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H1641BP

Smart Module Specification_V1.3

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

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About the Document

History

Version	Data	Author	Description
-	2021-12-14	Huang Zizhen	Initial
1.0	2022-04-04	Huang Zizhen	Controlled Copy
1.1	2022-05-31	Yang Yanlian	Electrical Parameter
1.2	2022-09-15	Feng Dongyang	Electric Attribute,Structure Parameter,Interface Description
1.3	2023-01-30	Wu Danyi	Operating temperature modification

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H1641BP

Multi-network Smart LTE module
Supports Wi-Fi & BT
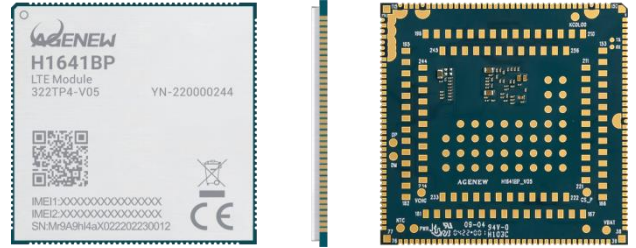
H1641BP is a multi-network Smart LTE Cat 4 module based on MediaTek's quad-core ARM Cortex-A53 processor launched by Sunning Smart, equipped with Android 11 operating system. Its powerful performance, neon engine processing, 2D/3D graphics acceleration processing capabilities, fully meet the needs of customers for high-speed and multimedia functions in industrial and consumer applications.

H1641BP supports full coverage of all network systems, WI-FI 802.11a/b/g/n/ac, and BT5.0 near-field wireless communication. In addition, the H1641BP also has audio and video input and output interfaces and rich GPIO interfaces. It also supports a variety of audio and video codecs. The home screen supports HD+1280*800 at most. At the same time, H1641BP supports GPS+Glonass+BeiDou/Galieo positioning systems, making its positioning function fast and accurate.

H1641BP is a patch module with a total of 301 pins, including 152 LCC pins and 149 LGA pins. The size is only 43.0mm × 44.0mm × 2.6mm, which can be embedded in various M2M product applications through pads, making it widely used in smart cash registers, smart POS, tax control machines, security monitoring, vehicle equipment, and high-end information Collection equipment, smart robots, smart homes, smart hardware, industrial smart handheld devices, drones, high-end police or law enforcement equipment, smart intercom devices, smart wearables, vending machines, logistics cabinets and other equipment are used in different industries.

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/Galieo and other standard satellite positioning
- ✓ Support multiple audio and video codecs
- ✓ The main screen supports up to HD+ 1280x800
- ✓ Support 1080P@30fps video recording and playback
- ✓ Possess audio and video input and output interfaces and rich GPIO interfaces

quad-core ARM Cortex-A53 64-bit processor

IEEE 802.11 a/b/g/n/ac

Support Android 11

GPS+Glonass+BeiDou+Galileo

Powerful multimedia

BT5.0

LTE Cat4	H1641BP
Region/Operator	China/India
Operating System	Android 11
Memory	32GB eMMC + 2GB LPDDR4X (Default settings) / 64GB eMMC + 4GB LPDDR4X(Optional)
Module size (mm)	43.0× 44.0 × 2.6
Packaging	LCC + LGA
Temperature Range	
Operation Temperature	Normal 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/B41B
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	BT5.0
GNSS	GPS+Glonass+BeiDou/Galileo
Authentication	
Operator Certification	Undetermined
Compulsory Certification	Undetermined
Other Certifications	CE
Data Rate	
LTE-FDD (Mbps)	150Mbps (DL)/50Mbps (UL)
LTE-TDD (Mbps)	150Mbps (DL)/50Mbps (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	
Six-Mode	LTE: Release 12 UMTS: Release 9
Bandwidth（MHz）	1.4/3/5/10/15/20
Rx-Diversity	●
DL supports MIMO 2 × 2	●
SIM Card Detection	●
Dual SIM Dual Standby	●
USB Firmware Upgrade	●
OTA Firmware Upgrade	●

Remarks: 1. *: In progress

      2. ●: Supports

LTE Cat4	H1641BP
Electrical specification	
Operating Voltage	3.4~4.4 V, typical 3.8 V
Consumption (typical)	Undetermined
Interface	
LCD	4-lane MIPI_DSI, support horizontal screen, Resolution up to HD+ 1280×800@60fps
Camera	3 4-lane MIPI_C_SI, up to 21MP
TP	Capacitive touch screen
Audio	Lineout Interface、receiver、earphone and 3 sets of microphones
USB	USB 2.0，Supports OTG
(U)SIM	2 sets（1.8V/3V)
UART	2 UART for debugging and applications
SD Card	1 set (SD3.0)
ADC	1 set general ADC interface, for battery ID
I2C	6 I2C to control peripheral devices
SPI	5 UART for debugging and applications
PWRKEY	Internal pull up to VBAT
GPIO	17 GPIO reserved
ANT	Main antenna, Diversity antenna, GNSS antenna, WIFI/BT antenna