INDUSTRIAL CONNECTIVITY / ENGLISH TECHNICAL DOCUMENT

CM520-A6G

Local LoRa communication module



Original source photograph

Source filename V1.0260522 | English review edition | 19 October 2026

REVIEW EDITION - translated from the supplied Chinese document. Source inconsistencies and optional features are retained. See the final review checklist.

Inside this document

Overview and configuration / Functions / Interfaces / Radio specifications / Power and mechanics / Applications / Company profile / Source review notes

Product overview and features

Source pp. 1-2

The CM520-A6G is a local DTU communication module for short-range wireless transfer of small data payloads using LoRa at 2.4 GHz and 470 MHz. An industrial 32-bit communication processor and wireless module run an embedded real-time OS. Interfaces listed are one 3.3 V TTL serial port, one IIC/I2C interface, one USB interface and one Ethernet interface.

The source describes use in centralized station terminals, a lightweight removable PC/ABS enclosure, multiple interfaces, modem restart/reconnection and State Grid-compatible functions. Its standards claims require exact document editions and implementation evidence.

- Connection-maintenance mechanisms; TTL 15 kV ESD protection; reverse-polarity and overvoltage protection; optional antenna lightning protection.
- Standard TTL/Ethernet interfaces for direct device connection; power-on data transfer and plug-and-play operation as described.
- LoRa 2.4 GHz / 470 MHz; source claims conformance with Wireless Networking Protocol for IoT Node Devices in Power Transmission and Transformation Equipment and Micropower Wireless-Network Communication Protocol for Power Transmission and Transformation Equipment IoT. Formal identifiers/editions are not supplied.
- Standard 101-protocol data forwarding and application-layer transparent transfer; whitelist, disabled by default.

Model selection

Model	Serial	IIC	USB	Ethernet	LoRa
CM520-A6G	Yes	Yes	Yes	Yes	Yes

Radio, processor and environment

Source p. 3

Specifications

Parameter	Source specification
Bands	470-510 MHz and 2400-2483.5 MHz.
Transmit power	470 MHz: 50 mW; 2.4 GHz: 10 mW.
Sensitivity	-110 dBm
CPU	Industrial 32-bit communication processor.
Flash / DDR2	128 Mbit / 512 Mbit.

Parameter	Source specification
Source consumption notation	5V/400MA, retained as supply/current notation; no measured wattage is inferred.
Operating	-40 to +75 °C; source Fahrenheit values -31 to +167 °F do not match the lower Celsius value. NEEDS_VERIFICATION.
Storage	-40 to +85 °C (-40 to +185 °F).
Humidity	95% RH, non-condensing.
Main connector	2 x 11 dual-row pins; see source orientation figure.

Interfaces and 22-pin definition

Source pp. 2-4



Original source module view

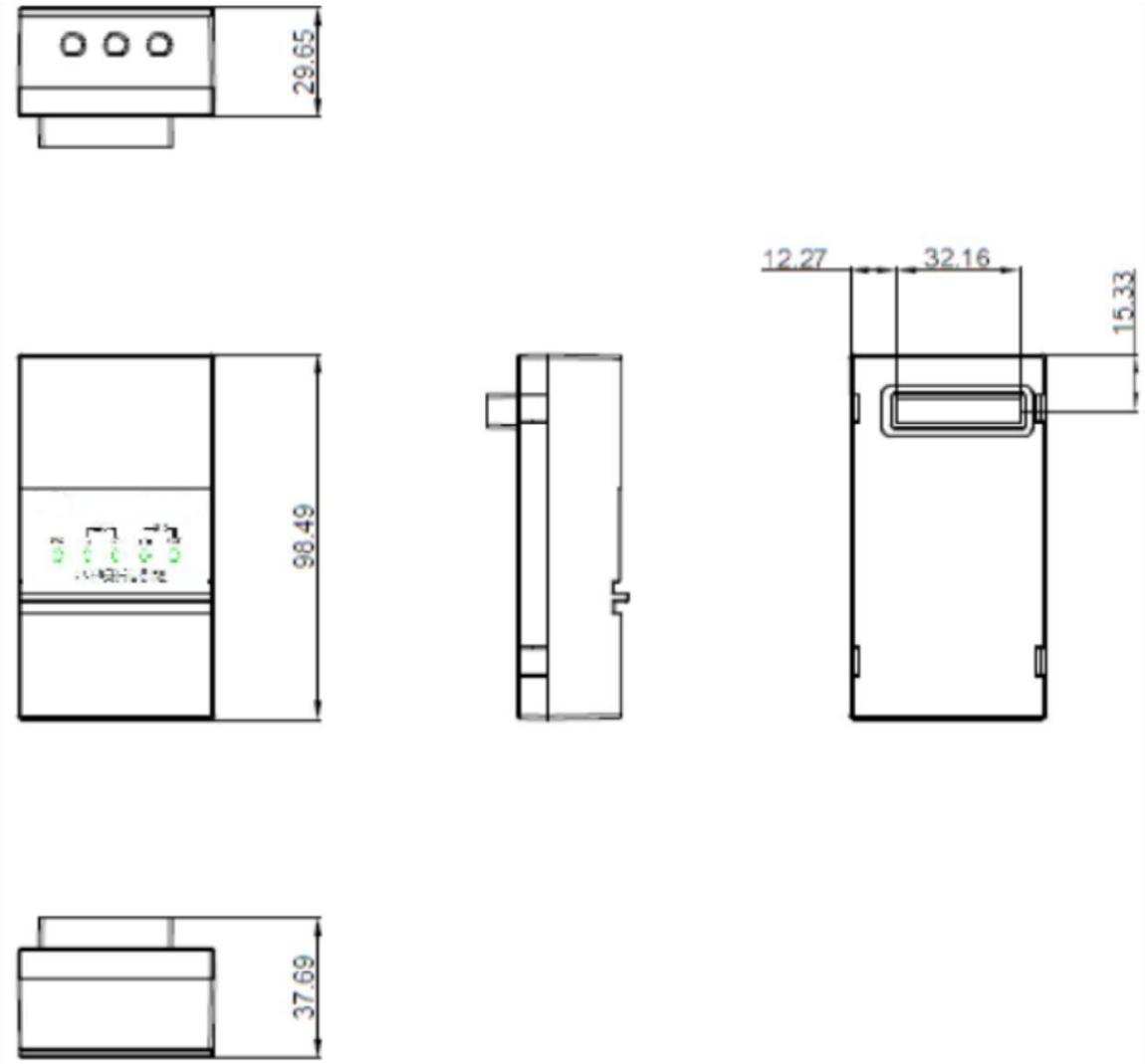
Pin definition

Pin	Signal	Direction / class	Meaning
1	SDA	I/O	I2C SDA
2	SCL	Input	I2C SCL
3 / 4	GND	Power ground	Digital ground
5 / 6	USB+ / USB-	I/O	USB signals
7 / 8	GND	Power ground	Digital ground

Pin	Signal	Direction / class	Meaning
9 / 10	VCC5V	Power input	Supply from DTU core. Source voltage-range sentence is incomplete.
11 / 12	RTS / CTS	Input	DTU_RTS / DTU_CTS; reserved, as printed.
13	TXD0	Output	Module transmit, 3.3 V TTL.
14	RXD0	Input	Module receive, 3.3 V TTL.
15	RST	Input	Reset
16	CARD_IN	Output	Module-present signal.
17 / 18	TXD1+ / TXD1-	Network transmit	Differential pair; reserved.
19 / 20	RXD1+ / RXD1-	Network receive	Differential pair; reserved.
21 / 22	PGND	Chassis ground	Long pins.

Indicators and dimensions

Source p. 5



Original dimensional drawing. Use source numeric labels and confirm revision before mechanical integration.

LED definitions

Parameter	Source specification
PWR	Green; on means powered, off means unpowered.
T/R RF1	Red/green; red flashes on receive, green flashes on transmit.
NET RF1	Green; steady on connected/active, 4 Hz flash connecting/activating, off disconnected/inactive.
T/R RF2	Red/green; red flashes on receive, green flashes on transmit.

Parameter	Source specification
NET RF2	Green; steady on connected/active, 4 Hz flash connecting/activating, off disconnected/inactive.

Application architecture

Source p. 6

The source shows local wireless connectivity around a centralized station terminal. LoRa-connected field nodes communicate through the local module and the station/DTU core to upper-level utility equipment. The external nodes and supervisory systems are integration components.

Company profile and historical recognition

Source p. 7

The following company information is translated from the supplied document and describes the source-era profile. Awards, counts and certifications have not been updated to the present day. English award names are descriptive translations.

Company honors

Year	Recognition stated in source
2011	Named a "Best Supplier for Customer Satisfaction in China's Industrial Control Industry"; the company's GPRS DTU received an "Innovative Product Award".
2012	Became a member of China Quality Long March.
2013	Became a member of the Strategic Alliance for Technological Innovation in the Intelligent Power Transmission and Distribution Equipment Industry.
2014	Recognized as an innovative pilot enterprise. The Zhanjiang Wi-Fi coverage project received a "Model Engineering Project Award" at the 13th China Automation Annual Conference.
2015	Video products were named among the "Top Ten Video Transmission Enterprises" by China Industrial Control and by Huaqiang Security Network. The noise-monitoring project received a "Model Engineering Project Award" at the 14th China Automation Annual Conference.
2016	The video product line was named a "2015-2016 Quality Supplier in China's Security Industry" by Huaqiang Security Network. Charging-pile communication equipment received a "Best Charging Equipment Component Supplier" award.

Year	Recognition stated in source
2016	Received a product gold award at the 7th Guangzhou International New Energy Automobile Industry Exhibition. The organizing committee of the 3rd China Good Wi-Fi event named CAIMORE a "2016 Best Wi-Fi Industry Application Solution Provider".
2018	Industrial routers and DTUs were named among China's top ten brands in their respective categories. Recognized as a key reserve enterprise for public listing in Xiamen.
2019	Recognized as a key reserve enterprise for public listing in Xiamen and Fujian Province. Selected as a DICT solution partner of China Telecom Corporation Limited, Shanghai Branch.
2020	Recognized as a key reserve enterprise for public listing in Xiamen.

Company qualifications

Parameter	Source specification
High-tech enterprise	Recognized nationally as a high-tech enterprise in 2009.
Dual-software enterprise	Recognized nationally as a dual-software enterprise in 2010.
Management systems listed	ISO 9001:2015 quality management; ISO 14001:2015 environmental management; ISO 45001:2018 occupational health and safety management.
Intellectual property	14 patented technologies for device stability and 39 software copyright certificates.
Regional offices	6 regional offices across China, providing nearby customer service.
Registered capital	RMB 12.58 million, as stated in this source.
Industry experience	17 years, as stated in this source.

Contact information

Parameter	Source specification
Company	Xiamen CAIMORE Communication Technology Co., Ltd.
Address as printed in source	8th Floor, No. 1 Xixishanwei Road, Software Park Phase III, Xiamen Torch High-tech Zone, Xiamen, China.
Telephone / fax	+86-592-5902655 / +86-592-5975885
Website / email	https://www.caimore.com / caimore@caimore.com

Translation and source review notes

Editorial review, not additional manufacturer specifications

Translated from the supplied Chinese file. Repeated page furniture and repeated procedures are consolidated. Original hardware figures are preserved; Chinese software screenshots remain visual references with English explanations. NEEDS_VERIFICATION identifies unresolved source issues. No device tests or website upload have been performed.

Review checklist

Source / topic	Review note
Source scope	Filename says dual-card, but the body describes a local dual-radio LoRa module and gives no cellular/SIM specification. Do not advertise dual SIM from the filename.
Reserved signals	Overview lists Ethernet while pin table calls Ethernet differential pairs reserved. Confirm enabled interfaces and pin direction, including CTS marked input.
Incomplete / conflicting data	Operating Celsius/Fahrenheit mismatch; VCC voltage-range sentence incomplete; 5V/400MA row is labeled consumption. Verify approved electrical limits.
Standards	No formal State Grid document IDs/editions or certificate numbers supplied. Do not infer international certification or cellular capability.
Source-era statements	Company office, patent, software-copyright and years-of-experience counts differ among the supplied documents. Each translation preserves its own source counts rather than combining them into a new current company profile.
Certificates and historic awards	Certification and award statements are translations of source material, not independent verification. No certificate numbers were supplied; CGD and Mo'er naming are not expanded into assumed issuing bodies.
Publication status	This English review edition is prepared for technical/editorial review. Resolve the identified source discrepancies before replacing the review status with a public website release.