



Trimble Europe BV  
 MEERHEIDE 45  
 5521 DZ EERSEL  
 THE NETHERLANDS

March 21, 2016

**SUMOMETRICS INDUSTRIES INC.**  
**Unit 11 Facilities Center Cond.,**  
**548 Shaw Blvd., Mandaluyong City 1552**  
**Attention : MR. Richard Albert Y. Lim**  
**President / CEO**  
**RE : REFTEK 130-SMHR SEISMIC ACCELEROGRAPH**

Dear Sir :

We, Trimble Europe B.V. confirmed and certified that we had reviewed and evaluated the 2015 DPWH Guidelines and Implementing Rules on the Earthquake Recording Instrumentation for buildings and confirmed that the 130-SMHR not only complied but more so exceeded the minimum technical specification of the accelerograph requirements, more so as follows :

**2015 DPWH SPECIFICATIONS**

**Accelerograph :**

Seismic Qualified

Stores Seismic Activity Info  
 Equipped with Fault Detection  
 Real time alarm information ( either audio, visual or both )  
 Internal Battery backup power  
 Minimum Design Life : 10 years  
 40,000-hour ( minimum) mean time between failure  
 Minimum of three components

Natural Frequency : Above 50Hz  
 Damping : Approximately 60-70 percent critical  
 Sensitivity : 2g  
 Bandwidth : DC to 100Hz  
 Environment : IP67

**Recording :**

Sampling Frequency : Min. of 100 Samples per second  
 Time : From at least 20 secs before the ground shaking  
 Begins until 30 secs after the last triggering level  
 motion.  
 RMS Noise : System noise shall be less than 40µg over 0-30Hz  
 Media : Memory Card  
 Continuous Recording : Capable  
 AD Converter : 16 bits

**130-SMHR ACCELEROGRAPH**

Sandia National Laboratories /  
 ANCO Engineers / CE Compliance  
 YES  
 YES ( LCD Screen )  
 Accelerograph, Alarm / PEIS, MMI - comp.  
 48 hours maintained by charger.  
 YES  
**100,000 hour**  
 YES- Tri axial Forced Balanced  
 Accelerometer  
**100Hz**  
 70% Critical  
**4g**  
**DC to 150Hz**  
**IP67- Accelerograph incl. Data Recorder**

100,125,200,250,500,1000 User Settable

YES – User settable  
 YES  
 32Gb Compact Flash Memory Card  
 YES  
**24 bit**



**2015 DPWH SPECIFICATIONS**

**130-SMHR ACCELEROGRAPH**

**Timing :**

Interval : Half a second or less

YES

Accuracy : Plus or minus 0.2 sec per 100 sec

YES

TYPE : GPS or NTP Server

GPS

**Triggering ( As Applicable ) :**

Method : Pendulum or other device using Earthquake as an exciting Force

Forced Balanced Accelerometer

Level : Accelerograph : 0.5 gals to 100 gals nominal velocimeter : 5µm/s to 1mm/s

.0001g to 4g , 0.0982 Gals to 3,926 Gals

Time : Full operation of accelerograph/Velocity in not over 0.1 sec after activation

YES – continuous operations

POWER : Battery maintained by charger

48 hrs 12v 12Amp internal battery

**Communication :**

Ethernet : 10 base-T or 100 base-TX

YES

Protocol : TCP/IP FTP/SFTP

YES

All parts and devices that affect accuracy like the GPS, accelerometer, accelerograph recorder,alarms, extenders ,repeaters and its accessories are manufactured, certified and tested by Reftek, a subsidiary of Trimble Europe BV.

Additional feature introduced is to link the three accelerograph located at the top, mid, and basement or ground floor area of building to a single computer for ease of operation wherein building management can monitor, extract , print data and information in a single location. As a point of clarification, this computer can in no way affect the accuracy of the accelerograph for the 130-smhr is the one that senses and stores the information from a seismic event and the computer only acts as a viewer to the already stored information in the accelerograph.

This certification comprising of two pages was issued for whatever legal intent it may have.

Yours Truly,

**Paul Drummond**

**Regional Sales Manager – Asia Pacific**

**Trimble Monitoring Solutions**