The whole simulation is running in Simulink’s discrete mode with frequency of 1000 KHz.

**Random/Stochastic signals:**

|  |  |  |  |
| --- | --- | --- | --- |
| Input/seed | Dynamics | Gain | Signal Label |
| Gaussian Random number (mean=0;variance=0.5) (100 KHz) | High-pass Filter(pass band >1000 Hz) | 1 | A |
| Gaussian Random number (mean=0; variance=0.5)  (100 KHz) | Low-pass Filter (pass band <1000 Hz) | 1 | B |
| Uniformly distributed random number (min:-2 to max:+2)  (100 KHz) | ZOH(1000 Hz) | 0.25 | C |
| Gaussian distributed random number (mean:4; variance: 1)  (200 KHz) | ZOH(1000 KHz) | 0.25 | D |

**Low\_Frequency\_Signal\_Generator :**

|  |  |  |  |
| --- | --- | --- | --- |
| 200 rad/sec pure sin wave amplitude 1 | ZOH(1000 KHz) | 1 | G |
| 1223+1327+1637+1787 +10K ; Sine wave with amplitude 0.2 each & phase =0 | **ZOH(1000 KHz)** | **1** | **H** |
| 43+89+167+193+229+271+337+379+409+499 ; Sine wave with amplitude 0.1 each | ZOH(1000 KHz) | 1 | I |

**High\_Frequency\_Signal\_Generator :**

|  |  |  |  |
| --- | --- | --- | --- |
| 9KHz pure sin wave Amplitude:3 | ZOH(1000 KHz) | 0.1/1 | J |
| 5 KHz -9KHz mixture of sine wave | **ZOH(1000 KHz)** | **0.1/1** | **K** |

**Results:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Signal | Used for | Training Error\_RBNN | Training\_Error\_NNT | Testing\_Error\_RBNN | Testing\_Error\_NNT |
| A | Training |  |  |  |  |
| B | Training |  |  |  |  |
| G | Training |  |  |  |  |
| F | Training |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |