



Microsemi, Inc  
4775 walnut Street, Suite 1B  
Boulder, CO 80301

16 Dec 2016

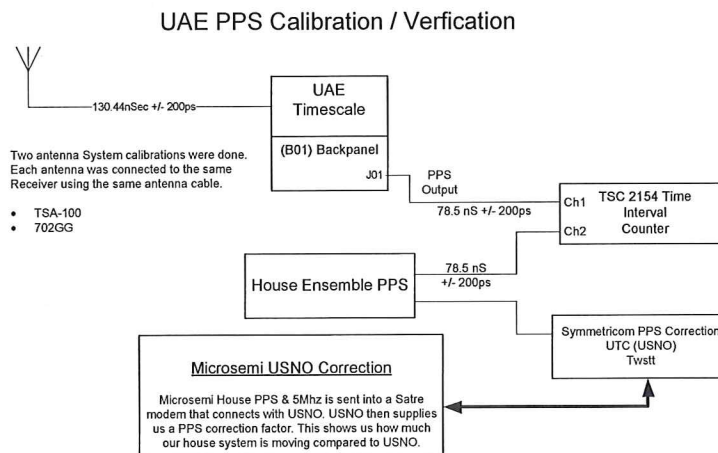
Abu Dhabi Quality and Conformity Council  
Attn: Jon Bartholomew  
Bani Yas Street and Al Falah Street  
Abu Dhabi  
United Arab Emirates

SUBJ: Certificate of Calibration

Dear Mr Bartholomew

Microsemi, Inc. certifies that the Precise Time Scale System (PTSS) meets or exceeds its published specification at its time of manufacture. The system synchronization to Coordinated Universal Time (UTC) are traceable to the United States Naval Observatory (USNO) via a Two-Way Satellite Time Transfer (TWSTT) link that was calibrated by USNO on 14 March 2013.

The system was purchased with the TSA-100 and 702GG antennas, the system was calibrated on the factor floor using the same cables and receiver that were used for the system installation. The results for the system calibration for each antenna is outlined below. The simple block diagram shows the test configuration.



### System Calibration Test Configuration

**Microsemi, Inc**

One Enterprise, Aliso Viejo, CA 92656 USA • Telephone: (949) 380-6100

Fax: +1 (949) 215-4996 • [www.microsemi.com](http://www.microsemi.com)



Certification Date: 31 Oct 2013  
System: Precise Time Scale System  
GPS Receiver Serial #: P46620

**Cable/Receiver Delays:**

Antenna Cable 130.44nSec Uncertainty: 200ps

This cable was measured in the event it requires replacement and the difference in delay between the old cable and the new cable can be calculated and the proper adjustments can be made to the system delay values below.

**Receiver/Antenna System Delays:**

System w/TSA-100 Antenna: 214.21nSec System Delay = 214nSec Uncertainty: 3nSec RMS  
System w/702GG Antenna: 198.71nSec System Delay = 199nSec Uncertainty: 3nSec RMS

Regards,

A handwritten signature in black ink, appearing to read "Timothy L. Erickson".

Timothy L. Erickson  
Systems Integration Manager  
Microsemi FTD

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