$$H_{n,k} = \frac{1}{\sqrt{N}} \left\{ \cos\left\{\frac{nk}{N}\right\} + \sin\left\{\frac{nk}{N}\right\} \right\} \quad , n,k = 0 \dots N-1$$

$$Re(FS) = (HS + HS(-))/2$$

$$Im(FS) = -(HS - HS(-))/2$$

$$HS = Re(FS) - Im(FS) \quad , \quad HS(-k) = HS(N-k)$$

$$X(\omega) = \frac{H(f_n) + H(f_n)(-) - i(H(f_n) - H(f_n)(-))}{2} \times$$

$$\times \frac{(H(k) + H(k)(-) + i(H(k) - H(k)(-))}{(H(k) + H(k))^2 + (H(k) - H(k)(-))^2 + \alpha M(\omega)} \cdot 2$$

$$= \frac{\frac{1}{2}[H(f_n) + H(f_n)(-) - i(H(f_n) - H(f_n)(-))] \times [H(k) + H(k)(-) + i(H(k) - H(k))]}{[H(k)]^2 + [H(k)(-)]^2 + \alpha M(\omega)}$$