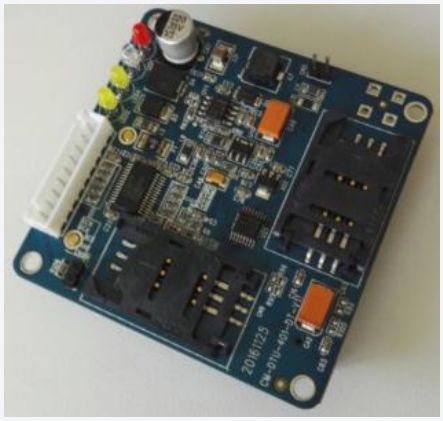
INDUSTRIAL CONNECTIVITY / ENGLISH TECHNICAL DOCUMENT

CM510-76F

Industrial cellular data transfer unit



Original source photograph

Source revision not stated | English review edition | 20 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

Product scope / Technical data / Interfaces and installation / Functions and configuration / Source review notes

Product overview

Source p. 1

CM510-76F is an embedded industrial wireless terminal providing TCP/UDP/DCUDP data transfer for distribution-network FTUs and other industrial equipment through RS232/RS485. The source lists GPRS/CDMA/WCDMA/TD-SCDMA/EDGE/FDD-LTE/TDD-LTE and an ARM7 processor with real-time OS.

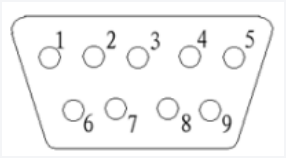
Industrial design and functions

Source pp. 2-3

- Industrial embedded processor and wireless module; real-time operating system and TCP/IP stack. PCB layout follows the source-listed 20H/3W principles with Shengyi board materials and selected industrial components.
- Software protection, CPU watchdog and Virtual Man Watch (VWM) monitor operation and recover from abnormal network/system conditions. Reconnection and always-online statements describe source intent, not guaranteed uptime.
- Push-type 1.8 V / 3 V / 5 V UIM/SIM interface and serial interfaces have source-listed 15 kV ESD protection. Confirm actual model interfaces before connection.
- Automatic DNS acquisition; TCP/IP communication; industrial EMC/EMI design. The source cites a 3000 V electrical test and FCC/CE/CCC/RoHS statements for wireless modules; certificate identities and product scope require verification.
- Compact embedded design for power-distribution automation and pole-mounted FTUs; IEC 101/104 utility protocols and multi-center TCP/UDP/DCUDP transfer are stated.
- Dual serial ports support communication/debug mode, online diagnostics, log storage and historical-log retrieval.
- Source further claims 5G, Southern Grid / State Grid hardware encryption and 1.4/1.8 GHz utility private networks. The detailed radio table gives no matching NR/private-network specifications or encryption details: NEEDS_VERIFICATION.

Connector definitions

Source p. 3



Original source connector orientation

DB9-style connector

Pin	Signal	Function
1	V-	Supply negative.
2	TXD	Serial 1 communication transmit.
3	RXD	Serial 1 communication receive.
4	RXD2	Serial 2 debug receive.
5	GND	Signal ground.
6	V+	Supply positive.
7 / 8	485B / 485A	RS485 B / A.
9	TXD2	Serial 2 debug transmit.

Interfaces and radio

Source p. 4

Serial / peripherals

Parameter	Source specification
Serial	8 data bits; 1/1.5/2 stop bits; none/odd/even parity; 300-115200 bit/s; no flow control.
Indicators	POWER, ACT and Online.
Antenna	SMA female, 50 ohm; optional 3/5/10/15 m extension cables.
SIM	1.8/3/5 V push-type card interface; source-listed 15 kV ESD protection.
Power connector	Standard 3-pin locomotive-style power socket, as described. Confirm actual connector with hardware.

Radio

Parameter	Source specification
Module	EC20 or N720 as stated; confirm supplied variant.
LTE	FDD B1/B3; TDD B39/B40/B41.
Legacy modes	TD-SCDMA B34/B39; WCDMA B1; CDMA2000 1X/EVDO B5; GSM/GPRS/EDGE B3/B8.
Transmit power	<23 dBm
Receive sensitivity	<-129 dBm as printed; NEEDS_VERIFICATION with module and test conditions.

Power, mechanics and environment

Source p. 5

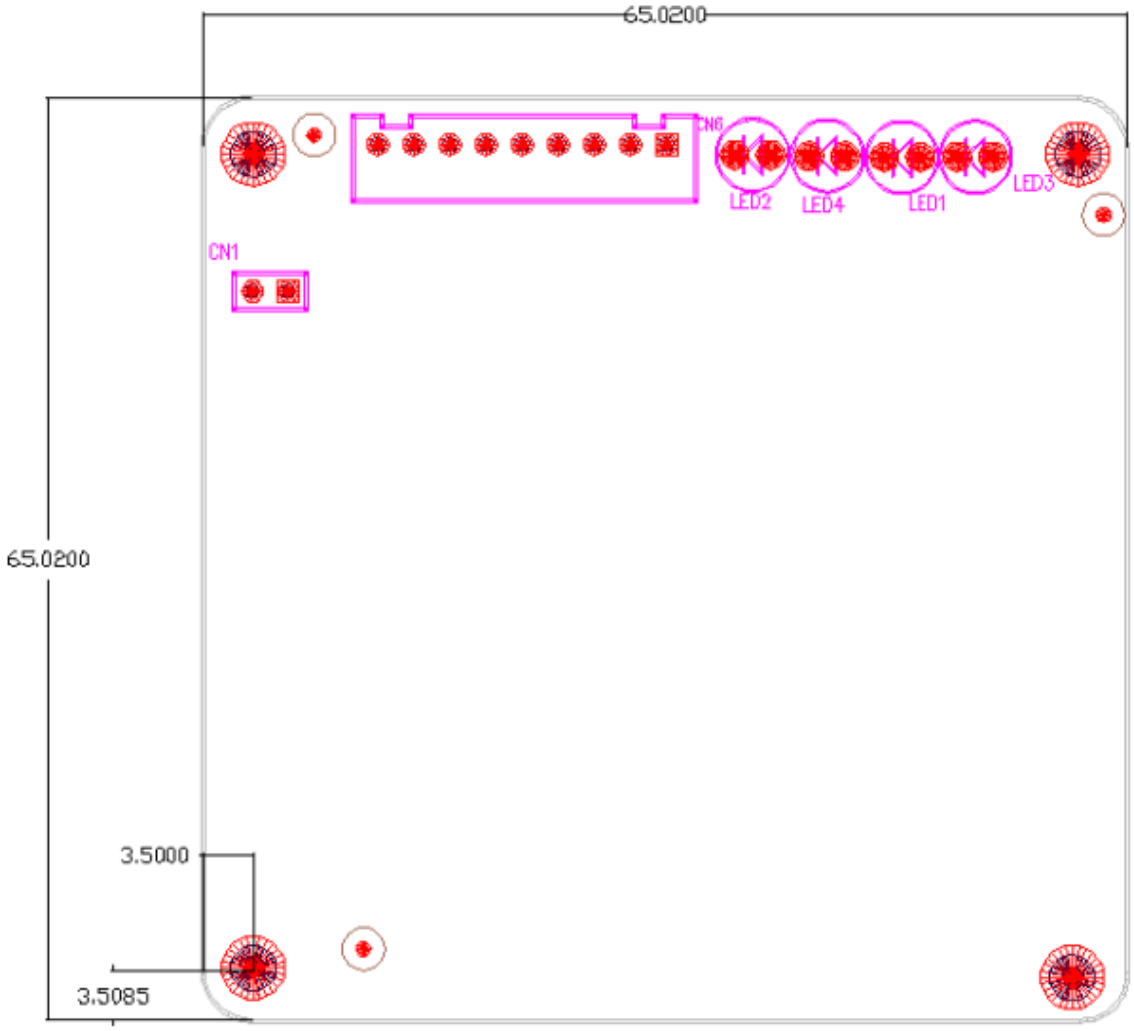
Source parameters

Parameter	Source specification
OS	Real-time OS.
Input	7-32 V DC, reverse-polarity/overvoltage/overcurrent protection.
Adapter	9 V DC / 1500 mA
Current at 12 V DC	Standby 25 mA; communication 60 mA.
Body	65 x 65 x 18 mm, excluding antennas and fixtures; module variants differ.
Weight	0.040 kg
Operating	-30 to +75 °C
Storage	-45 to +90 °C
Humidity	95% RH, non-condensing.

Installation drawing and utility applications

Source pp. 6-7

Applications illustrated: distribution monitoring, power-grid automation, automatic meter reading and grid dispatch. The DTU links field equipment through a base station/operator network to the monitoring center; external infrastructure is separate.



Original source dimensional drawing

Company profile and historical recognition

Source pp. 7-8

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.
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.

Parameter	Source specification
Intellectual property	7 patented technologies for device stability and 31 software copyright certificates.
Regional offices	9 regional offices across China, providing nearby customer service.
Registered capital	RMB 20.58 million. The source identifies CAIMORE as a high-tech enterprise supported by Xiamen.
Industry experience	18 years of industry R&D accumulation and application experience, as stated in the source.

Contact information

Parameter	Source specification
Company	Xiamen CAIMORE Communication Technology Co., Ltd.
Address as printed in source	Units 901 and 904, No. 63 Chengyi North Street, Software Park Phase III, 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 notes

English review translation of the supplied Chinese document. Repeated page furniture, repeated tables and repeated configuration actions are consolidated. Chinese software screenshots are original visual references with English explanations. No device, firmware or certificate testing has been performed. NEEDS_VERIFICATION marks unresolved source statements.

Review checklist

Topic	Review note
Capabilities needing confirmation	Multi-center, 5G, private 1.4/1.8 GHz and hardware encryption claims lack matching detailed specifications. The supplied manual instead says one center.
Source differences	Datasheet storage -45 to +90 °C versus manual -40 to +90 °C. Do not merge these limits.
Connector safety	This connector carries power and serial signals; do not assume a standard PC RS232-only pinout.
Claims and scope	Source certification, reliability, always-online and software compatibility claims are not independently verified. Confirm exact hardware, firmware and regional modem before public release.
Publication status	English review edition; not uploaded. Confirm technical discrepancies before approving a public edition.