

ENGINEERING CHANGE NOTIFICATION FORM

ECN: 80200557	REV: 1	ISSUE DATE: 2/21/2018				
TYPE OF CHANGE: Firmware Modification						
DETAILED DESCRIPTION OF CHANGE: Firmware release 1.81 for LTE-Lite for bug fixes and functionality improvements. Units requiring firmware update must be returned to Jackson Labs and cannot be updated in the field.						
REASON FOR CHANGE: Bug fixes and functionality improvements.						
PRODUCTS AFFECTED: <table border="1" data-bbox="131 688 1458 873"> <thead> <tr> <th>Firmware Version</th> <th>Model</th> </tr> </thead> <tbody> <tr> <td>Firmware 1.73 and previous versions for LTE-Lite</td> <td>All oscillator frequency versions of: LTE-Lite module Mini-PCIE GPSDO LTE-Lite Evaluation Board</td> </tr> </tbody> </table>			Firmware Version	Model	Firmware 1.73 and previous versions for LTE-Lite	All oscillator frequency versions of: LTE-Lite module Mini-PCIE GPSDO LTE-Lite Evaluation Board
Firmware Version	Model					
Firmware 1.73 and previous versions for LTE-Lite	All oscillator frequency versions of: LTE-Lite module Mini-PCIE GPSDO LTE-Lite Evaluation Board					
Notes:						
AVAILABILITY: <table border="1" data-bbox="131 934 1458 999"> <thead> <tr> <th>MILESTONE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>ECN release for firmware release files</td> <td>2/21/2018</td> </tr> </tbody> </table>			MILESTONE	DATE	ECN release for firmware release files	2/21/2018
MILESTONE	DATE					
ECN release for firmware release files	2/21/2018					
Release 1.81 for the LTE-Lite provides the following improvements:						
Issue 1: <p>The internal GPS receiver when operating in the mobile mode on some modules may fail to obtain a GPS fix due to a change in the GPS constellation IODC parameter in the GPS Almanac. This only affects LTE-Lite modules operating in the mobile mode with GPS receivers with date code earlier than 1710D01 (10th week of 2017).</p> <p>All Mini-PCIE GPSDO modules are configured for mobile mode, and the LTE-Lite Evaluation board and LTE-Lite module can be configured for mobile mode. LTE-Lite Evaluation Board is configured for mobile mode by shorting pins 1 and 2 of J3. The LTE-Lite module is configured for mobile mode by grounding pin 16. CAUTION: Switching between mobile and fixed position mode must be done when the module is powered off to avoid damage!</p>						
Resolution: <p>Firmware 1.81 provides an update to the internal GPS receiver thereby allowing it to obtain a GPS fix. Firmware 1.81 can be used on all LTE-Lite modules, not just those affected by this issue.</p>						

Issue 2:

The 1PPS output phase will occasionally jump by a small amount (typically 25ns). A phase jump should normally only occur after an extended period of holdover (minutes) or during periods of oscillator instability.

Resolution:

Firmware 1.81 prevents the condition that results in these undesired 1PPS phase jumps.

REFERENCE DOCUMENTS/ATTACHMENTS:

CONTACTS	NAME	EMAIL
Software Engineer	Keith Loiselle	keith@jackson-labs.com

PLEASE CONTACT JACKSON LABS TECHNOLOGIES, INC. WITH ANY QUESTIONS