**Earthquake:**
Advanced National Seismic System (ANSS):
M 4.1 - 2.0 km (1.3 mi) N of Millbrae
ANSS location: 37.616, -122.381
ANSS depth: 13.1 km (8.2 mi)
ANSS origin (Local): 2023-10-27 18:38:31.7
ANSS origin (UTC): 2023-10-28 01:38:31.7
ShakeAlert first Message (UTC): 2023-10-28 01:38:38.5
ShakeAlert Event ID: ew1698457110

**ShakeAlert Messages Issued (after origin time):**
Initial: 6.8 sec
Peak magnitude: 8.2 sec
Final: 8.2 sec

**ShakeAlert System Magnitude Estimates:**
Initial: M 3.7
Peak: M 4.0
Final: M 4.0

**ShakeAlert System Location Accuracy:**
Initial: 1.3 km (0.8 mi) NE
At peak mag.: 1.6 km (1.0 mi) NE
Final: 1.6 km (1.0 mi) NE

**Wireless Emergency Alert:**
Magnitude below threshold for WEA system.
WEA alerts are distributed to the MMI 4+ area if ShakeAlert Peak M>=5.0

**Number of Stations Reporting:**
3 within 10 km of epicenter
101 within 100 km of epicenter
26 used in final ShakeAlert Message

**Nearby Cities:**

<table>
<thead>
<tr>
<th>City</th>
<th>Distance</th>
<th>Time*</th>
<th>Shaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millbrae</td>
<td>2 / (1)</td>
<td>~0</td>
<td>Light (4)</td>
</tr>
<tr>
<td>San Francisco</td>
<td>18 / (11)</td>
<td>--</td>
<td>V. Weak (2)</td>
</tr>
<tr>
<td>Oakland</td>
<td>23 / (14)</td>
<td>--</td>
<td>V. Weak (2)</td>
</tr>
<tr>
<td>Fremont</td>
<td>35 / (22)</td>
<td>--</td>
<td>Not felt</td>
</tr>
</tbody>
</table>

Radius shaken before message release: 20 km (12 mi)

**Footnotes:**
* Time -- Time from message release to predicted S-wave arrival at the location. "--" for weak or imperceptible shaking.
** MMI -- Modified Mercalli Intensity - a numeric shaking severity scale
*** For earthquakes deeper than ~15 km, the ShakeAlert Message may be available before peak shaking reaches the surface.

**Disclaimer:**
This information is provisional and subject to revision.
It is being provided to meet the need for timely best science.
The information has not received final approval by the U.S. Geological Survey (USGS) and is provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the information.

To learn more about ShakeAlert®, visit www.shakealert.org/FAQ