Open the simulation code using the .sln file. To run a simulation, go to Build -> Build/Rebuild to make the .exe file. In Command Prompt, navigate to the folder where the .sln is located, then x64/Debug, which will be the location of the .exe. Then use the command in the original manual to run, example below:

gpeSolver_RK4.exe −AtomNumber 2.6e4 −ScatteringLength 100.0 −Radius 16.0 −Length 52.0 −Depth 300.0 −ITSimulationLength 20.0 −BoundaryDepth 0 −BoundaryWidth 5 −NX 128 −NY 128 −NZ 128 −XRange 40.0 −YRange 40.0 −ZRange 60.0 −Timestep 5.0e−3 −ShakeAmplitude 0.3 −ShakeFrequency 30 −SimulationLength 100 -vortex 1 -PotentialDivisions 4 −NOutputs 9 −OutputTimes 0.0,5.0,10.0,15.0,20.0,25.0,30.0,40.0,45.0,50.0,55.0,60.0,65.0,70.0,75.0,80.0,85.0,90.0,95.0,100.0,105.0,110.0,115.0,120.0,125.0

-PotentialDivisions and -vortex are new parameters not in the original manual. Potential divisions tells you how many squares are in the Kelvin wave excitation potential. The excited KW wave number will be 2(PotentialDivisions) + 1.

If -vortex is set to 0, it will be a uniform initial state, if set to 1, it will create an L = 1 state with a vortex

If .sln file does not work:
Open Visual Studio and create a new project, which will give a new .sln file. Move the code files into the new project folder. Open the “Source Files” tab on the right hand side, if empty, move kernel.cu into “Source Files”.

Go to Project -> [Project Name] Properties and check General -> Output Directory is $(SolutionDir)$(Platform)\$(Configuration)\. Open Configuration Manager and check that Configuration is set to Debug and Platform to x64.

Go to Advanced and make sure Character Set is set to Use Multi-Byte Character Set.

Go to Linker -> General and set Additional Library Directories to %(AdditionalLibraryDirectories);$(CudaToolkitLibDir). Then go to Linker -> Input and set Additional Dependencies to %(AdditionalDependencies);cudart.lib;cudadevrt.lib;cufft.lib;cublas.lib

You will need to make sure the Include variable in your system settings is set to the location of CUDA on your computer.