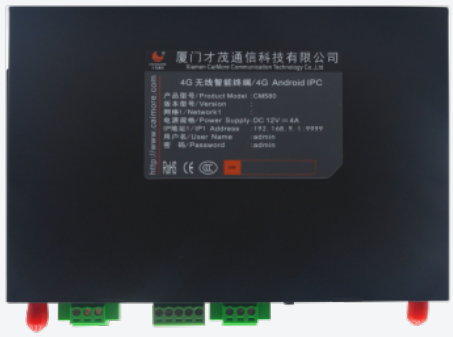
INDUSTRIAL CONNECTIVITY / ENGLISH TECHNICAL DOCUMENT

CM580-6DFI

RK3288 enclosed industrial computer



Original source photograph

Source revision not stated | English review edition | 21 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 and model configuration

Source pp. 1-2

CM580-6DFI is a CAIMORE embedded industrial computing platform using an ARM processor and Android application environment, with source-listed wide-temperature operation and peripheral expansion.

- Industrial field control and data acquisition.
- Financial POS and vehicle control terminals.
- Unattended intelligent terminals.
- Security, monitoring, policing and IoT.
- Human-machine interaction and intelligent retail.

Model configuration

Model	CPU	OS	Dual independent displays	Display outputs	Wi-Fi	Enclosure
CM580-6DFI	RK3288	Android 7.1.2 / Linux	Supported	LVDS / HDMI / MIPI	Optional	Included

Processor and graphics statements

Source pp. 2-3

- Rockchip RK3288: quad-core Cortex-A17, up to 1.6 GHz; source names Mali-T764 GPU with TE, ASTC and AFBC memory-compression technologies.
- The source claims 4K VP9 and 4K 10-bit H.265/H.264 decoding up to 60 fps; H.264/H.265/VP9 at 4K x 2K 60 fps; H.264/MVC/VP8 at 1080p 30 fps; JPEG coding/decoding and image pre-/post-processing.
- ARM framebuffer compression, adaptive scalable texture compression and transaction elimination are listed, together with source marketing statements about a stereoscopic 3D game driver and a search/entertainment engine.
- The codec discussion attributes roughly half the H.264 bandwidth to H.265 at similar quality and calls RK3288 an early/industry-first ARM chip for real-time 4K H.265 hardware decoding. These historical and performance claims need validation against the supplied board/firmware.

Computing and peripheral specifications

Source pp. 3-5



Original source connector view



Original source connector view

Core specifications

Parameter	Source specification
CPU	RK3288 SoC, quad-core Cortex-A17, up to 1.6 GHz.
RAM	DDR3, default 2 GB; expandable, maximum not supplied.
Storage	eMMC, default 8 GB; expandable, maximum not supplied.

Interfaces

Parameter	Source specification
Indicators	Power and 4G online.
Keys	BOOT (hold while powering on to reflash); reset/Back.
Power	2.5 mm DC jack; 12 V DC / 4 A; lightning, overvoltage, overcurrent and reverse-polarity protection.
Speaker	PH2.0 4P, dual 15 W amplified outputs.
GPIO	4 GPIO on a 5-pin 3.5 mm right-angle terminal; source signal row includes repeated 3.3 V labels.
Serial	2 RS232 plus 1 5 V TTL on PH2.0 4P; 2 RS485 on flanged 15EDG 3.81 mm 3P.
USB	6 USB 2.0: 4 external Type-A and 2 PH2.0 4P; 500 mA; 1 OTG; overcurrent protection.

Parameter	Source specification
Cellular	Source lists a multi-network 4G module using a "pcie" interface. Module model, actual bus and regional bands are not supplied.
Ethernet	1 x 10/100 Mbit/s with LEDs; legend typo 100/100M retained as a review issue.
Wi-Fi / Bluetooth	Reserved on-board 2.4 GHz Wi-Fi, 802.11 b/g/n, hotspot function and Bluetooth 4.0; fitted configuration needs confirmation.
TF storage	8/16/32/64/128 GB cards listed.
LVDS	1 LVDS, 1080p, LCD direct drive at 50/60 Hz.
HDMI	Standard HDMI connector; maximum output format not specified here.
MIPI / touch	30-pin MIPI; 6-pin touch connector; 0.5 mm pitch.
Programming	ADB support.
RTC / watchdog	On-board RTC battery, timed on/off; software watchdog with restart on abnormal operation.

Environment

Parameter	Source specification
Operating	-20 to +70 °C
Storage	-40 to +80 °C
Humidity	95% RH, non-condensing.

Connector legend

Source pp. 5-8



Original source hardware reference

External labels

Parameter	Source specification
A-H	Stacked USB / Ethernet / TF / HDMI / OTG / SIM / power+4G LEDs / 12 V DC jack.
I	3G/4G/5G-labelled antenna; actual fitted cellular generation not established.
J / L	RS485, A / B / GND left-to-right; software names ttyS3 / ttyS4 respectively.
K / M / N / O / P	GPIO / reset-Back / microphone (+ then -) / speaker (R+ R- L- L+) / reserved Wi-Fi antenna.
Q	5 V TTL: VCC / RX / TX / GND; software ttyS1.
R	RS232: RX / TX / GND / VCC; source software left-to-right ttyS0, ttyS2.
S / T / U	USB: VCC / DM / DP / GND / screen backlight / LVDS.

Power, GPIO and serial/USB pin definitions

Source pp. 8-10

Power and audio

Parameter	Source specification
Power	2.5 mm DC, 12 V / 4 A.
Speaker, left-to-right	PH2.0 4P: R+ / R- / L- / L+.
GPIO, left-to-right	GND / GPIO8_A1 3.3V / GPIO8_A2 3.3V / GPIO8_A3 3.3V / GPIO7_B6 3.3V. Treat 3.3 V as source labels, not extra confirmed contacts.

PH2.0 4P A-E sockets, pins 1-4 left-to-right

Socket	1	2	3	4
A (TTL)	5V	RX	TX	GND
B (RS232)	RS232_RXD0	RS232_TXD0	GND	5V
C (RS232)	RS232_RXD2	RS232_TXD2	GND	5V
D (USB)	5V (500mA max)	DM4	DP4	GND
E (USB)	5V (500mA max)	DM3	DP3	GND

Both RS485 sockets, left-to-right

Pin	Source signal
1	485A
2	485B
3	GND

Backlight and LVDS pin definitions

Source pp. 10-11

Backlight 6-pin; source shows pins 6-to-1 left-to-right

Pin	Source signal
1	+12VDC
2	+12VDC
3	LCDBKL_EN
4	LCDPWM
5	GND
6	GND

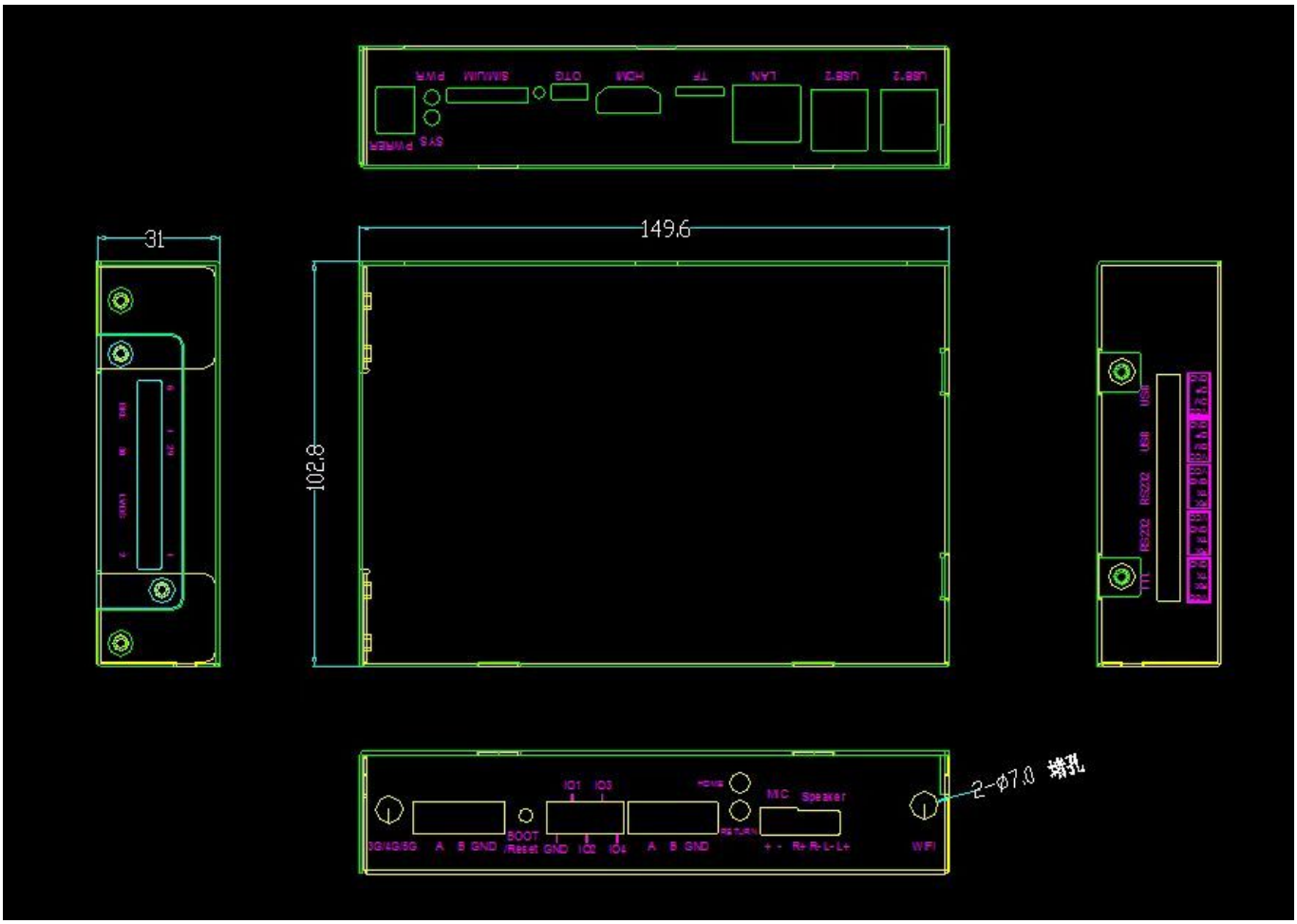
LVDS 30-pin; source shows pins 30-to-1 left-to-right

Pin	Source signal
1	VCC
2	VCC
3	VCC
4	GND
5	GND
6	GND
7	LVDS0_TX0_NEG
8	LVDS0_TX0_POS
9	LVDS0_TX1_NEG
10	LVDS0_TX1_POS
11	LVDS0_TX2_NEG
12	LVDS0_TX2_POS

Pin	Source signal
13	GND
14	GND
15	LVDS0_CLK_NEG
16	LVDS0_CLK_POS
17	LVDS0_TX3_NEG
18	LVDS0_TX3_POS
19	LVDS1_TX0_NEG
20	LVDS1_TX0_POS
21	LVDS1_TX1_NEG
22	LVDS1_TX1_POS
23	LVDS1_TX2_NEG
24	LVDS1_TX2_POS
25	GND
26	GND
27	LVDS1_CLK_NEG
28	LVDS1_CLK_POS
29	LVDS1_TX3_NEG
30	LVDS1_TX3_POS

Installation drawing

Source p. 12



Original source mechanical drawing; preserve printed units and orientation

Applications and system architecture

Source pp. 12-14

The source shows parcel lockers, card readers, barcode/identity devices and Internet-connected control. In the parcel workflow, a courier enters a code, opens a locker, deposits the parcel and closes the door; collection uses a card/code to open the locker, retrieve the parcel and close it. A separate illustrated collection flow shows card scan, password entry, opening, loading and closing. These diagrams describe example applications, not a guaranteed complete software package.

Other source examples

Parameter	Source specification
Unattended control	Industrial terminals, kiosks and intelligent retail.

Parameter	Source specification
Human-machine interaction	Touch/display interfaces and public-space terminals.

Company profile and historical recognition

Source pp. 14-15

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.

Year	Recognition stated in source
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	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 22.80 million, as printed in this source.
Industry experience	16 years, as printed in this 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 review

English translation of the supplied Chinese document. Repeated headings, page furniture and repeated feature text are consolidated. Original hardware figures and screenshots are retained with English explanations. NEEDS_VERIFICATION identifies inconsistent or incomplete source information. No hardware, firmware, electrical, codec, certification or compatibility testing has been performed.

Review checklist

Topic	Review note
Electrical pinout	GPIO signal row versus five-contact description requires confirmation. Legend RS232 fourth contact VCC matches table 5 V; TTL is 5 V and must not be substituted with related 3.3 V models.
Source consistency	Accessory heading says CM580-6DF, despite CM580-6DFI title; exact cellular generation and Ethernet typo need confirmation.
Graphics / software	Verify RK3288 GPU name, codecs/10-bit/4K60 claims, graphics APIs (including literal "Directx1") and OS support against the exact hardware and firmware.
Publication	English review edition; not uploaded. Confirm unresolved specifications before issuing a public datasheet.
Source claims	Historical company information, certifications and performance statements are translated as source claims, not independently verified results.