

$$\begin{array}{ccccccc}
 x(n) & = & \operatorname{Re}\{x_e(n)\} & + & \operatorname{Re}\{x_o(n)\} & + & \operatorname{jIm}\{x_e(n)\} + \operatorname{jIm}\{x_o(n)\} \\
 \updownarrow & & \updownarrow & & \swarrow & & \searrow \\
 X(e^{\operatorname{j}\Omega}) & = & \operatorname{Re}\{X_e(e^{\operatorname{j}\Omega})\} & + & \operatorname{Re}\{X_o(e^{\operatorname{j}\Omega})\} & + & \operatorname{jIm}\{X_e(e^{\operatorname{j}\Omega})\} + \operatorname{jIm}\{X_o(e^{\operatorname{j}\Omega})\}
 \end{array}$$