IN – Information Note

Topic:	**TOBY-L220-62S, MPCI-L220-62S Release to Production**
	UBX-17013073
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1 Affected Products

Product Name	Order Number	Type No	Firmware version	Remarks
TOBY-L220	TOBY-L220-62S	TOBY-L220-62S-00	Modem: 16.04 Application: A01.00	Status: Initial Production
MPCI-L220	MPCI-L220-62S	MPCI-L220-62S-00	Modem: 16.04 Application: A01.00	Status: Initial Production

2 Type of Change

[ ] Hardware modification
[x] 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 Commands Manual [3]
- System Integration Manual [4]

4 Schedule

This information is effective as of 19th April, 2017.

5 Reference Documents

[1] TOBY-L2 Data Sheet, u-blox Document UBX-13004573-R21
[2] MPCI-L2 Data Sheet, u-blox Document UBX-13004749-R15
[3] u-blox AT Commands Manual, u-blox Document UBX-13002752-R50
[4] TOBY-L2 / MPCI-L2 System Integration Manual, u-blox document UBX-13004618-R21
[5] TOBY-L2 / MPCI-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 MPCI-L2) • GPIOs (not available in MPCI-L2) • SDIO (not available in MPCI-L2) • I^2C (not available in MPCI-L2) • I^2S (not available in MPCI-L2) • Antenna detection (not available in MPCI-L2)
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 MPCI-L2) • SIM "hot" insertion (not available in MPCI-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 Restrictions compared to specifications

Hardware

No restrictions or limitations.

Features / Firmware / Software

- The following AT command is not functional and must not be used: +UCELLLOCK
- +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 limitations

- [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 1983] After sending AT+CUAD=0 with an ICC, the module stops responding. The command shall be used only with UICC (use +UUICC to check the card type).
- [u-blox ID 1998] In +UCGED the UTRA additional channels are not reported.
- [u-blox ID 2138] A cycle AT+CFUN=19/1/19 without the SIM card causes the freezing of the AT interface.
- [u-blox ID 2406] It is not possible to communicate randomly on some MUX virtual COM port.
- [u-blox ID 2482] TOBY-L2 has delay in data management at power saving exit.
- [u-blox ID 2594] The AT interface gets stuck if the AT+USOCTL=<sock>,4 query is sent while the socket is in "CLOSED" or "INVALID" status.
- [u-blox ID 2646] Low LTE throughput (TCP/UDP) over dial-up on CDC-ACM port (in all +UUSBCONF configurations): ~30-40 Mb/s, instead of 75 Mb/s.