Lab. 9 HW 結報

* Homework:

1. Let fc be the carrier frequency and fi be the IF frequency. Calculate the frequency of image signal.
2. Let fc=16MHz, the symbol rate be 1MHz, and the fi=4MHz. Design an image rejection filter..
3. Let the sampling rate of ADC be 16M and the sampling rate of the DMA filter be 64MHz.
4. Use IF demodulation to downconvert the receive signal and conduct detection to recover the transmit symbols.
5. Add noise in the receive signal and conduct the simulation again.
6. IF demodulation without noise：

依照題目所給定的設計，發送與接收的比較如下。



1. IF demodulation with noise：

加上功率為0.5的雜訊之後，發送與接收的比較如下。。



1. 結論：

雜訊對這個系統的影響可以從第二張圖看出，相較於第一張的全部答對，第二張圖出現了不少錯誤解碼。