

## IN – Information Note

<b>Topic:</b>	<b>TOBY-L220-02S, MPC1-L220-02S Release to Production</b>
	UBX-16025501
<b>Author:</b>	Drazen Drinic
<b>Date:</b>	21-Oct-2016

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express permission is strictly prohibited.

© 2016 u-blox ag.

## 1 Affected Products

Product Name	Order Number	Type No	Firmware version	Remarks
TOBY-L220	TOBY-L220-02S	TOBY-L220-02S-00	Modem: 15.93 Application: A01.00	Status: Initial Production
MPC1-L220	MPC1-L220-02S	MPC1-L220-02S-00	Modem: 15.93 Application: A01.00	Status: Initial Production

## 2 Type of Change

- Hardware modification
- Firmware update
- Documentation update

## 3 Description of Change

Newly implemented features and known limitations are listed in Annex A, B, C.

The following documents have been modified:

- Data sheet [1], [2]
- AT command manual [3]
- System Integration Manual [4]

## 4 Schedule

This information is effective as of 21<sup>st</sup> October, 2016.

## 5 Reference Documents

- [1] TOBY-L2 Data Sheet, u-blox Document UBX-13004573-R18
- [2] MPC1-L2 Data Sheet, u-blox Document UBX-13004749-R13
- [3] u-blox AT Commands Manual, u-blox Document UBX-13002752-R45
- [4] TOBY-L2 / MPC1-L2 System Integration Manual, u-blox document UBX-13004618-R18
- [5] TOBY-L2 / MPC1-L2 Sample Delivery Engineering Sample, u-blox Document UBX-15023663

## A New features and interfaces in this version

For detailed description of the new features and interfaces, see the references listed in section 5.

- Interfaces:
- 8-wire UART including MUX (not available in MPC1-L2)
  - GPIOs (not available in MPC1-L2)
  - SDIO (not available in MPC1-L2)
  - I<sup>2</sup>C (not available in MPC1-L2)
  - I<sup>2</sup>S (not available in MPC1-L2)
  - Antenna detection (not available in MPC1-L2)
- Audio:
- Voice-calls support with Circuit-Switched-Fall-Back (CSFB)
  - Detection and generation of DTMF signals
- Embedded protocols:
- Embedded TCP/IP, UDP/IP, HTTP, FTP
  - FTP: added support for suspend/resume of file transfer
  - Embedded Bearer-Independent-Protocol (BIP), required for eSIM
  - Secure Socket Layer (SSL) TLS1.2, for embedded TCP/IP, HTTPS, FTPS
  - DNS functionality. Dynamic DNS
- Firmware upgrade:
- FOTA procedure used by Android. The full firmware is uploaded and stored locally in the memory of the module. Application processor will command the module to upgrade the firmware
  - FOAT via UART and USB interfaces (Only TOBY-L220)
- Module protection
- Temperature supervision: automatically shut-down at too-high temperature and at too-low temperature.
- SIM features:
- SIM detection (not available in MPC1-L2)
  - SIM “hot” insertion (not available in MPC1-L2)
- Interface to Wi-Fi module
- Support for u-blox Wi-Fi module ELLA-W131, connected via SDIO interface.
  - Drivers for ELLA-W131
  - Embedded configuration page, accessed via Wi-Fi. Enables configuration of Wi-Fi modules, parameters are stored locally in TOBY-L2 module. TOBY-L2 & ELLA-W1 can operate stand-alone (without an external processor)
  - Web user interface customization through FTP service
  - Regional block setting
- RF
- Bit-Error-Ratio measurements (BER) during PS data transfer
  - Received Signal Strength Indication (RSSI) with no need of SIM
- Other features:
- File name length (in the embedded file-system) extended to 200 characters
  - HTML: support for .xml and .json files and cookies
  - AT command to restore the embedded file-system to factory configuration. All data stored in the file system will be erased
  - Extensions to AT command +UDCONF (see reference [3])
  - Local PPP

## B Restriction compared to specifications

### Hardware

No restrictions or limitations.

### Features / Firmware / Software

- The following AT command is not functional and must not be used: +UCELLOCK
- +UCGED: the parameter <mmeCode> is not reliable
- Dial-up not implemented for Windows 10
- Warning: flashing a FW image not provided by u-blox will cause the module to crash

## C Known bugs and limitation

- [u-blox ID 728] All the MUX ports shall be opened simultaneously.
- [u-blox ID 1405] The framing of the local PPP should be equal to the current setting of the adopted serial.
- [u-blox ID 1695] AT+UTGN and AT+UPAR are not mixed with the phone call audio: the user hears only the tones.
- [u-blox ID 1836] Speech codec in use is not correctly reported when an Intra-RAT HO from WCDMA to GSM is performed.
- [u-blox ID 1983] After sending +CUAD=0 with an ICC, the module stops responding. The command shall be used only with UICC (use +UICC to check the card type).
- [u-blox ID 1998] In +UCGED the UTRA additional channels are not reported.
- [u-blox ID 2138] A cycle +CFUN=19/1/19 without the SIM card causes the freezing of the AT interface.
- [u-blox ID 2348] FOAT not resetting to default NVM parameters configuration.
- [u-blox ID 2406] It is not possible to communicate randomly on some MUX virtual COM port.