LCUK54-WRD

LTE-A Cat 6
M.2 module

42.0 mm

30.0 mm   2.3 mm
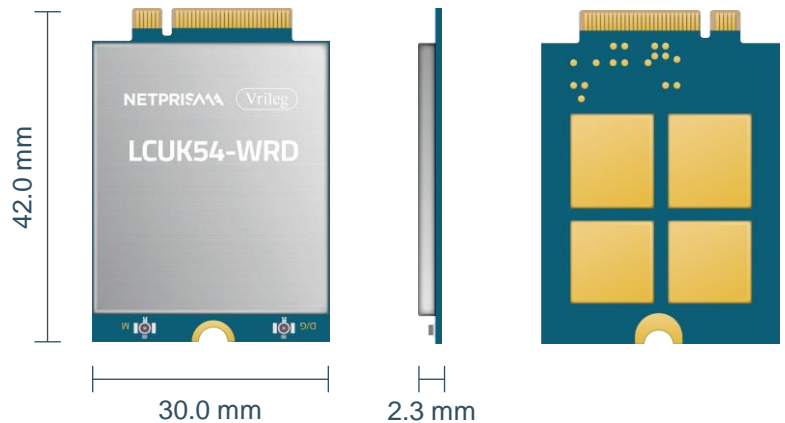
Product Features

▸ LTE-A Cat 6 module with M.2 form factor

▸ Support DL 2 carrier aggregation and 64QAM

▸ Worldwide LTE-A and UMTS/ HSPA+ coverage

▸ Built-in eSIM (optional), DSSA

▸ Low power mode

▸ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment

▸ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems

LCUK54-WRD is an LTE Advanced category 6 module. Adopting 3GPP Release 12 technology, the module supports a theoretical peak data rate of 300 Mbps in the downlink and a theoretical peak data rate of 50 Mbps in the uplink.

LCUK54-WRD is designed for the global market and nearly covers all the mainstream carriers worldwide. The module supports Qualcomm® IZat™ location technology gpsOne 9HT (GPS, GLONASS, BDS and Galileo). The integrated GNSS greatly simplifies product design, and provides quicker, more accurate and more dependable positioning capability.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows, Linux, Android/ optional built-in eSIM) extend the suitability of the module to a wide range of applications such as industrial routers, home gateways, set-top boxes, industrial and consumer laptops, industrial PDAs, rugged tablet PCs, and digital signages.

4G LTE Cat 6
DL: max. 300 Mbps
UL: max. 50 Mbps

3G DL: max. 42 Mbps
UL: max. 5.76 Mbps

M.2 form factor

Embedded abundant protocols

USB 2.0 interface

Multi-constellation GNSS

Enhanced AT commands

Version: 1.0.0
Status: Preliminary

LCUK54-WRD

Mechanical Data

Region/operator	Global
Package	M.2 package, Key-B
Dimensions (mm)	30.0 x 42.0 x 2.3
Weight (g)	6.2

Temperature Range

Operating temperature	-25 °C to +75 °C
Extended temperature	-40 °C to +85 °C

Frequency Bands

LTE	**LTE-FDD:** B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29[1]/ 30/ 32[1]/ 66/ 71 **LTE-TDD:** B34/ 38/ 39/ 40/ 41 **DL 2CA:** intra-band and inter-band
UMTS	**WCDMA:** B1/ 2/ 3/ 4/ 5/ 6/ 8/ 19
GNSS	GPS/ GLONASS/ BDS/ Galileo

Data Transmission

LTE data rate		Max. 300 Mbps (DL)/ 50 Mbps (UL)
UMTS data rate	**DC-HSDPA**	Max. 42 Mbps (DL)
	HSUPA	Max. 5.76 Mbps (UL)
	WCDMA	Max. 384 kbps (DL/UL)

Interfaces

(U)SIM interfaces (1.8/ 3.0 V)	× 2
I2C	× 1
USB 2.0/3.0	× 1
Configuration pins	× 4
Antenna interfaces	× 2 (Main, Rx-diversity/ GNSS)

Enhanced Features

Built-in eSIM	○
USIM detection & hot plug	●
DSSA (Dual SIM, Single Active)	●
DFOTA (Delta Firmware Over-the-Air)	●
PCIOT	○

Software Features

Protocols	QMI/ MBIM/ NITZ/ PING/ HTTP/ HTTPS
3GPP	3GPP E-UTRA Release 12
MBIM driver	Windows 10/11
USB serial driver	Windows 10/11 Linux 3.x-6.x
NDIS driver	Windows 10/11

Certifications

Carrier*	**Europe:** Vodafone/ Swisscom/ EE/ Deutsche Telekom/ Telefonica **America:** Verizon/ AT&T/ T-Mobile **China:** China Unicom **Japan:** NTT DOCOMO/ Softbank/ KDDI
Regulatory*	PTCRB/ GCF/ NCC/ Anatel/ SRRC/ NAL/ CCC/ CE/ FCC/ IC/ RCM/ JATE/ TELEC/ ICASA
Others*	WHQL/ RoHS Compliant

Electrical Features

Supply voltage (V)	3.135–4.4, typ. 3.7
Power consumption @ USB mode	**Power down:** 58 µA **Flight mode:** 1.96 mA **Idle:** 2.93 mA (USB suspend)

1: LTE-FDD B29/ 32 support Rx only and are only for secondary component carrier.
*: Under development/ planning.
●: Supported; ○: Optional.