

Nexus-X1

LTE Cat1 bis wireless communication module specially designed for IoT applications

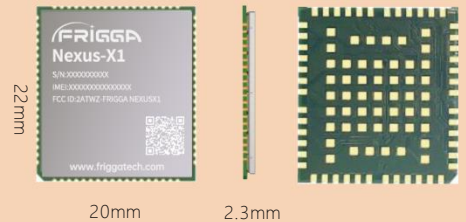
Key Benefits

- Ultimate RF performance, suitable for IoT products deployed globally.
- Ultimate power consumption, catering to a wide range of battery-powered IoT applications.
- High-performance LTE Cat1 bis IoT module, designed for low cost and offering exceptional cost-effectiveness.

Nexus-X1 is a high-performance LTE Cat1 bis wireless communication module, utilizing LCC+LGA packaging with dimensions of 20.0mm x 20.2mm x 2.35mm.

Nexus-X1 is designed with ultimate power consumption, significantly optimizing both connected and DRX standby power consumption, making it ideally suited to meet the specific demands of the cold chain logistics industry.

Nexus-X1 targets the global cold-chain IoT market, meeting the needs of cold chain monitoring, warehouse monitoring, and other wireless connectivity applications.



Release 14



LTE Cat1 bis



LCC+LGA Package



Compatible design



Frigga Enhanced
Connectivity
Performance



FRIGGA® Nexus - X1 Module SPECIFICATIONS

Specifications	Details
Brand Name	FRIGGA
Module Name	Nexus - X1
Network Mode	LTE Cat1 bis
LTE FDD	B1/B2/B3/B4/B5/B7/B8/B12/B17/B28/B66
LTE TDD	B38/B40/B41
GSM/GPRS/EDGE	NA
Maximum Transmit Power	$\geq 23\pm 2$ dBm
Receiver Sensitivity LTE FDD	≤ -99.5 dBm
Receiver Sensitivity LTE TDD	≤ -100.5 dBm
Data Transmission LTE FDD (Mbps)	10.3(DL)/5.1(UL)
Data Transmission LTE TDD (Mbps)	9.1(DL)/3.1(UL)
Data Transmission GPRS(Kbps)	NA
Protocols	TCP/UDP HTTP MQTT SSL/TLS
Operating Temp.	-35°C ~ +75°C
Ultra-Low Power Management	Support
Average Power Tracking	Support
WiFi Positioning	Support
GNSS	NA
SIM / eSim	1

This module is intended for OEM integrators only. Per FCC KDB 996369 D03 OEM Manual v01 guidance, the following conditions must be strictly followed when using this certified module:

KDB 996369 D03 OEM Manual v01 rule sections:

2.2 List of applicable FCC rules This module has been tested for compliance to FCC part 22/24/27

2.3 Summarize the specific operational use conditions

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) or being used in a portable condition will need a separate reassessment through a class II permissive change application or new certification.

2.5 PIFA Antenna designs Not applicable

2.6 RF exposure considerations This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. If the module is installed in a portable host, a separate SAR evaluation is required to confirm compliance with relevant FCC portable RF exposure rules.

2.7 Antennas

The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module. The antenna must be installed such that 20 cm can be maintained between the antenna and users. Antenna Type PIFA Antenna

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following: "Contains FCC ID: **2ATWZ-FRIGGAX1**". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

2.9 Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) or portable use will require a separate class II permissive change re-evaluation or new certification.

2.10 Additional testing, Part 15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B (unintentional radiator) rule requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rule requirements if applicable.

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

This module certified that complies with RF exposure requirement under mobile or fixed condition, this module is to be installed only in mobile or fixed applications.

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

A fixed device is defined as a device is physically secured at one location and is not able to be easily moved to another location.

Note 2: Any modifications made to the module will void the Grant of Certification, this module is limited to OEM installation only and must not be sold to end-users, end-user has no manual instructions to remove or install the device, only software or operating procedure shall be placed in the end-user operating manual of final products.

Note 3: Additional testing and certification may be necessary when multiple modules are used.

Note 4: The module may be operated only with the antenna with which it is authorized. Any antenna that is of the same type and of equal or less directional gain as an antenna that is authorized with the intentional radiator may be marketed with, and used with, that intentional radiator.