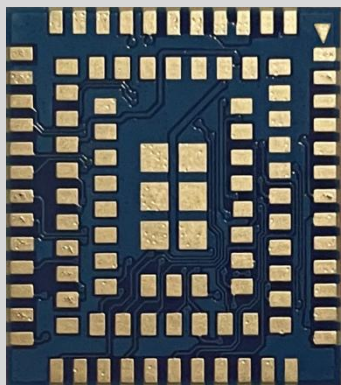


CLM920 HE9 NA

LTE Cat1 LGA Module



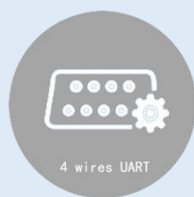
4G LTE Cat1



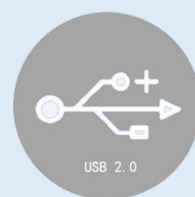
Dual SIM Card
(Optional)



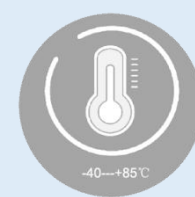
LGA Package



4 Wires UART



USB 2.0



-40°C~85°C



Standard AT
Commands



USB Driver



Multiple Network
Protocols

Product Description

CLM920 HE9 NA is an LTE Cat1 application module that supports overseas multi-band. Small size, high cost performance, support up to 10Mbps download rate and 5Mbps upload rate. The CLM920 HE9 NA Internet of Things module has strong scalability, built-in rich network protocols, integration of multiple industry standard interfaces, and support for a variety of drivers and software functions, providing great flexibility and easy integration for customers' applications, can be applied to such as FWP, security and so on.

Product Advantages

- ❖ Support FOTA aerial upgrades to reduce later operation and maintenance costs
- ❖ Supports dual card single standby single pass
- ❖ LCC package, suitable for M2M design
- ❖ Stable performance and high cost performance
- ❖ Wide range of application scenarios

CLM920 HE9 NA

LTE Cat1 LGA Module

➤ General Characteristic		➤ Radio Frequency Characteristic
package	LGA Package	Class 3 (23dBm ±2dB) for LTE FDD bands
Size(mm)	(17.7±0.1) x (15.8±0.1) x (2.3±0.15)	➤ Audio Functional Features
Voltage	3.4V-4.2V, typical voltage 3.8V	Codec Mode: MP3/AMR/WAV
Temperature	Normal: -30°C - +75°C Extended: -40°C - +80°C	1.PWM output + audio PA to achieve audio playback 2.PCM+ external CODEC for audio playback
Band	B2/B4/B5/B12/B13/B17/B66	➤ Data business features
AT	Meet 3GPP TS27.007 commands	LTE FDD: Max 10Mbps(DL), 5Mbps(UL)
Shutdown current	<6.5uA	➤ Other features
Power saving current	Sleep Current<3mA	FOTA: Over-the-air firmware upgrade
➤ Interface		Protocol Stack TCP/UDP/PPP/FTP/HTTP/SMTP/MQTT/PING
USIM Card Interface	×2 (1.8V/3.0V)	Drive: RIL: Android USB RNDIS: Windows USB RNDIS: Linux
USB 2.0 Interface	×1	USIM1 card supports hot swap detection
UART Interface	×3 (Main/Debugging/Auxiliary)	
PCM&SPI Interface	×1	
ADC Interface	×2	
I2C Interface	×1	
Status Indicator	×2 (NET_STATUS/STATUS)	
Antenna Interface	×1	
PWM Interface	×1	

FCC Statement

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Important Note:

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/Canada.

This device is intended only for OEM integrators under the following conditions:

1. The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2. The transmitter module may not be co-located with any other transmitter or antenna,

As long as the three conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following"

Contains FCC ID: **2BG55-CLM920HE9NA** "

Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

Not applicable

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

2.7 Antennas

This radio transmitter **FCC ID: 2BG5S-CLM920HE9NA** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna No.	Model No. of antenna:	Type of antenna:	Gain of the antenna (Max.)	Frequency range:
LTE	/	External Antenna	E-UTRA Band 2/4/5/12/13/17/66: 2.0dBi	

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following"
Contains **FCC ID: 2BG5S-CLM920HE9NA**".

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

2.11 Note EMI Considerations

Host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

2.12 How to make changes

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system. According to the KDB 996369 D02 Q&A Q12, that a host manufacture only needs to do an evaluation (i.e., no C2PC required when no emission exceeds the limit of any individual device (including unintentional radiators) as a composite. The host manufacturer must fix any failure.