AGENEWTECH

H1641UP

Smart Module Specification_V2.0

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
1.1	2022-05-31	Yang Yanlian	Correct a mistake
1.2	2022-09-15	Feng Dongyang	Electrical properties, structural parameters, interface description
1.3	2023-01-30	Daniel Wu	Operating temperature modification
2.0	2023-06-01	Daniel Wu	Updated description: All previous versions are disabled

H1641UP

Multi-network Smart 4G module Supports Wi-Fi & BT
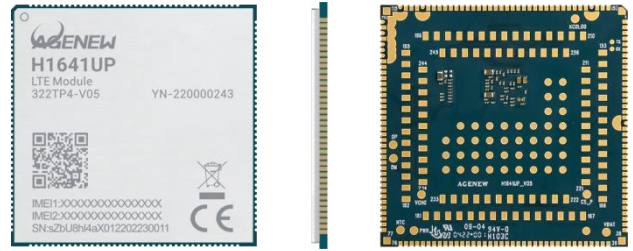
H1641UP is a multi-network Smart LTE Cat 4 module based on MediaTek's octa -core ARM Cortex-A53 processor launched by Agenew, equipped with Android 11 operating system. Its powerful performance, neon engine processing, 2D/3D graphics acceleration processing capabilities, fully meet the needs of customers for high-speed and multimedia functions in industrial and consumer applications.

H1641UP 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 H1641UP 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+1920*1200 at most. At the same time, H1641UP supports GPS+Glonass+BeiDou/Galieo positioning systems, making its positioning function fast and accurate.

H1641UP 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/Galileo satellite positioning
✓ Support multiple audio and video codecs
✓ The main screen supports up to HD+ 1920*1200
✓ Support 1080P@30fps video recording and playback
✓ Possess audio and video input and output interfaces and rich GPIO interfaces

ARM Cortex-A53
64-bit processor (octa-core)

IEEE 802.11
a/b/g/n/ac

Support Android 11

GPS+GLONASS+BeiDou/Galileo

Powerful multimedia

BT5.0

LTE Cat4	H1641UP
Region/Operator	China/India
Operating system	Android 11
Memory	32GB eMMC + 2GB LPDDR4X (Default) / 64GB eMMC + 4GB LPDDR4X (Optional)
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	BT 5.0
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 Support MIMO 2 × 2	●
SIM Card Detection	●
Dual Sim Dual Standby	●
USB Firmware Upgrade	●
OTA Firmware Upgrade	●

Remarks: 1. *: In progress

    2. ●: Supports

LTE Cat4	H1641UP
Electrical Specification	
Operating Voltage	3.4~4.4 V, typical value3.8 V
Consumption (typical)	Undetermined
Interface	
LCD	4-lane MIPI_DSI, support horizontal screen, Resolution up to HD+ 1920×1200@60fps
Camera	2 4-lane MIPI CSI, up to 21MP
Scanner Lens	1 4-lane MIPI CSI
TP	Capacitive touch screen
Audio	Lineout port, receiver, headphones, and 3 sets of microphones
USB	USB 2.0(support OTG)
(U)SIM	Dual card (1.8V/3.0V)
UART	2 groups of UART for debugging and application
SD Card	Supports SD card (SD3.0)
ADC	3 groups of ADC interfaces, 2 of which are dedicated to battery ID detection
I2C	5 groups of I2C interfaces for touch screen, camera, sensor and other peripherals
SPI	55 groups of SPI interface, the module can only be the main device; One group of SPI can be reused as I2S interface
PWRKEY	Internal pull up to VBAT
GPIO	28 groups of special GPIO ports and 6 groups of general GPIO ports are reserved
Antenna	Main antenna, Diversity antenna, GNSS antenna, Wi-Fi 2.4G& Bluetooth antenna, Wi-Fi 5G antenna