

**Dk 3.1 Df 0.0012
@14GHz**

**Tg (DMA)
220°C**

**T288 (with copper)
>120min**

**Applications
Network / Wireless**

Routers, Switches, Optical Transmission Equipment, Servers, AI Servers, Base Stations, Semiconductor Test Equipment, Probe Cards.

MEGTRON8

Laminate

R-5795(U)* R-5795(N)**

Prepreg

R-5690(U)* R-5690(N)**

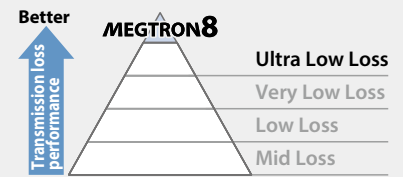
*Ultra-low Df glass cloth type

**Low Dk glass cloth type

Ultra-low transmission loss, highly heat-resistant multi-layer circuit board materials

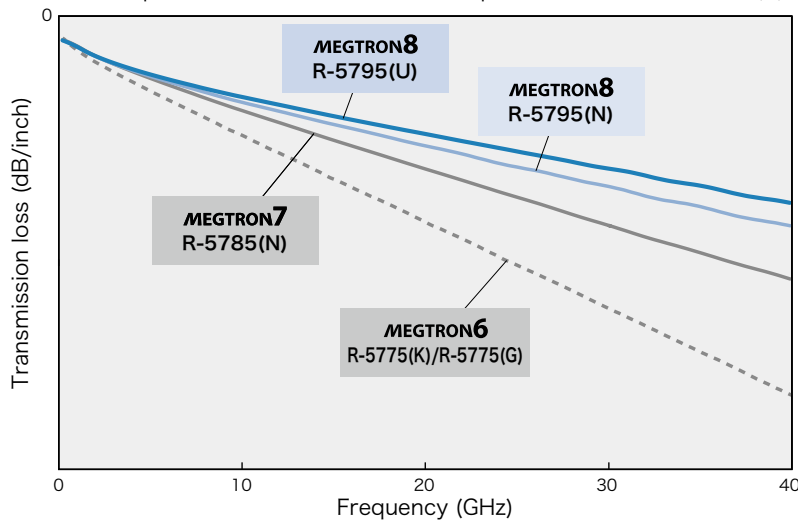
The new materials support 800GbE used for next-generation high-speed communication technology.

Comparison of MEGTRON8 R-5795(U) and MEGTRON7 R-5785(N), improving transmission loss by about 30% (@28GHz).



Frequency dependence by transmission loss

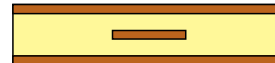
About 30% improvement in transmission loss compared to MEGTRON7 R-5785(N)*



* Improvement at 28GHz

$$\frac{\Delta \text{Transmission loss (MEGTRON7-MEGTRON8)}}{\text{Transmission loss (MEGTRON7)}} \times 100 \approx 30\%$$

Evaluation sample (cross section)



PCB construction	3L PCB Strip line
Copper thickness	18 μm (IL)
Core	0.13mm
Prepreg	0.15mm
Z ₀ Impedance	50Ω
Inner treatment	No-surface treatment
Measurement method	2 port S-parameter
Frequency range	0.2 - 40GHz
De-embedded	Multiline TRL method

The above data are our company measurement values and not guaranteed values.

General properties

Item	Test method	Condition	Unit	MEGTRON8 R-5795(U)	MEGTRON8 R-5795(N)	MEGTRON7 R-5785(N)	
				Ultra-low Df glass cloth	Low Dk glass cloth	Low Dk glass cloth	
Tg	DMA	A	°C	220	220	200	
CTE z-axis	α1	IPC-TM-650 2.4.24	A	ppm/°C	50	45	
					α2	270	320
T288(with copper)	IPC-TM-650 2.4.24.1	A	min	>120	>120	>120	
Dk	14GHz Balanced-type circular disk resonator	C-24/23/50	-	3.1	3.1	3.2	
Df				0.0012	0.0016	0.0021	
Peel strength	1oz(35μm)	IPC-TM-650 2.4.8	A	kN/m	0.7 [H-VLP3]	0.7 [H-VLP3]	0.8 [H-VLP]

The sample thickness is 0.75mm.

The sample structure is #1078 x 10 ply.

The above data are typical values and not guaranteed values.