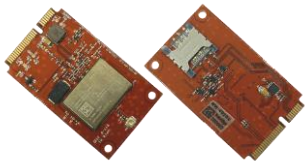
WW-4020, LTE Cat M1, NB1/2 Mini PCIe card with SIM Holder

RoHS Compliant



Overview

WW-4020 is designed based on Telit Cinterion LTE LPWAN technology.

It supports both LTE Cat M1 and Cat NB1/2 wireless WAN technologies. Not only exhibits excellent hardware/radio frequency performance, it also supports rich software for fast product development.

It is an ideal solution for the vast number of M2M and industrial IoT applications that are not dependent on speed but that requires the low cost, high capacity, and longevity of LTE/5G mMTC networks.

Applications

- Financial / Security / Payment / Inventory / Healthcare
- Kiosk / Digital Signage / Intelligent Vending Machine
- POS / Automatic Meter Reading / Smart Meters
- School Bus / Transit / Taxi / Police
- Tracking & Tracing / Fleets Management
- Mobile Internet Terminal / Fixed Wireless Terminal
- Remote Monitoring / Telematics / eHealth
- Agriculture / Connected Sensors
- Smart City

Features

- Both LTE Cat M1 and Cat NB1/2 support
- 3.3V UART communication interface option
- Power ON/OFF control option
- On board LED for power status indication option
- Enhanced EMC support
- Powered by Telit Cinterion TX62-W-B module
  - LTE Cat M1 (MHz)
    - 700 (B12, B23, B28, B85)
    - 800 (B18, B19, B20, B26, B27)
    - 850 (B5)
    - 900 (B8)
    - AWS-3 (B66)
    - AWS-1 (B4)
    - 1800 (B3)
    - 1900 (B2, B25)
    - 2100 (B1)
  - LTE Cat NB1/2 (MHz)
    - 600 (B71)
    - 700 (B12, B13, B28, B85),
    - 800 (B18, B19, B20, B26),
    - 850 (B5),
    - 900 (B8),
    - AWS-3 (B66),
    - AWS-1 (B4),
    - 1800 (B3),
    - 1900 (B2, B25),
    - 2100 (B1)
- USB 2.0 High Speed (480Mbit/s) device interface, Full Speed (12Mbit/s) compliant
- Onboard SIM card holder (for Micro-SIM) support
- Embedded IP stack with IPv4 and IPv6
- Secure connection with TLS/DTLS
- Internet Services TCP/UDP server/client, DNS, Ping, HTTP/FTP/MQTT/CoAP client etc.
- **eSIM** support, BIP (Bearer Independent Protocol)
- SIM Access Profile (SAP)
- Abnormal temperature protection of module board (out of -40~90℃; a tolerance of ±3°C on the thresholds may occur)
- Drivers support for Windows, Linux/Android platforms.

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Technical Specifications

Wireless WAN

Frequency bands	**LTE Cat M1:** 700 (Bd12, Bd13, Bd28, Bd85), 800 (Bd18, Bd19, Bd20, Bd26, Bd27), 850 (Bd5), 900 (Bd8), AWS-3 (Bd66), AWS-1 (Bd4), 1800 (Bd3), 1900 (Bd2, Bd25), 2100 (Bd1) **LTE Cat NB1/2:** 600 (Bd71), 700 (Bd12, Bd13, Bd28, Bd85), 800 (Bd18, Bd19, Bd20, Bd26), 850 (Bd5), 900 (Bd8), AWS-3 (Bd66), AWS-1 (Bd4), 1800 (Bd3), 1900 (Bd2, Bd25), 2100 (Bd1)
Output power (according to 3GPP Release 13)	**LTE Cat M1:** Class 3 (+23dBm ±2dB) for all supported LTE Cat M1 bands **LTE Cat NB1/2:** Class 3 (+23dBm ±2dB) for all supported LTE Cat NB1/2 bands
LTE Features 3GPP Release 14	DL 300kbps, UL 1.1Mbps (Cat M1) DL 27kbps, UL 63kbps (Cat NB1) DL 124kbps, UL 158kbps (Cat NB2)
SMS	Point-to-point MT and MO Text and PDU mode Storage: SIM card plus SMS locations in mobile equipment
AT commands	Hayes 3GPP TS 27.007, TS 27.005, Cinterion M2M AT commands for RIL compatibility
SIM UICC	SIM Application Toolkit: SAT Release 99 Support of 1.8 V SIM/USIM cards

Electrical Data

Power supply	3.3 ± 0.3 V (VCC)

Environmental Data

TX62-W-B board temperature	Normal operation -30 ~ 85℃ Extended operation -40 ~ 90℃*

* Occasional deviations from spec may occur

Mechanical Data (mm) - (full-mini card)

30 x 50.9 x 4.93 (w/ SIM holder)

52-Pin Definition

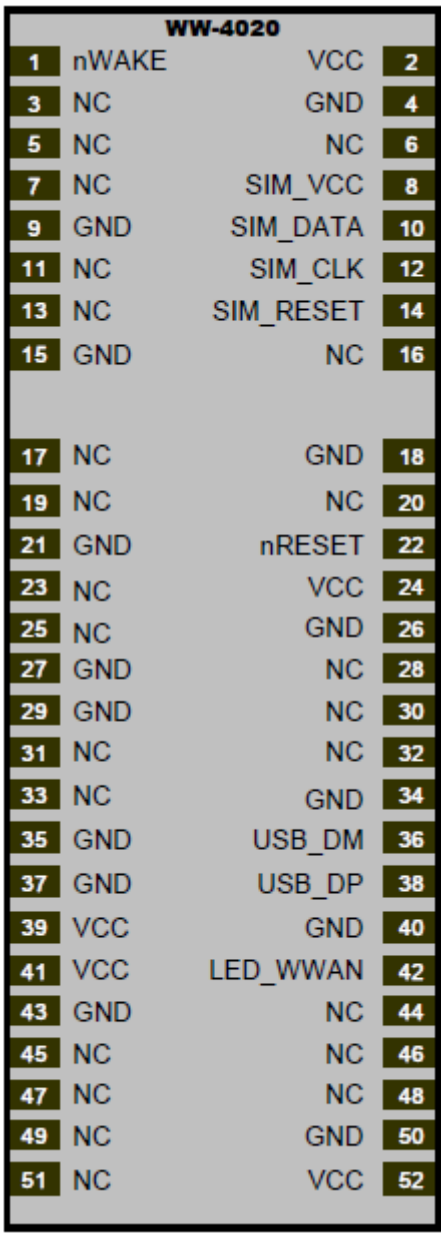
Name	PINs	Function	I/O
VCC	2,24,39,41, 52	3.3 ± 0.3V power supply	Input
GND	4,9,15,18, 21,26,27,2 9,34,35,37 ,40,43,50	Ground	Input
USB_DM	36	USB data signal minus	I/O
USB_DP	38	USB data signal plus	I/O
LED_WWAN	42	WWAN status indicator; Open drain	Output
SIM_VCC	8!	Power for SIM card	Output
SIM_DATA	10!	SIM data signal	I/O
SIM_CLK	12!	SIM clock signal	Output
SIM_RESET	14!	SIM reset signal	Output
nWAKE^v	1	Wakeup signal, open drain	Output
nRESET^v	22	Active low reset signal, min 800ms; Direct connect or NC	Input
NC	Remaining pins	No connection	-

! Leave these pins open if they are not used

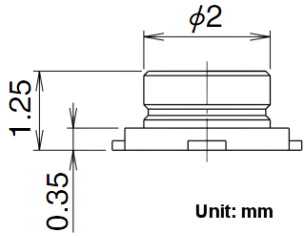
Reserved pins used, proprietary

^v No connect (NC) for specified model

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RF Connector: I-PEX Receptacle



Note. Corresponding plug cable: diameter of 1.13mm

Related Models of WW-402X

Feature \ Model X=	0	1	2
USB	Y	Y	Y
UART TTL IO	-	3.3V	3.3V
Sim holder	Y	-	Y
Onboard LED	-	Y	Y
Pin 1 (nWAKE)	Y	-	-
Pin 20 (PWR_CTL)	-	Y	Y

*This document is subject to change without notice.

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