

AGENEWTECH

H1641RP

Smart Module Specification_V1.1



Our aim is to provide customers with timely and comprehensive service. For any assistance, please contact our company headquarters:

Wuxi Sunning Smart Devices Co.,Ltd.

No.52, Zone C, Huigu Pioneer Park, Huishan Economic Development Zone, Wuxi

Postal Code: 214174

PhoneNum: +86 0510 8235 0372 MailBox: Asupport@agenewtech.com

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About the Document

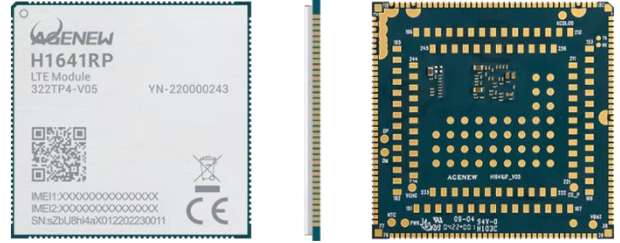
History

Version	Data	Author	Description
-	2022-06-14	Guan Qibin	Initial
1.0	2022-12-04	Guan Qibin	Controlled Copy
1.1	2023-11-30	Peng Cong	Upgrade the software version

H1641RP

Multi-network Smart 4G module

Supports Wi-Fi & BT



H1641RP is a multi-network Smart LTE Cat 7 module based on MediaTek's Octa-core (Dual-core ARM Cortex-A75 + Six-core ARM Cortex-A55) processor MT8786 launched by Sunning Smart Devices Co.,Ltd (Agenewtech), which is equipped with Android 13.0 operating system.

H1641RP supports full coverage of various network standards, Wi-Fi 802.11a/b/g/n/ac and BT5.0 LE short-range communication. Not only that, H1641RP also has audio and video I/O interfaces and rich GPIO interfaces, but also supports a variety of audio and video codecs, and the main screen supports up to FHD+ 2520×1080. At the same time, the positioning system of GPS/GLONASS/BeiDou/Galileo are supported by H1641RP makes its positioning function fast and accurate.

H1641RP is a chip module with 323 pins, including 152 LCC pins and 171 LGA pins. With a size of only 43.0mm×44.0mm×2.6mm, it can be embedded in various M2M products through pads, making it widely used in smart cash registers, smart POS, tax control machines, security monitoring, vehicle-mounted equipment, high-end information collection equipment, intelligent robots, smart homes, smart hardware, industrial smart handheld equipment, unmanned aerial vehicles, high-end police or law enforcement equipment, smart intercom equipment, smart wearing and vending machines.



Main Advantages

- ✓ Comprehensive coverage of multi-network standard.
- ✓ Support Wi-Fi 802.11a/b/g/n/ac and BT5.0 short-range wireless communication
- ✓ Support GPS/GLONASS/BeiDou/Galileo satellite positioning
- ✓ Support multiple audio and video codecs
- ✓ The main screen supports up to FHD+ 2520×1080
- ✓ Support 1080P@30fps video recording and playback
- ✓ Possess audio and video input and output interfaces and rich GPIO interfaces



Dual-core ARM Cortex-A75
+
Six-core ARM Cortex-A55



IEEE 802.11 a/b/g/n/ac



Support Android 12



GPS/GLONASS/BeiDou/Galile



Powerful multimedia



BT5.0

LTE Cat7	H1641RP
Region/Operator	China/Europe/Asia
Operating system	Android 13
Memory	64GB eMMC + 4GB LPDDR4X
Module size (mm)	43.0× 44.0 ×2.6
Packaging	LCC + LGA
Temperature range	
Operation temperature	Operating temperature: -20 °C ~ + 80°C Storage temperature range: -40 °C ~ + 90 °C
Frequency band information	
LTE-FDD	B1/B3/B5/B7/B8/B20
LTE-TDD	B34/B38/B39/B40/B41
WCDMA	B1/B2/B5/ B8
TD-SCDMA	B34/B39
GSM/EDGE	B2/B3/B5/ B8
WLAN	2.4/5GHz, 802.11 a/b/g/n/ac
Bluetooth	5.0
GNSS	GPS/GLONASS/BeiDou/Galileo
Authentication	
Operator Certification	Undetermined
Compulsory Certification	SRRC*/NAL*/CCC*
Other Certifications	RoHS*/REACH*
Frequency Band Information	
LTE-FDD (Mbps)	300Mbps (DL)/75Mbps (UL)
LTE-TDD (Mbps)	260Mbps (DL)/90Mbps (UL)
DC-HSPA+ (Mbps)	42Mbps (DL)/11.2Mbps (UL)
WCDMA (Kbps)	384Kbps (DL)/384Kbps (UL)
EDGE (Kbps)	296Kbps (DL)/236.8Kbps (UL)
GPRS (Kbps)	107Kbps (DL)/85.6Kbps (UL)
Outstanding characteristics	
Five-mode communication	LTE: Release 12 UMTS: Release 9
Bandwidth (MHz)	1.4 - 20 MHz Radio frequency bandwidth
Charging chip	●
OTG	●
SIM card detection	●
Dual sim dual standby	●
USB Firmware upgrade	●
OTA Firmware upgrade	●

Remarks: 1. *: In progress
2. ●: Supports

LTE Cat7	H1641RP
Electrical specification	
Operating Voltage	3.4~4.4 V, typical value3.8 V
Consumption (typical)	Undetermined
Interface	
LCD	4-lane MIPI DSI FHD+ 2520×1080
Camera	3 sets 4-lane MIPI CSI, up to 25MP
TP	Capacitive touch screen
Audio	3 Analog inputs: 3 groups of analog microphone inputs 3 Analog outputs: speaker, AB-class receiver and AB-class stereo earphone
USB	USB 2.0(support OTG)
(U)SIM	2 sets (1.8V/2.95V)
UART	2 UART for debugging and applications
SD Card	1 set
ADC	1 set
I2C	6 I2C to control peripheral devices
SPI	5 SPI
PWRKEY	Internal pull up to VBAT
GPIO	22 groups of GPIO interfaces are reserved
Antenna	Main antenna, Diversity antenna, GNSS antenna, WIFI/BT antenna