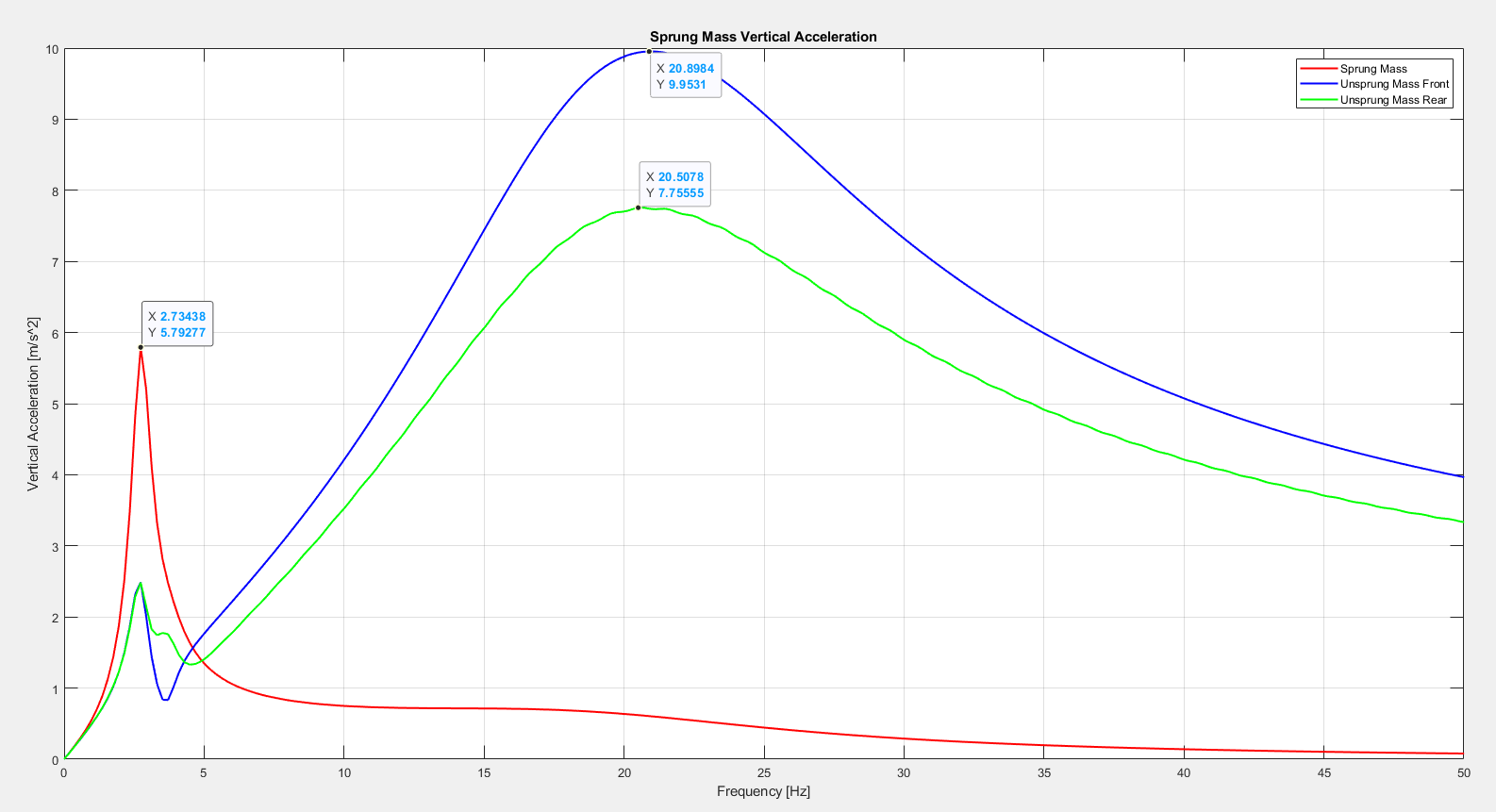
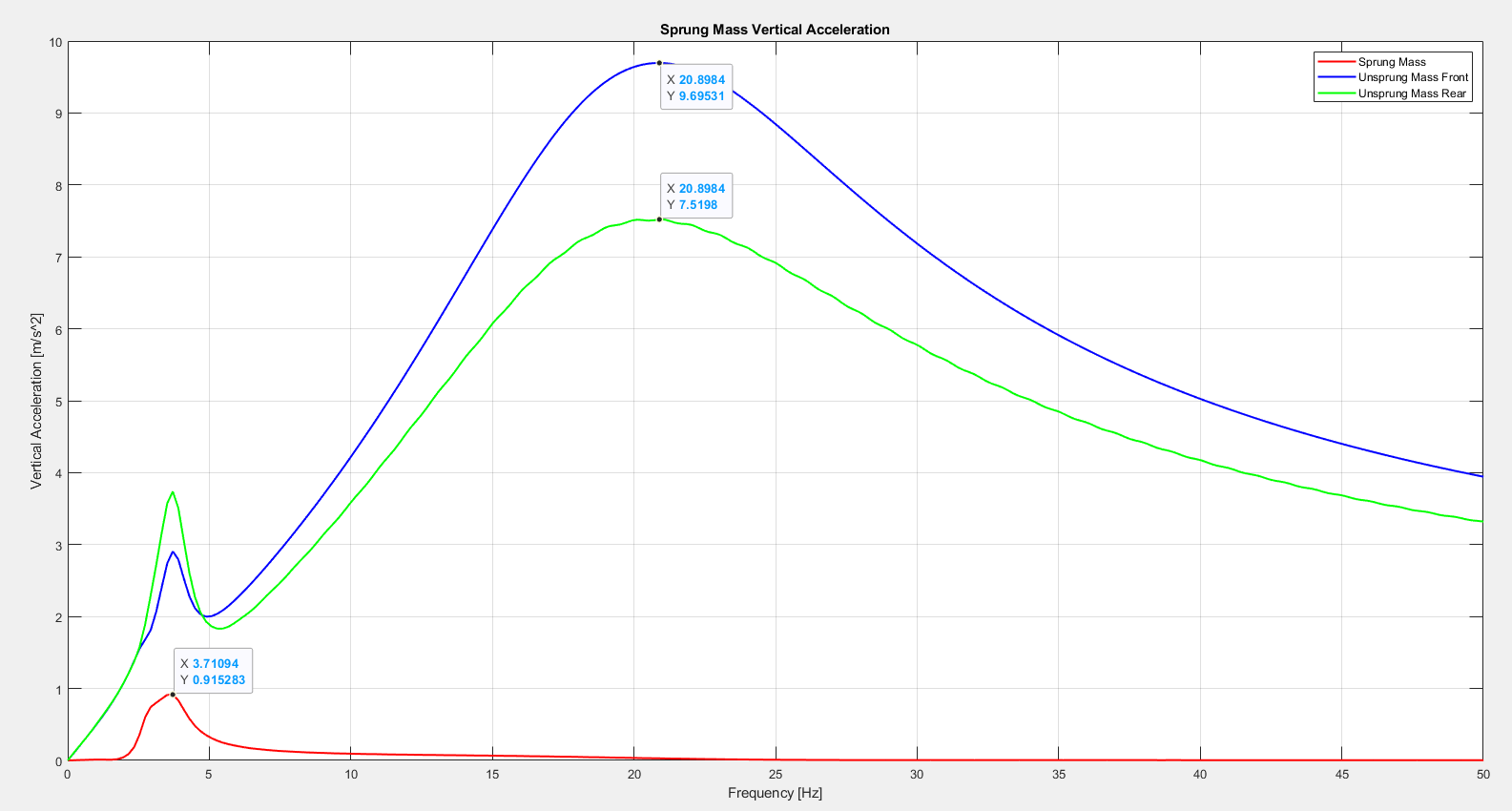
1. Front Spring Rate [N/m] @ Front Ride Frequency = 3.00 [Hz}:
   1. f\_rideF = (2\*pi)^-1\*(suspension.k\_springF/(chassis.m\_s \* (chassis.b / chassis.L)))^(1/2);
      1. chassis.m\_s = 785 [kg];
      2. chassis.L = 3.5 [m];
      3. chassis.b = 1.7 [m];
      4. f\_rideF = 3 [Hz];
      5. **suspension.k\_springF = 135,000 [N/m];**
2. Rear Spring Rate [N/m] @ Rear Ride Frequency = 3.60 [Hz}:
   1. f\_rideR = (2\*pi)^-1\*(suspension.k\_springR/(chassis.m\_s \* (chassis.a / chassis.L)))^(1/2);
      1. chassis.m\_s = 785 [kg];
      2. chassis.L = 3.5 [m];
      3. chassis.a = 1.8 [m];
      4. f\_rideF = 3.60 [Hz];
      5. **suspension.k\_springR = 206,000 [N/m];**
3. Front and Rear Springs Pre Loads [N]:
   1. suspension.F0F = chassis.m\_s \* (chassis.b / chassis.L) \* constants.g;
   2. suspension.F0R = chassis.m\_s \* (chassis.a / chassis.L) \* constants.g;
      1. chassis.m\_s = 785 [kg];
      2. chassis.L = 3.5 [m];
      3. chassis.b = 1.7 [m];
      4. chassis.a = 1.8 [m]
      5. constants.g = 9.81 [m/s^2];
      6. **suspension.F0F = 3740.4 [N];**
      7. **suspension.F0R = 3960.4 [N];**
4. Front Damping Coefficient [Ns/m] @ Damping Ratio = 0.2 [-]:
   1. c\_ratioF = suspension.c\_damperF/c\_criticalF;
      1. c\_criticalF = 2\*(suspension.k\_springF\*(chassis.m\_s \* (chassis.b / chassis.L)))^(1/2);
      2. suspension.k\_springF = 135,000 [N];
      3. chassis.m\_s = 785 [N];
      4. chassis.L = 3.5 [m];
      5. chassis.b = 1.7 [m];
      6. c\_criticalF = 1552.8 [Ns/m];
      7. **suspension.c\_damperF = 2,880 [Ns/m];**
5. Rear Damping Coefficient [Ns/m] @ Damping Ratio = 0.2 [-]:
   1. c\_ratioR = suspension.c\_damperR/c\_criticalR;
      1. c\_criticalR = 2\*(suspension.k\_springF\*(chassis.m\_s \* (chassis.a / chassis.L)))^(1/2);
      2. suspension.k\_springR = 206,000 [N];
      3. chassis.m\_s = 785 [N];
      4. chassis.L = 3.5 [m];
      5. chassis.a = 1.8 [m];
      6. c\_criticalR = 1974.7 [Ns/m];
      7. **suspension.c\_damperR = 3,650 [Ns/m];**
6. Front and Rear Wheel Hub Frequencies [Hz];
   1. f\_hubF = (2\*pi)^-1\*((suspension.k\_tyreF+suspension.k\_springF)/chassis.m\_usF)^(1/2);
      1. suspension.k\_tyreF = 400,000 [N/m];
      2. suspension.k\_springF = 135,000 [N/m];
      3. chassis.m\_usF = 30 [kg];
      4. **f\_hubF = 21.25 [Hz];**
   2. f\_hubR = (2\*pi)^-1\*((suspension.k\_tyreR+suspension.k\_springR)/chassis.m\_usR)^(1/2);
      1. suspension.k\_tyreR = 400,000 [N/m];
      2. suspension.k\_springR = 206,000 [N/m];
      3. chassis.m\_usR = 35 [kg];
      4. **f\_hubR = 20.94 [Hz];**
7. Heave Natural Frequency [Hz];
   1. **2.73 Hz;**



1. Pitch Natural Frequency [Hz];
   1. **3.71 Hz;**



1. Front and Rear Wheel Hub Frequencies [Hz];
   1. Heave:
      1. **Front Wheel Hub Frequency FFT = 20.90 [Hz]**
      2. **Rear Wheel Hub Frequency FFT = 20.51 [Hz]**
      3. **Front Wheel Hub Frequency Calculated = 21.25 [Hz]**
      4. **Rear Wheel Hub Frequency Calculated = 20.94 [Hz]**
   2. Pitch:
      1. **Front Wheel Hub Frequency FFT = 20.90 [Hz]**
      2. **Rear Wheel Hub Frequency FFT = 20.90 [Hz]**
      3. **Front Wheel Hub Frequency Calculated = 21.25 [Hz]**
      4. **Rear Wheel Hub Frequency Calculated = 20.94 [Hz]**