Helping to bring on the 6G communication era
HARDLEN® leverages the strength of low dielectric properties

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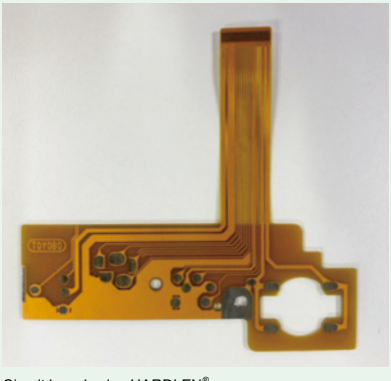
Toyobo's maleic anhydride modification technology and impurity removal production technology are both without rival. Making use of these technologies, HARDLEN® boasts a strong advantage in the marketplace. We are currently conducting research and development into new applications. The terms "5G" and "6G" are commonly heard in the context of next-generation communication systems as an era of ultra-high speed, ultra-low latency, and massively simultaneous connections rapidly approaches. Technical hurdles remain, however, including those of materials. As an example, 6G makes use of even higher frequency electromagnetic waves than 5G does, but signal attenuation and delay problems arise with the use of current materials. Prevention of these problems demands materials with lower dielectric constants for use in components such as antennas. The key to technological innovation in this area is our company's impurity removal production technology. Adhesives designed around HARDLEN® are able to achieve a low dielectric constant. We are already supplying our low dielectric adhesives to printed circuit board material manufacturers in the Asian region, and our development unit is rushing to develop ultra-low dielectric adhesives for 6G that leverage the strengths of HARDLEN®.

Multiple sensors and radar systems are also used in autonomous driving systems and factory automation systems, which are expected to proliferate in the future. As high speed, high-capacity, and stable communication infrastructure is indispensable for the safety of these systems, low dielectric properties are demanded of the adhesives used in this infrastructure. Under the belief that our business will see use in many industrial and lifestyle scenarios and that it can broadly contribute to the safety and security of society, we undertake our work with enthusiasm every day.



Circuit board using HARDLEN®