Liquid Crystal (LC) Mixtures for min Wave Control Devices

Application of high-speed wireless communication technology

Enabling infrastructure development for global deployment of high-speed wireless communication networks using LC technology

LC-based smart antennas

LEO* satellite communication services •Area expansion



LC-based RIS**

5G and beyond communication services



Low power consumption due to low voltage operation.

Characteristics of LC mixture (ZOC-A019XX) for mmWave devices

LC properties		mmWave characteristics [at 28 GHz]	
Phase transition temp. / T _{NI} (nematic→isotropic)	101°C	Dielectric anisotropy / Δε	1.27
Low temperature stability / LTS	< -40°C	Loss tangent / tanδ _{max}	0.006
Optical anisotropy / Δn	0.471	Tunability / т	0.33
Dielectric anisotropy / $\Delta\epsilon$ [at 1 kHz]	14.7	Material quality / η	53.3

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Energy-saving

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