BLACKVUE CLOUD

CM100GLTE-M
User Guide

External Connectivity Module

ENGLISH / 日本語 / 中文

www.blackvue.com

BLACKVUE

CM100GLTE-M

For manuals, customer support and FAQs go to www.blackvue.com

In the box

Check the box for each of the following items before installing the BlackVue device.

	Connectivity module		SIM card
	Cable Clips (4ea)		Double-side tape
	User guide		SIM eject tool

Need help?

Download the manual (including FAQs) and the latest firmware from **www.blackvue.com**

Or contact a Customer Support expert at **cs@pittasoft.com**

Theory of Operation

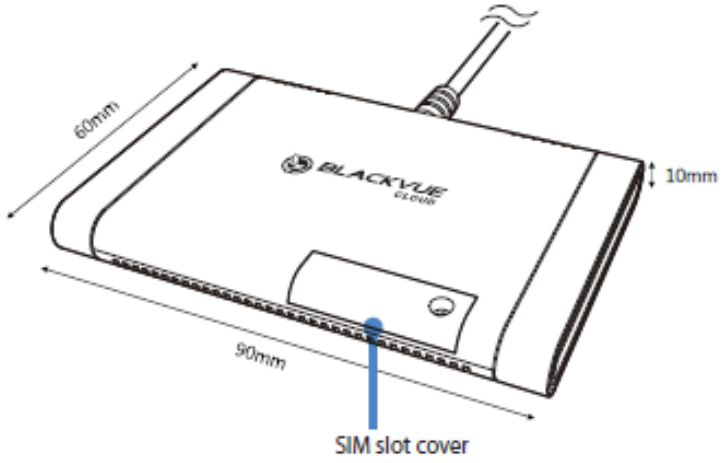
Introduction

CM100G LTE-M supports LTE Cat.M1 in connection with Blackvue connectivity module and is equipped with Quectel BG96, an embedded IoT wireless communication module that supports LTE Cat M1, LTE Cat NB1 and EGPRS. This integrated device is able to download at maximum speed of 375Kbps and upload at 375Kbps on LTE network. BG96 provides data connectivity on LTE-TDD/LTE-FDD/GPRS/EGPRS networks, and supports half-duplex operation in LTE networks.

CM100G LTE-M also comprises a GNSS system consisting of U-Blox SOC. The UBX-M8030, high performance standard precision GNSS chip, provides exceptional sensitivity and acquisition times for all GNSS systems. The chips utilize concurrent reception of up to three GNSS systems(GPS/Galileo/GLONASS). Reception from more than one constellation simultaneously allows extraordinary positioning accuracy in urban canyons, even with weak signals and high dynamics.

Install and power up

The following diagram explains details of the external connectivity module.



Install the connectivity module at top corner of the windshield. Remove any foreign matter and clean and dry the windshield before installation.

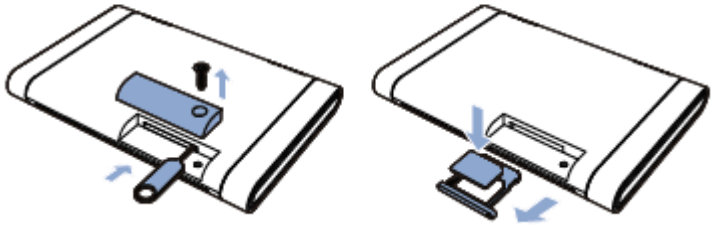
Warning

- Do not install the product in a location where it can obstruct the driver's field of vision.

Ⓐ Turn off the engine.

Ⓑ Check the SIM card that is included in the package and remove the nano SIM from the SIM card pack.

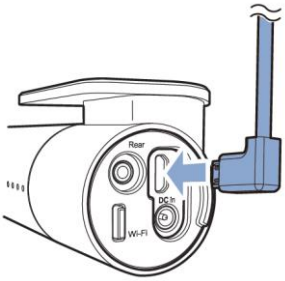
Ⓒ Unscrew the bolt that locks the SIM slot cover on connectivity module. Remove the cover, and unmount the SIM slot using the tools. Insert the SIM card into the slot.



Ⓓ Peel off the protective film from the double-sided tape and attach the connectivity module to the top corner of the windshield.

To avoid dysfunction of GPS, You must attach the connectivity module to the windshield area since GPS will work properly when the attachment part of the device is facing towards the windshield.

Ⓔ Connect the front camera (USB port) and the connectivity module cable (USB).



Ⓕ Use the pry tool to lift the edges of the windshield trim/molding and tuck in the connectivity module cable.

Ⓖ Turn on the engine. The BlackVue dashcam and connectivity module will power up.

Note

- For full details on installing the dashcam on your vehicle, refer to the "Quick Start Guide" that is included in the BlackVue dashcam package.
- SIM card must be activated to use **Cloud Lite service.**
- **Check connectivity status if connection is not stable.**

SIM activation process

1. Open the BlackVue app and select **WI-FI** → SIM card activation

2. To activate your SIM card, Please input the below APN information in the blank of the SIM card activation page.

APN : internet.lte.cxn

3. You only need to input APN as described above, you neither need to input user name nor password.

Product specifications

CM100GLTE-M

Model Name	CM100GLTE-M
Product Name	Blackvue Connectivity Module
LTE Module	Quectel BG96
LTE Supported Band	BG96 : B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28
LTE Features	Support up to CAT.M1 FDD and TDD LTE-FDD : Max 375Kbps(DL) / Max 375Kbps(UL) LTE-TDD : Max 375Kbps(DL) / Max 375Kbps(UL)
Transmitting Power	Class 3 : 23dBm +/-2dBm @ LTE-FDD/TDD Bands Class 3 : 30dBm +/-2dBM @ GSM1900
USIM Interface	Support USIM Nano Card / 3.0V
USB Interface	Compliant with USB 2.0 specification(Slave Only), Reach up to 480Mbps for data transfer rate
Connector Type	Micro USB Type-B with Harness Cable
Antenna Type	Fixed / Intenna (Main Only)
GNSS Support	GPS/QZSS L1 C/A, GLONASS L10F supported by M8 GNSS Chips
Power Supply	USB Harness Cable : 1.5m Typical Supply Voltage : 5.0V / 1A Supply Input Voltage : 3.3V ~ 5.5V / Max. Current : 2A
Power Consumption	Idle Mode : 70mA / Traffic Mode : 180mA @ Max. Power 23dBm
Temperature Range	Operation Temperature Range : -35°C ~ +75°C Storage Temperature Range : -40°C ~ +85°C
Color/Size/Weight	Black / Length 90 mm x Width 60 mm x Height 10 mm / 82g
Certifications	PTCRB, FCC, ISED, RCM, TELEC, IMDA, WEEE

APPENDIX – PRODUCT SPECIFICATION

CM100GLTE-M

Function	Operating Frequency	Output Power
E-UTRA FDD B2	1850~1910 MHz	23dBm
E-UTRA FDD B4	1710~1755 MHz	23dBm
E-UTRA FDD B12	699~716 MHz	23dBm
E-UTRA TDD B39	1880~1920 MHz	23dBm
GSM PCS1900	1850~1910 MHz	26dBm

Operating description

CM100G LTE-M device is powered on USB harness connector if it inserts in the micro USB port of Blackvue dashcams(DR5900X-1Ch, DR590X-2Ch etc.). USB DC 5V applies 3.3V to MICOM(MS51BA9AE) by activating the DC-DC voltage down converter(AP7331-33SNG) and 3.8V to LTE-M module(BG96) by activating the DC-DC voltage down converter(RT8065ZQW). MICOM is enabled to GPIO pins(LTE_STATUS, LTE_PWRKEY, LTE_PW_EN) and LTE-M module is powered by them.

LTE-M module supports Cat.M1 bands each region through only main antenna, and Blackvue dashcam is able to use Lite Cloud Service if make sure that Blackvue dashcam is connected to LTE network through CM100G LTE-M. At first, user has to establish the steps for SIM activation and registration through Blackvue dashcam's Wi-Fi.

CM100G LTE-M also receives the satellite signal through GNSS(GPS/Glonass) system consisting of GNSS SOC, LNA, RF Saw Filter and GPS patch antenna. USB DC 5V applies 3.3V to GNSS chipset(UBX-8030) and 26MHz TCXO Oscillator(JT2526010P) by activating the DC-DC voltage down converter(AP7331-33SNG). As soon as the chipset is activated, it catches GPS/QZSS L1 C/A and GLONASS L10F signals several seconds later.

Notes

Product Warranty

- **The term of this product warranty is 1 year from the purchase date. (Accessories such as an External Battery/microSD Card: 6 Months)**
- We, PittaSoft Co., Ltd., provide the product warranty according to the Consumer Dispute Settlement Regulations (drawn up by the Fair Trade Commission). PittaSoft or designated partners will provide the warranty service upon request.

Circumstances			Warranty	
			Within the Term	Outside of the Term
For performance/ functional problems under normal use conditions	For serious repair required within 10 days of purchase		Exchange/ Refund	N/A
	For serious repair required within 1 month of purchase		Exchange	
	For serious repair required within 1 month of exchange		Exchange/ Refund	
	When not exchangeable		Refund	
	Repair (If Available)	For Defect	Free Repair	Paid Repair/ Paid Product Exchange
		Repeated problem with the same defect (up to 3 times)	Exchange/ Refund	
		Repeated trouble with different parts (up to 5 times)		
	Repair (If Unavailable)	For the loss of a product while being serviced/repaired		Refund after depreciation plus an additional 10% (Maximum: purchase price)
		When repair is unavailable due to lack of spare parts within the component holding period		
		When repair is unavailable even when spare parts are available		Exchange/ Refund after depreciation
1) Malfunction due to customer fault - Malfunction & damage caused by user negligence (fall, shock, damage, unreasonable operation, etc.) or careless use - Malfunction & damage after being serviced/repaired by an unauthorized third party, and not through Pittasoft's Authorized Service Center. - Malfunction & damage due to the use of unauthorized components, consumables, or separately sold parts 2) Other Cases - Malfunction due to natural disasters (fire, flood, earthquake, etc.) - Expired life span of a consumable part - Malfunction due to external reasons			Paid Repair	Paid Repair

- This warranty is only valid in the country where you purchased the product.

FCC ID : YCK-CM100GLTE-M / FCC Contains ID : XMR201707BG96
IC ID : 23402-CM100GLTE-M / ISED Contains ID : 10224A-201709BG96

Declaration of Conformity

Pittasoft declares that this device complies with the essential requirements and relevant provisions of Directive 2014/53/EU

Go to www.blackvue.com/doc to view the Declaration of Conformity.

Product	|	External Connectivity Module
Model Name	|	CM100GLTE-M
Manufacturer	|	Pittasoft Co., Ltd. / South Korea
Address	|	4F ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea, 13488
Customer Support	|	cs@pittasoft.com
Product Warranty	|	One-Year Limited Warranty

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Made in Korea

FCC Compliance Information

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 protections 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 ty 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.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacture could void the user's authority to operate such equipment.

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 of this device.

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.