The September 2, 2009, Tasikmalaya earthquake (Mb=7.3), is one of the greatest earthquakes recorded in the area of West Java. However, the damage caused by this earthquake are 117 people deaths, 1,254 people injured, 63,717 houses collapse and 131,216 houses broken, and some life line damage.

An earthquake early warning (EEW) and rapid response system can provide the critical information needed to minimized loss for lives and property and direct rescue. As part preparations for the future earthquake, mitigated big cities of Jakarta is very important, after potential hazard of earthquake detected in the Meteorological, Climatological and Geophysical Agency (BMKG) station near the earthquake epicenter. Earthquake ground shaking with magnitude greater than five Richter scale (SR), from Sunda Strait or Southern Java Mega thrust, with 50.53 second for P wave and greater than 100 second for S wave. So potential issued of earthquake early warning should be done in the future. Desimination of EEW information should be done potentially by BMKG five in-one system communications.

Lesson from Tasikmalaya earthquake, the incoming three component signals broadband velocity data station BMKG nearer the epicenter, recursively converted to ground displacement and ground accelerations. Tc are computed for Cilacap (CLJI) station, West Java and Pd parameter early warning. Future earthquake early warning parameter calculated not only strong earthquake but also other earthquake with magnitude less than five SR.

Key word: earthquake early warning, displacement, acceleration, BMKG.