

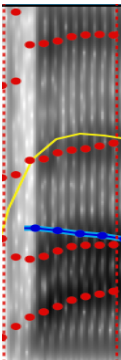
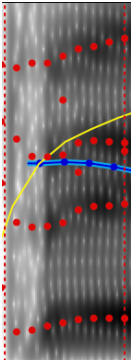
# DSP HW#2 Report

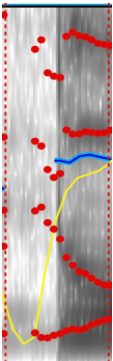

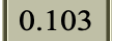
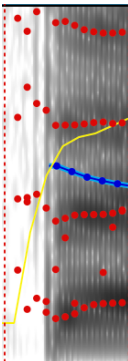
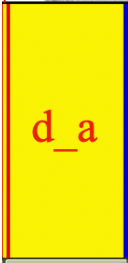
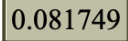
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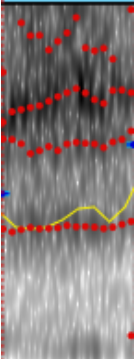


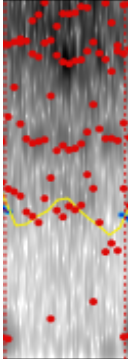


## Part 1

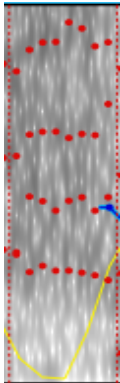

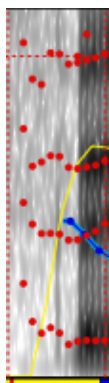

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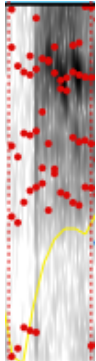

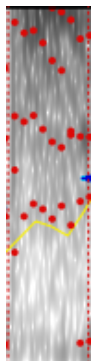

## Part 2


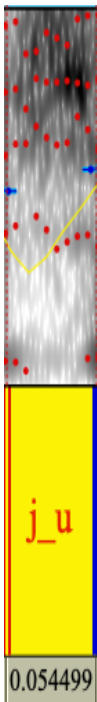
Phonetic Class			
Plosive	b(ㄅ)	 b_a	 b_ee
		0.051	0.048509

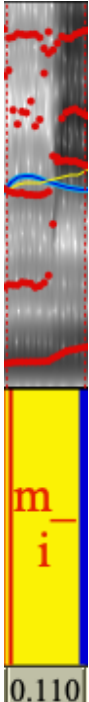
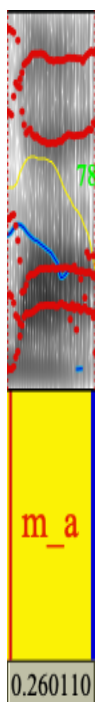
Phonetic Class			
Plosive	d(ㇿ)	   0.103	   0.081749

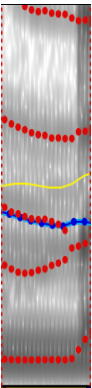
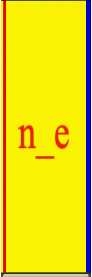
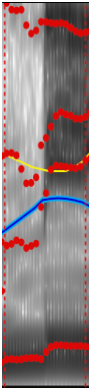

Phonetic Class			
Fricatives	sh(𐄣)	   0.090220	   0.123

Phonetic Class			
Fricatives	f(ㄴ)	 	 

Phonetic Class			
Affricate	ji(ㄷ)	 	 

Phonetic Class			
Affricate	j(ㄱ)		
		0.042	0.054499

Phonetic Class			
Nasal	m(ㄴ)		
		0.110	0.260110

Phonetic Class			
Nasal	n(ㄋ)	  0.082488	  0.102

## Part 3

- Plosive**：爆破音，發音時氣流通路閉塞，然後突然打開發出聲音，所以振幅會突然升高。  
**Fricative**：擦音，發音時發音器官彼此靠攏，形成狹窄的通道，氣流通過時造成湍流發生摩擦，發出噪音，振幅較小但持續較長。  
**Affrivative**：塞擦音，由同一器官利用爆破的摩擦發音，所以震幅會突然加大且較長  
**Nasal**：鼻音，氣流通過鼻腔發聲震盪，使用固定頻率震盪，所以波的週期相似
- Boundary 並不明顯，有很多時候難以區分前後音的邊界。Right-context dependent 將 final phoneme 一起考慮進去，因為人的發音常常必須跟著 final phoneme 改變前面的發聲方式，所以此表示法較能表示真實的音。
- ㄋ的發音時間較長，且 formant 較強。
- Final 的振幅較大，所以經常可以看到波在最後突然變大，以此來區分 initial 和 final。