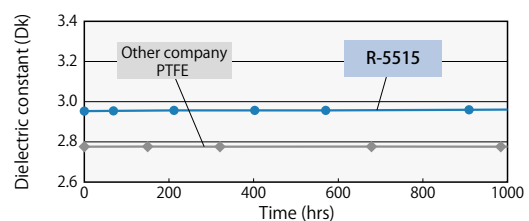
Tg (DMA)
200°C

Reduce PCB process cost
(vs. PTFE material)

Frequency dependence by Transmission loss (70-90GHz) 伝送損失比較 (70-90GHz)



Long-term stability under High temperature (Dk, Df) 高温環境下における長期安定性 (Dk, Df)

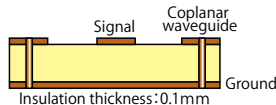


Transmission loss at 79GHz

Material	Transmission loss (dB/m)	Dk (Design)
R-5515	79	3.09
Other company PTFE	96	3.01

Construction

Microstrip line



- Measurement method : Cavity resonance method
- Aging Temperature : 125°C (without humidity control)
- Measurement frequency : 10GHz

General properties 一般特性

Item	Test method	Condition	Unit	Halogen-free R-5515	
Glass transition temp.(Tg)	DMA	A	°C	200	
CTE z-axis	IPC-TM-650 2.4.24	A	ppm/°C	α1	50
				α2	300
T288(with copper)	IPC-TM-650 2.4.24.1	A	min	>120	
Thermal conductivity	Laser flash	A	W/m·K	0.4	
Dielectric constant(Dk)	Cavity resonance	C-24/23/50	-	10GHz	3.0
Dissipation factor(Df)				0.002	
Peel strength*	1/2oz(18μm)	IPC-TM-650 2.4.8	A	kN/m	0.6

The sample thickness is 0.5mm.

* H-VLP2 Copper

Please contact us about the thickness specification. 板厚仕様については、別途ご相談ください。
Our Halogen-free materials are based on JPCA-ES-01-2003 standard and others. 当社ハロゲンフリー材料は、JPCA-ES-01-2003などの定義によるものです。
The above data are typical values and not guaranteed values. 上記データは当社測定による代表値であり、保証値ではありません。

Please see the page for "Notes before you use" 商品のご採用に当たっての注意事項は [こちら](#)