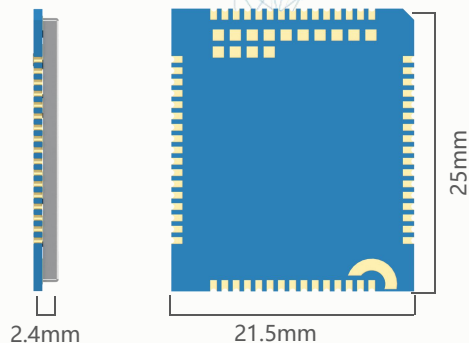




L510E-3 Series

LTE Cat1 module

L510E-3 Series are Cat1 module for LCC+LGA package, with stable and reliable performance. It can well meet customer's requirements for cost-effective, low-power applications.

L510E-3 Series size is only 21.5*25*2.4mm and very convenient for SMT. It can meet the needs of customers for small module products and facilitate customers to reduce product size and optimize product costs. All of these features make it suit to IoT areas, such as PoC, Mobile payment, Security and alarm systems, Telematic, DTU, Asset tracking, Sharing economy, etc.



FOTA



LTE Cat1



Temperature
-40°C to +85°C



AT



Ultra Low Power
Consumption



USB2.0



Analog and
Digital Audio



VoLTE



EDGE

Main Features

- Product: V4 Hardware
L510E(N)-3C: 8Mb pSRAM+8Mb Flash
L510E(N)-3S: 16Mb pSRAM+8Mb Flash
N: with GNSS
- Band:
FDD-LTE: B1/B3/B5/B7/B8/B20/B28
TDD-LTE: B38/B40/B41
GSM/GPRS/EDGE: B3/B8
- GNSS: GPS+BD+Glonass+Galileo
- Output Power:
LTE: 23dBm $\pm$ 2dB
GSM: GSM900 33dBm $\pm$ 2dB
DCS1800 30dBm $\pm$ 2dB
EDGE: GSM900 27dBm $\pm$ 3dB
DCS1800 26dBm $\pm$ 3dB
- Support AT command
- Operation Temperature Range: -40°C ~ +85°C
- Supply Voltage Range: 3.3 ~ 4.5V (3.8V Typ)
- Dimensions: 21.5*25*2.4mm
- Package: 78-pin LCC+LGA
- Weight: Approx 2.5g

Data transmission

- Support LTE Cat1:
Max DL 10Mbps; UL 5Mbps
- Support EDGE/GPRS:
EDGE: Class12 Max DL/UL 236.8Kbps
GPRS: Class12 Max DL/UL 85.6Kbps

Interfaces

- 3 UART
- SIM (3.0V/1.8V) *2
- I2C
- SPI
- ADC
- PCM
- GPIO
- USB2.0
- Analog Audio
- PWKEY/Reset
- RF Antenna
- GNSS Antenna

Other features

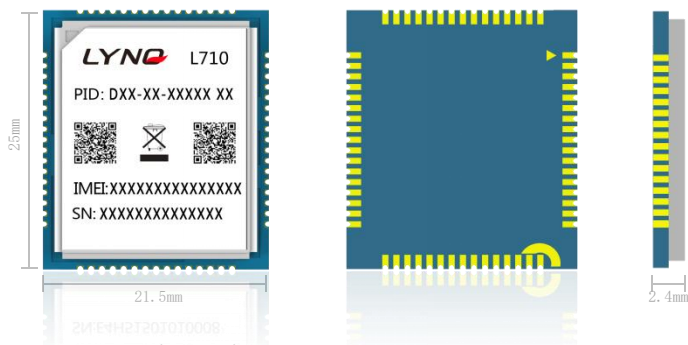
- Firmware Update: Firmware updated via USB
- USB Drivers: Microsoft Windows XP/7/8
- Support WIFI SCAN
- Support TCP/UDP/HTTP/FTP/MQTT/SSL/FOTA/PPP/VOLTE etc.

Power consumption

- Flight Mode: 1.1mA@3.8V
- LTE Standby: 1.4mA@3.8V
- GSM Standby: 1.9mA@3.8V

Certification

- CE/RoHS



L710 Series

Cellular module

LTE CAT M1+CAT NB+2G

Description

L710 series are CAT M1+CAT NB+2G modules developed by LYNQ for the IoT industry, with a maximum downlink rate of 588Kbps and a maximum uplink rate of 1119Kbps for CAT M1, a maximum downlink rate of 34Kbps and a maximum uplink rate of 66.6Kbps for CAT NB1, and a maximum downlink rate of 127Kbps and a maximum uplink rate of 158.5Kbps for CAT NB2. L710 series use the LCC package with a size of 21.5*25*2.4mm.

L710 series support CAT M1, CAT NB and 2G communication mode. The module support frequency bands for Global. They can support FOTA, AT, SMS functions.

L710 series have a variety of interfaces, rich protocols, and multiple versions of USB drivers, making the application simple and convenient. The modules are mainly used in smart meter, sharing economy, tracker, smart city and smart agriculture scenarios.

Advantage

-  LCC Package, size designed to 21.5*25mm;
-  Support CAT M1、CAT NB and 2G network standards;
-  GNSS optional;
-  Support driver: windows, linux, Android etc.
-  Support TCP/HTTP/FTP/MQTT/SSL/FS protocol;



FOTA



CAT M1



CAT NB



-40°C to +85°C



Low power



USB2.0



LCC



AT Command



Small Size

	L710G	L710HG	L710GM	L710HGM	L710HGN
Area	Global	Global	Global	Global	Global
General Features					
Package	64-pin LCC	64-pin LCC	64-pin LCC	64-pin LCC	64-pin LCC
Dimension	21.5*25*2.4mm	21.5*25*2.4mm	21.5*25*2.4mm	21.5*25*2.4mm	21.5*25*2.4mm
Weight	1.5g	1.5g	1.5g	1.5g	1.5g
Power supply	3.4~4.2（Typ 3.8V）	3.4~4.2（Typ 3.8V）	2.7~4.8（Typ 3.8V）	3.4~4.2（Typ 3.8V）	3.4~4.2（Typ 3.8V）
Operating temp.	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃
Storage temp.	-45℃~+90℃	-45℃~+90℃	-45℃~+90℃	-45℃~+90℃	-45℃~+90℃
Bands					
CAT M1	B1/2/3/4/5/8/12/13/14/18/19/20 /25/26/27/28/66/85	B1/2/3/4/5/8/12/13/14/18/19/20 /25/26/27/28/66/85	B1/2/3/4/5/8/12/13/14/18/19/20 /25/26/27/28/66/85	B1/2/3/4/5/8/12/13/14/18/19/20 /25/26/27/28/66/85	B1/2/3/4/5/8/12/13/14/18/19/20 /25/26/27/28/66/85
CAT NB	B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66/B85	B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66/B85	B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66/B85	B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66/B85	B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B28/B66/B85
GSM	B2/B3/B5/B8	B2/B3/B5/B8	○	○	B2/B3/B5/B8
GNSS	○	○	○	○	GPS+QZSS+Glonass+BD(default) or GPS+QZSS+Glonass+Galileo*
RF Power					
CAT M1	Class5（20dBm±2）	Class3（23dBm±2）	Class5（20dBm±2）	Class3（23dBm±2）	Class3（23dBm±2）
CAT NB	Class5（20dBm±2）	Class3（23dBm±2）	Class5（20dBm±2）	Class3（23dBm±2）	Class3（23dBm±2）
GSM850/EGSM900	Class4（33dBm±2）	Class4（33dBm±2）	○	○	Class4（33dBm±2）
DCS1800/PCS1900	Class1（30dBm±2）	Class1（30dBm±2）	○	○	Class1（30dBm±2）
Trans rate(DL/UL)					
CAT M1(Kbps)	588 / 1119	588 / 1119	588 / 1119	588 / 1119	588 / 1119
CAT NB1(Kbps)	34 / 66.6	34 / 66.6	34 / 66.6	34 / 66.6	34 / 66.6
CAT NB2(Kbps)	127 / 158.5	127 / 158.5	127 / 158.5	127 / 158.5	127 / 158.5
EDGE(Kbps)	296 / 236.8	296 / 236.8	○	○	296 / 236.8
GPRS(Kbps)	85.6 / 85.6	85.6 / 85.6	○	○	85.6 / 85.6
Memory					
RAM+ROM	32MB+64MB	32MB+64MB	32MB+64MB	32MB+64MB	32MB+64MB
Hardware interfaces					
UART	×3	×3	×3	×3	×3
USIM(1.8V)	×1	×1	×1	×1	×1
I²C	×1	×1	×1	×1	×1
SPI	×1	×1	×1	×1	×1
PCM	×1	×1	×1	×1	×1
USB2.0	×1	×1	×1	×1	×1
GPIO	●	●	●	●	●
Status	×1	×1	×1	×1	×1
Netlight	×1	×1	×1	×1	×1
ADC	×1	×1	×1	×1	×1
PWRKEY	×1	×1	×1	×1	×1
Main antenna	×1	×1	×1	×1	×1
GNSS antenna	○	○	○	○	×1
USB_Boot	×1	×1	×1	×1	×1
Software functions					
WiFi scan	○	○	○	○	○
TTS	○	○	○	○	○
FOTA	●	●	●	●	●
SMS	●	●	●	●	●
SIM detection	○	○	○	○	○
Protocols	TCP/HTTP/FTP/MQTT/SSL/FS	TCP/HTTP/FTP/MQTT/SSL/FS	TCP/HTTP/FTP/MQTT/SSL/FS	TCP/HTTP/FTP/MQTT/SSL/FS	TCP/HTTP/FTP/MQTT/SSL/FS
Electrical features					
IDLE mode（CAT M1）	20mA	21mA	20mA	21mA	21mA
IDLE mode（CAT NB1）	15mA	16mA	15mA	16mA	16mA
Sleep mode（CAT M1）	1.2mA	1.3mA	1.2mA	1.3mA	1.2mA
Sleep mode（CAT NB1）	0.8mA	0.8mA	0.8mA	0.8mA	0.8mA
Shutdown	8uA	8uA	8uA	8uA	8uA
Certifications					
Regulation	FCC/IC/CE/PTCRB/GCF/JATE/TELEC	FCC/IC/CE/PTCRB/GCF/JATE/TELEC	FCC/IC/CE/PTCRB/GCF/JATE/TELEC	FCC/IC/CE/PTCRB/GCF/JATE/TELEC	FCC/IC/CE/PTCRB/GCF/JATE/TELEC
Operator	Verizon/AT&T	Verizon/AT&T	Verizon/AT&T	Verizon/AT&T	Verizon/AT&T
Industry	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH

1. *：Application status please contact FAE.
2. ●：Support.
3. ○：NonSupport.
4. ◎：Optional function, not supported by the platform version.

