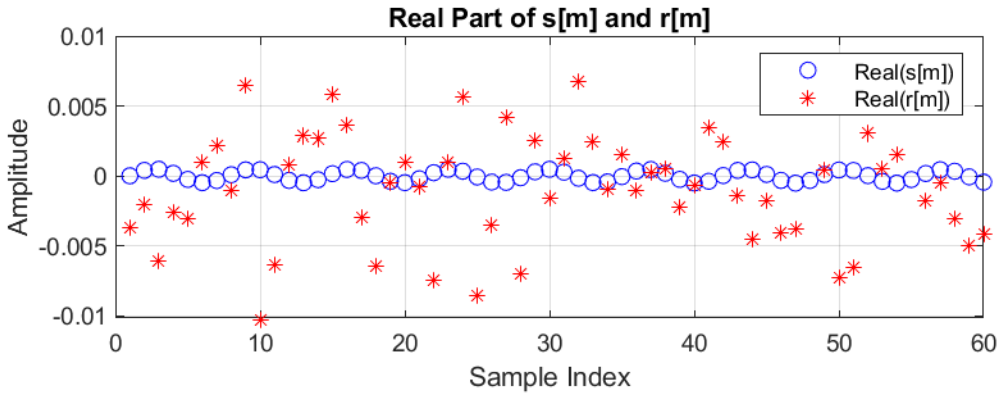
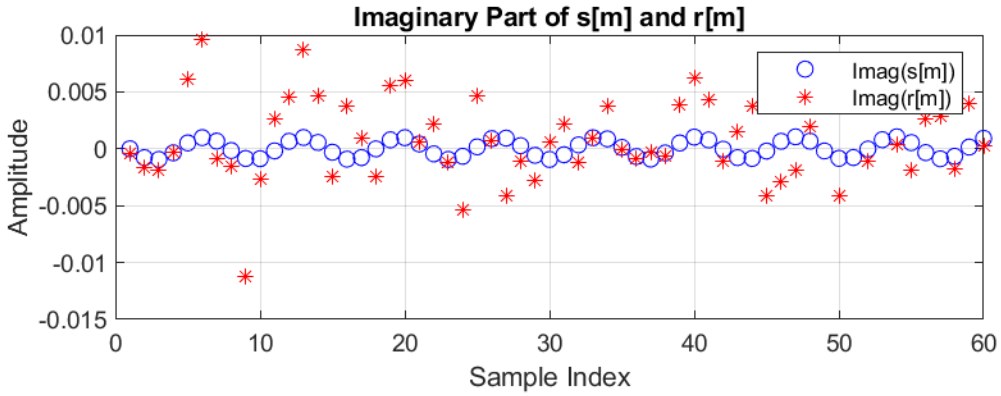
1、





2、 Why Signal and noise are both complex?

Because communication systems use IQ modulation, which uses both amplitude and phase. In addition, signal converted to complex can simplify calculation. Complex noise can affect both the in-phase and quadrature components to accurately simulate real-world condition.

3、 Average power of transmitted signal s[m] = 2.861×10^{-4}

4、 Average power of noise signal n[m] = 2.8567×10^{-5}

5、 Ideal SNR = $10log_{10}\frac{P_{signal}}{P_{noise}} =$ 10.0065 dB

SNR used in AWGN block = 10 dB