

# TOBY-L100

## LTE module

### Highlights

- Single-mode LTE LGA module in a very small form-factor
- LTE Cat. 3, 100 Mb/s download, 50 MB/s upload
- Easy migration from u-blox W-CDMA, CDMA, GSM modules
- North American region (Verizon)
- Industrial temperature range: -40 to +85°C
- Manufactured in ISO/TS 16949 certified production sites



TOBY-L100:  
24.8 x 35.6 x 2.6 mm

### Product description

The TOBY-L100 single-mode LTE module in a very small form-factor is easy to integrate in compact designs. The TOBY-L100 supports up to two LTE-FDD bands. As a single-mode LTE module, it offers cost advantages compared to multi-mode (LTE/3G/2G) modules, and is optimized for applications using only LTE networks.

The TOBY-L100 module is dedicated to data transfer, supporting a high-speed USB 2.0 interface. With LTE Category 3 data rates of 100 Mb/s (downlink) and 50 Mb/s (uplink), the module is ideal for applications requiring the highest data-rates and high-speed internet access. It is the perfect choice for consumer fixed-wireless terminals, mobile routers and gateways, and applications requiring video streaming. It is also optimally suited for industrial (M2M) applications, such as remote access to video cameras, digital signage, telehealth, security and surveillance systems.

The TOBY-L100 can operate in a temperature range of -40 to +85°C, making it well suited to devices intended for outdoor operation and harsh environments.

The compact LGA package enables easy manufacturing, and straightforward migration from u-blox GSM/GPRS, W-CDMA(UMTS) and CDMA modules. This allows customers to take maximum advantage of their hardware and software investments, and provides very short time-to-market. The module is fully certified for the Verizon network. USB drivers and RIL software for Android are available free of charge.

TOBY-L100 modules are manufactured in ISO/TS 16949 certified sites. Each module is tested and inspected during production.

### Product selector

Model	Region	Access Technology				GNSS	Interfaces				Audio	Features										
		3GPP Release Baseline	LTE FDD Category	LTE Bands	MIMO	GNSS receiver	UART	USB 2.0	RMII / RGMII	SDIO (Master/Slave)	GPIO	CSFB	VoLTE	Antenna Supervisor	Jamming Detection	Embedded TCP/UDP	Embedded HTTP, FTP, SSL	AssistNow software	CellLocate®	FOTA	FW update via serial	eCall / ERA GLONASS
<b>TOBY-L100</b>	N. America (Verizon)	9	3	4,13	2x2			•			6								•	•		

## Features

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LTE	Cat. 3 50 Mb/s UL, 100 Mb/s DL FDD Bands 4, 13 3GPP Release 9 FDD channel bandwidth 1.4 - 20 MHz MIMO 2x2 Rx diversity
SMS	SMS via embedded IMS <sup>1</sup>
Network	Status Indication via LED
Firmware upgrade	FOTA (Firmware upgrade Over The Air) <sup>2</sup>

<sup>1</sup> IP Multimedia Subsystem

<sup>2</sup> Available in FW version 015

## Electrical data

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Power supply	3.4 V to 4.5 V
Power consumption	
Power Off	40 µA
Idle (power saving)	2.6 mA
Transmitting	740 mA (Band 4, 10 MHz channel width)
Transmitting	800 mA (Band 13, 10 MHz channel width)

## Interfaces

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Serial	1 USB 2.0 (high-speed, 480 Mb/s)
GPIO	6 GPIOs <sup>2</sup>
(U)SIM	1 4-wire interface, Supports 1.8 V and 3 V, SIM toolkit

<sup>2</sup> Available in FW version 015

## Package

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152-pin LGA (Land Grid Array): 24.8 x 35.6 x 2.6 mm, < 7 g

## Environmental data, quality & reliability

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Operating temperature -40 to +85°C (extended range)  
RoHS compliant (lead-free)  
REACH compliant  
Manufactured in ISO/TS 16949 certified production sites

## Certifications and approvals

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GCF, FCC, Verizon  
See the u-blox website for latest approvals.

## Support products

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EVK-L10	Evaluation kit for TOBY-L100
RIL software	Available for Android
USB driver	Available for Windows Vista, Windows 7 and 8

## Ordering information

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TOBY-L100-xxS <sup>3</sup>      LTE Cat. 3; Bands 4, 13 (Verizon)

<sup>3</sup> xx refers to firmware version

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