

MATERIAL SOLUTIONS FOR 5G APPLICATIONS

SOLUTIONS FOR INFRASTRUCTURE

VALUE PROPOSITION OF SOLUTIONS FOR INFRASTRUCTURE



Outstanding weatherability



Tailor made dielectric performance



Weight reduction



Miniaturization and integration design



Dimension stability

ANTENNA RADOME

LNP™ Copolymers offer good weatherability for outdoor applications, including Macro cell antenna and small cell cover. Antenna radome requests critical UV resistance, low temperature mechanical strength and stable dk/df value. LNP Copolymers can meet these design requirements, even -60 °C outdoor working environment.



Scan QR Code for more information

DIPOLE

Massive MIMO antenna is an important technology for 5G network. With the technology trend of weight reduction and integration design, dipole is a key component for massive MIMO antenna. SABIC **LDS (Laser Direct Structure) solution** can be used to help replace metal and PCB for dipole design, and help bring value to our customers.



Scan QR Code for more information

PHASE SHIFTER

LNP™ THERMOCOMP™ compound portfolio and **ULTEM™ resins** provide material solutions with stable customized DK and low Df, and may help our base station antenna customers achieve their best RF performance and antenna signal coverage design.



Scan QR Code for more information

RF FILTER





Compared with 4G technology, 5G massive MIMO antenna will have more RF filters, and weight reduction will be more challenging for base station equipment suppliers. SABIC **ULTEM resins** provide an alternative solution to replace metal RF filter, allowing for more complex and miniaturized design.



Scan QR Code for more information

SOLUTIONS FOR CONNECTION & DEVICE

VALUE PROPOSITION OF SOLUTIONS FOR CONNECTION

- | | |
|---|---|
|  Lowest CTE in amorphous materials |  Long term Heat capability |
|  Superior transmission in infrared ray |  High dimension stability |

OPTICAL CONNECTOR AND LENS

SABIC has several decades of history in supplying thermoplastic polymers in the optoelectronics industry. **ULTEM resins** have been widely used in, for example, fiber-optic components and are known for building blocks enabling IR light transmission without degrading signal quality.

SABIC offers a broad portfolio of optical thermoplastics, so that customers have the options for their evaluation of a grade with either highest heat resistance in combination with infrared transparency, or selection of opaque ULTEM resin grades for their high dimension stability product design.

KEY APPLICATIONS

- Fiber-optic connectors
- ODN (Optical Distribution Network) connector
- Multi/Single mode transceiver lens array
- Tosa/Rosa lens
- RF CONNECTOR
- Plastic BOSA

KEY GRADES

- ULTEM 1010, unfilled PEI
- ULTEM 1000R, unfilled PEI
- ULTEM DT1810EV, high flow
- ULTEM 1010TC, T% control
- ULTEM 2110, 10%GF filled PEI
- ULTEM 2410, 40%GF filled PEI
- EXTEM™ XH1015, SMT capable




KEY VALUE

- Dimensional stability
- Tight tolerance / Low CTE
- Creep resistance
- UL94 V-0
- Thin-wall flow
- High torque resistance
- Good IR transmission
- SMT solder reflow capable



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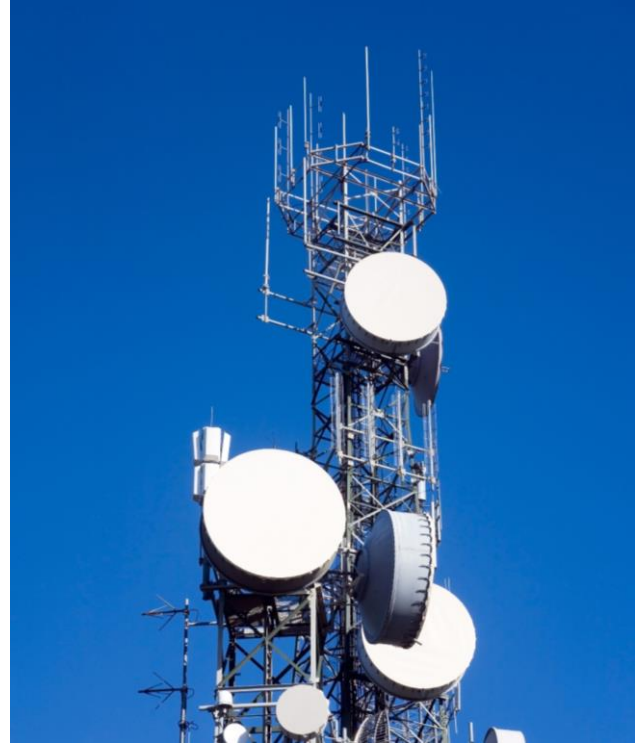
VALUE PROPOSITION OF SOLUTIONS FOR DEVICE

-  Outstanding chemical resistance
-  Tunable dielectric properties
-  Excellent low temperature ductility

MATERIAL SOLUTIONS FOR 5G APPLICATIONS

The next generation of mobile technology (5G) will help bring different communication approach and interconnection of things.

SABIC Specialties business developed various materials for 5G related product applications to help respond to the needs of customers such as high speed data transmission, light weight, weatherability, IR transmission, miniaturization and low loss RF design.



POTENTIAL APPLICATIONS



INFRASTRUCTURE

- Antenna Radome
- Dipole
- Phase Shifter
- RF Filter



CONNECTION

- Fiber Optical connector
- Optical Transceiver lens
- RF Connector



DEVICES

- Wearables
- Smart phone
- Smart home

If you want to know more about our materials solutions for 5G applications, please contact:

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