

SPECIALTY ENGINEERED MATERIALS ELECTRICAL & ELECTRONICS SOLUTIONS

EDGETEK™ FORMULATIONS FOR 5G BASE STATION ANTENNA APPLICATIONS



With faster material lead times, manufacturers of 5th generation (5G) antennas can qualify designs faster and meet the demands of rapidly deploying 5G infrastructures. An increase in base station density coverage drives the need for more 5G optimized antennas as well. PolyOne can custom formulate materials for 5G antennas that meet specified dielectric constant (Dk) values, sample within one week, and deliver on production quantities within two to three weeks. In addition to an increased speed to market, our custom formulations boost your design flexibility and offer better performance-to-cost ratios as compared to traditionally used materials.

EDGETEK™ HIGH FREQUENCY FORMULATIONS*

	ET7600-8027	ET7600-8025	ET7600-8037	ET7600-8019	ET7600-8028	ET7600-8026	ET7600-8044	ET7600-8029	ET7600-8041	ET7600-8045	ET7600-8036	ET7600-8031
Base Resin	PPE	PPE	PPE	PPE	PPE	PPE	PPE	PPE	PPE	PPE	PPE	PPE
Dielectric Constant (Dk)	3.0	3.1	3.35	3.6	3.8	4.4	4.8	5.28	5.4	5.85	7.0	9.0

*PolyOne can custom formulate this platform for specific Dk values between 3.0 and 9.0 to accommodate specific antenna designs.



HOW POLYONE CUSTOM POLYMER FORMULATIONS MAKE THE DIFFERENCE FOR 5G BASE STATION ANTENNA PHASE SHIFTS

Faster Design Qualification & Shorter Lead Times – PolyOne can custom formulate materials to specific Dk values, sample within one week, and deliver on production quantities within two to three weeks.

Specific Dk Material – Our custom formulations give your antenna design the specific Dk needed, between 3.0 Dk and 9.0 Dk.

Low Dissipation Factor (Df) Material – Our solutions use a base formulation that has a Df value of less than 0.002.

Good Dimensional Stability – Our solutions are formulated to meet dimensional tolerances within +/- 0.2mm.

Consistent Dk Quality – Dk values can be tested to verify consistency.

Faster Speed-to-Market and Increased Design Flexibility – The sampling and validating of thermoplastic formulations is faster than that of traditionally used materials such as ceramics or printed circuit boards (PCB). Further, injection-moldable materials allow for unique antenna designs and complex shapes, while only simple shapes are possible when using traditional materials.

Better Performance-to-Cost Ratios – Traditionally used materials can cost 30–40% more than a thermoplastic solution at only slightly better performance.

Small Part Manufacturing Capabilities – Thermoplastics can be molded into smaller parts, whereas the manufacturing process of traditionally used materials limits this capability.

To learn more, please visit polyone.com
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www.polyone.com

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