

SPECIFICATION

MODEL:Gateway-GTW361



REVISION HISTORY

VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2022-08-05	RCB220419_V1.0	11	specification	
V1.1	2023-6-26	RCB220419_V1.1	14	Modify input voltage DC +12 Modify WiFi to single 2.4G Add RS485, DI, DO interface	

Confirmation

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Website: www.geniatech.com

Address: Room 02-04, 10 / F, Block A, Building 8, Shenzhen International Innovation

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1.General Description

GTW361 adopts NXP i.MX6ULLSoC solution. The SoC frequency is 792MHz~900MHz, with 512MB (256MB/1GB optional) memory, 8GB eMMC Flash (4GB optional), and the product can be configured as required. GTW361 has dual 10/100M LAN port, Wifi 2.4G and LTE functions. By adding Geniatech's standard GTIoT interface to the IoT daughter board, you can extend the wireless functions of ZigBee, BLE, Z-Wave, etc., as well as support the LoRa long-distance transmission protocol for different application scenarios, which is very convenient and flexible. GTW361 provides RS485, RS232, CAN, DI, DO industrial interfaces, with wireless network can realize remote data acquisition and remote control functions, due to the use of NXP program, NXP's wide industrial temperature range is also embodied in this, which can be applied to a number of industrial areas. GTW361 is widely used in industrial 4.0 and industrial IoT and smart homes, smart city and other fields. The product can be customized on hardware functions, software kernel, case and packaging.

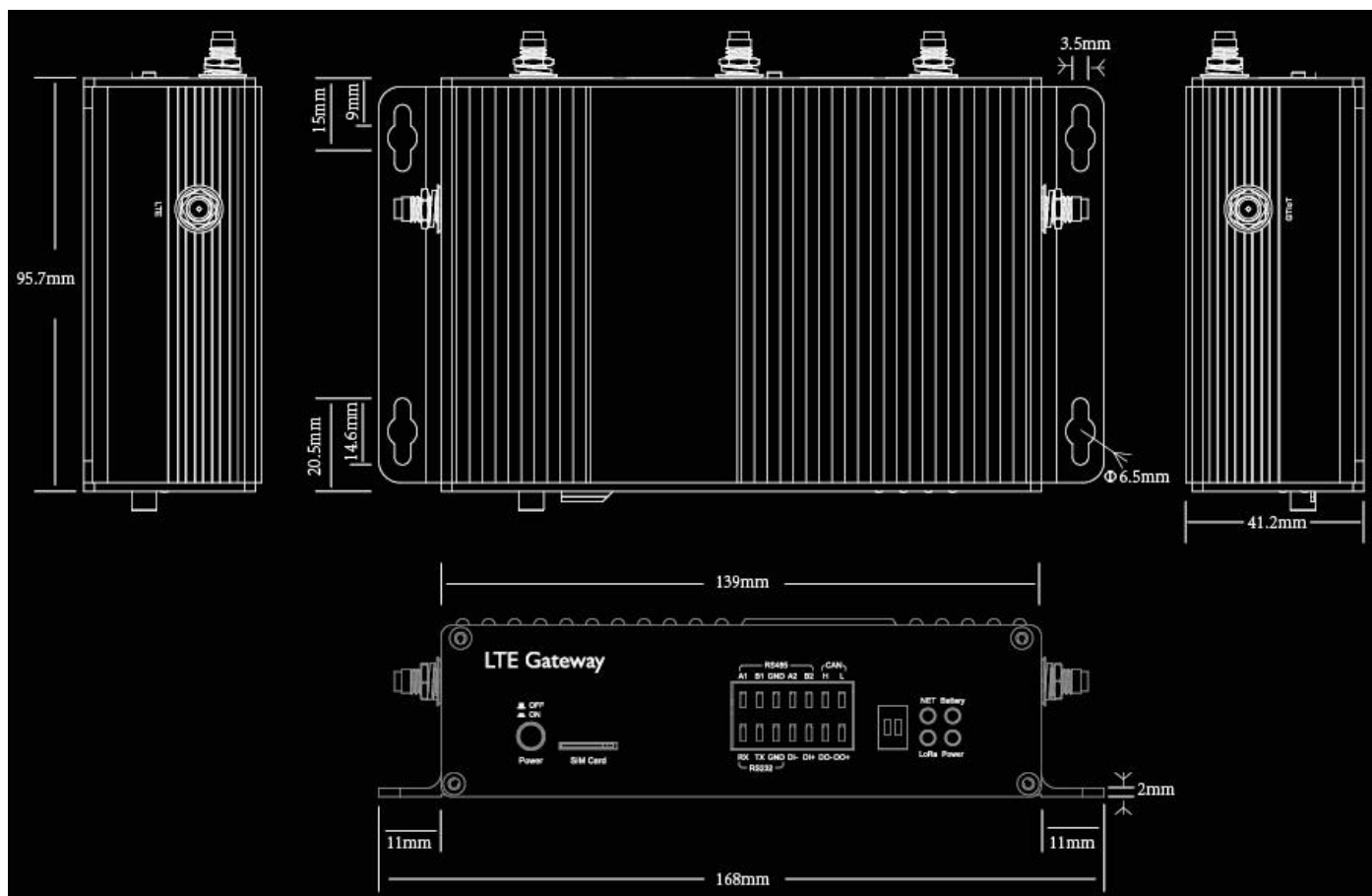
- Using NXP i.MX6ULL scheme, the frequency up to 792MHz~900MHz.
- 512MB (256MB/1GB optional) memory, 8GB eMMC Flash (4GB optional)
- Support IEEE802.11 a/b/g/n standards
- Integration of ZigBee, WiFi, BLE, Z-Wave LoRaWAN wireless network protocols
- Dual LAN network interface for network connection and industrial control
- The mature, stable and extensible Yocto system is adopted
- Unique software algorithms ensure network security
- USB2.0 data port for connecting USB storage devices and for connecting new RF modules.
- Provides RS485, RS232, CAN, DI, DO interfaces for industrial use
- Support for LoRa long-distance transmission, ModBus and other common protocols.
- Support LoRaWAN communication specification, support 8 channel downlink, 1 channel uplink at the same time. Full duplex / half duplex, same frequency / different frequency working mode
- Customization for special applications, open API interface.
- Commercial grade operating temperature: 0°C to +85°C
- Industrial grade operating temperature: -40°C to +85°C

2.Product Pictures

Below pictures are for reference only:



3. Board View



4. Electrical Characteristics

4.1 Power supply parameters

Parameter	Specification				Description
	Minimum	Typical	Maximum	Unit	
Mains Voltage	9	12	18	V	
No-load current	63.1	--	113	mA	
Heavy load current	120	--	220	mA	

4.2 Environmental parameters

Parameter Description		Specification				Description
		Minimum	Typical	Maximum	Unit	
Operating Temperature	Working Environment	0	25	+85	°C	Commercial Grade
	Storage environment	-40	25	+125	°C	
	Working Environment	-40	25	+85	°C	Industrial grade
	Storage environment	-40	25	+125	°C	
Humidity	Working Environment	10	--	90	% RH	No condensation
	Storage environment	5	--	95	% RH	

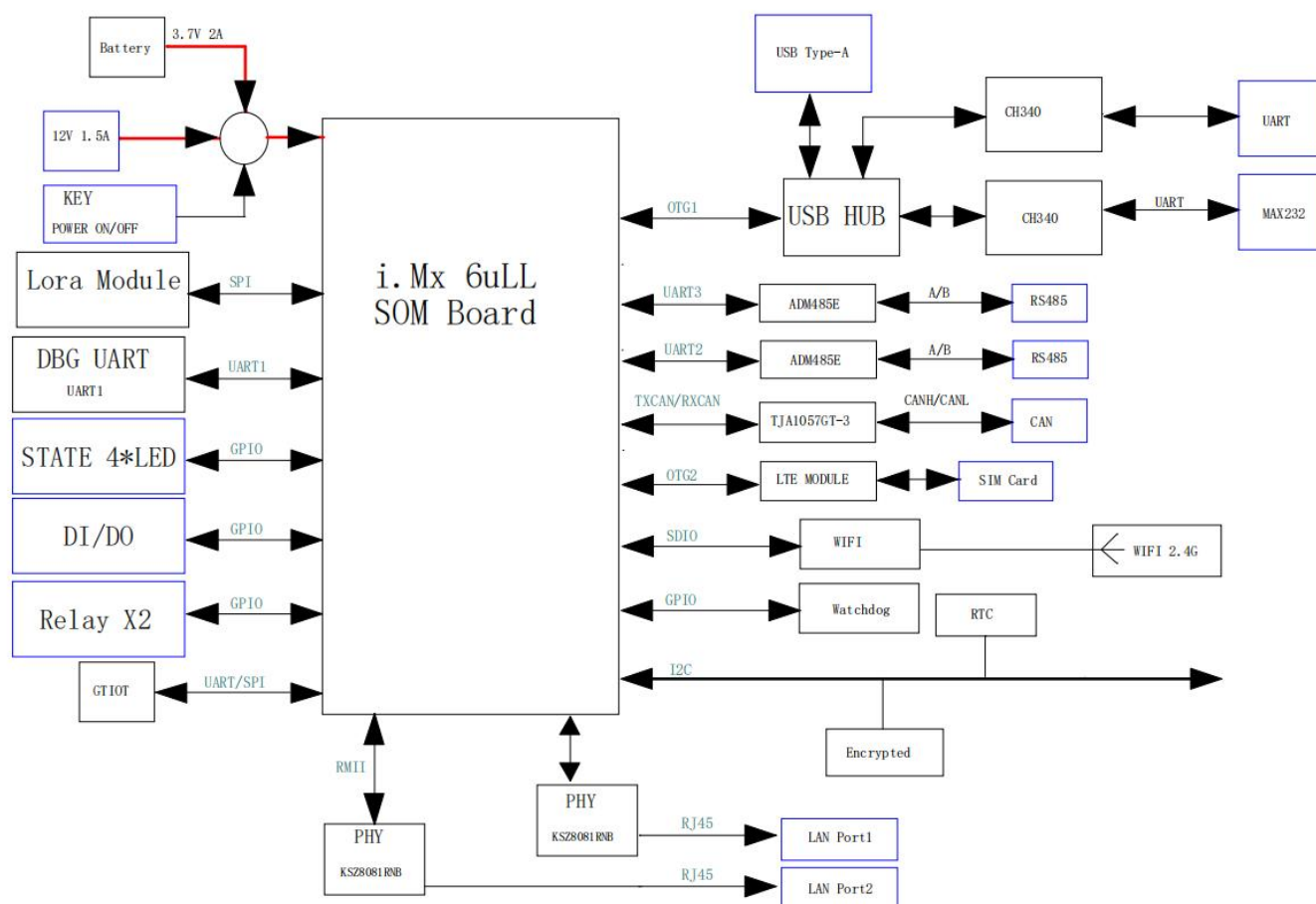
4.3 Interface speed

Parameter Description	Specification				Description
	Minimum	Typical	Maximum	Unit	
Serial communication rate	--	115200	--	bps	
SPI communication rate	--	--	52	Mbps	
I2C communication rate	--	100	400	Kbps	
CAN communication rate	--	--	1	Mbps	
SD/SDIO communication rate	--	--	200	Mbps	
USB interface rate	--	--	480	Mbps	
RS485	--	115200	--	bps	
Ethernet	10	--	100	Mbps	Adaptive, MDI/MDIX crossover auto switching

4.4 Digital Input Parameters

Input Specification	Parameter Name	Specification			
		Minimum	Typical	Maximum	Unit
6V~30V	High Level Input Voltage	6.0	--	30	V
	Low Level Input Voltage	--	--	4	V

5. Hardware block diagram



6. Product Model Function Description

Features Model	4G(I)	Zigbee (F)	PoE-PD(P)	LoRawan(L)	WiFi- 2.4G	Ethernet	RS232	RS485	CAN	DI/DO	Relay
GTW361	--	--	--	--	√	*2	1	2	1	1 group	2 group
GTW361-I	√	--	--	--							
GTW361-F	--	√	--	--							
GTW361-L	--	--	--	√							
GTW361-P	--	--	√	--							
GTW361-IF	√	√	--	--							
GTW361-IP	√	--	√	--							
GTW361-IL	√	--	--	√							
GTW361-ALL	√	√	√	√							

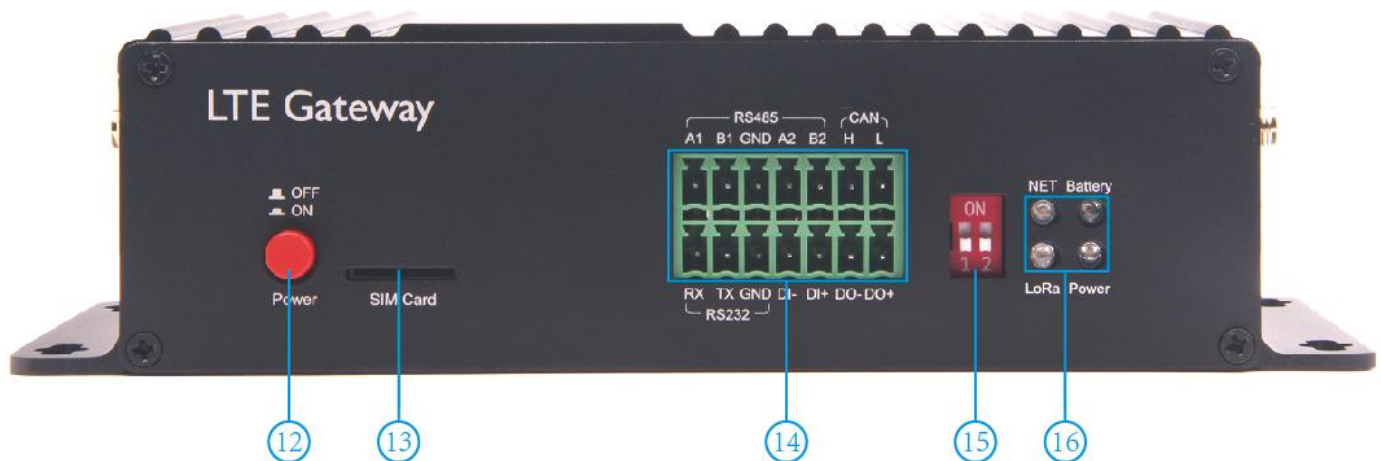
7. Features Parameters

CPU	Chip	NXP i.MX6ULL	
	CPU Frequency	Single ARM Cortex-A7 792MHz~900MHz	
Storage	Internal Memory	512MB(256MB/1GB optional) DDR3	
	Internal Storage	8GB(4GB optional) EMMC	
Network	2G/3G/4G/LTE	LTE Cat4 for EU、LTE Cat4 for AU、LTE Cat4 for US(Optional)	
	Built-in WiFi	802.11 a/b/g/n	
	WiFi 2.4G Frequency Range	2.400~2.497GHz	
	Ethernet port(LAN)	2*RJ45 10/100Mbps LAN(One of the RJ45s supports PoE PD)	
	PoE	IEEE802.3af standard，PoE PD with TVS protection（optional）	
I/O interface	USB	USB-A 2.0 x 1	
	RS232	*1	7P*2 15EDGK-3.81mm
	RS485	*2	
	CAN	*1	
	DI	*2	
	DO	*2	
	Relay*2	4P 15EDGK-3.81mm	
	ZigBee	3.0 (optional)	
	Bluetooth/BLE	5.0(Optional)	
	RS485	TIA485/EIA-485-A -7~+12V	

	CAN	ISO11898-2:2016 and SAE J2284-1 to SAE J2284-5 ESD Protection(8kV IEC and HBM)
	LoRa	LoRaWAN communication specification, 8 channel downlink, 1 channel uplink at the same time (optional) .
	RS232	±5~±15V
Control interface	DI/DO	±15KV(air) ±10KV(contact)
	Relay	2*3A 250VAC
Extended interface	LEDs	NET,Power,Battery,LoRa
	SIM Slot	Micro SIM Card
	GTIoT	2*5P 1.27 socket(Internal interface)
	Debug	4P 2.0 ranking(Internal interface)
	Extended interface UART	6P 2.0 ranking(Internal interface)
	Button	Reset
Power pack	Supply voltage	DC12V 1.5A
	Charging lithium battery	3.7V 1000mAH~5000mAH (optional)
	Energy	Within 5W(for reference only)
	RTC&Watchdog	3V 5mA
Mechanical properties	Size (mm)	168*95.7*41.2
	Net Weight (g)	425
Operating system(OS)	Linux/Yocto	
Other	WiFi antenna*1,LoRa antenna (optional) ,LTE antenna*2,GTIoT antenna (optional) .	

8. Extension I/O description

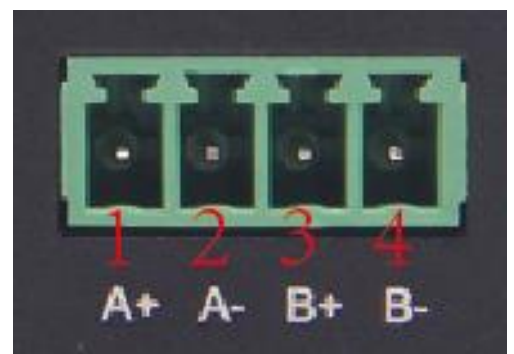




Item No.	Default function	Item No.	Default function
1	4G antenna interface	2	WiFi antenna interface
3	100 Gigabit Ethernet Interface 2	4	100 Gigabit Ethernet Interface 1
5	Reset	6	DC 12V Input
7	Lora antenna interface	8	USB2.0 Type-A
9	Relay control interface	10	IoT antenna interface
11	4G antenna interface	12	Power ON/OFF
13	SIM Card Socket	14	RS485/RS232/CAN/DI/DO extended interface
15	Start mode DIP switch	16	Function Status LED

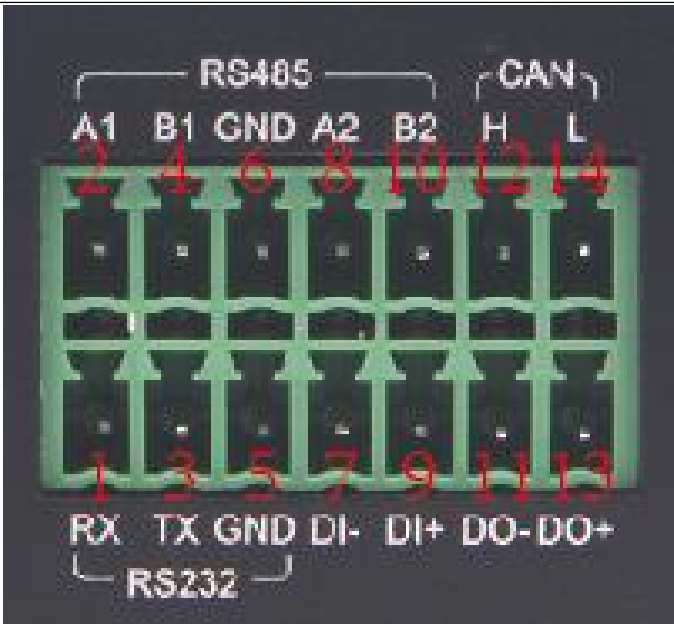
8.1 Relay Interface Pin Function

Pin No.	Function	Instruction
1	DO1+	First circuit relay output 1
2	DO1-	First circuit relay output 2
3	DO2+	Second circuit relay output 1
4	DO2-	Second circuit relay output 2



8.2 RS232/RS485/CAN/DI/DO interface Pin Function

Pin No.	Function	Instruction
1	RS232_RX	RS232 Receive data
2	RS485_1_A	RS485 interface 1 A+
3	RS232_TX	RS232 Send data
4	RS485_1_B	RS485 interface 1 B-
5	GND	RS232 Ground signal
6	GND	RS485 Ground signal
7	DI-	Digital signal input
8	RS485_2_A	RS485 interface 2 A+
9	DI+	Digital signal input
10	RS485_2_B	RS485 interface 2 B-
11	DO-	Digital signal output
12	CAN H	CAN High data
13	DO+	Digital signal output
14	CAN L	CAN Low data



8.3 Boot switch setting

Pin No.	Download mode(Burning mode)	System start mode
1	ON	OFF
2	ON	OFF



8.4 LED Statuses

Pin No.	Function	Instruction
1	LoRa	LoRa status indicator light
2	NET	Network status indicator light
3	Battery	Charging the lithium battery status indicator lamp
4	Power	Power supply status indicator light



9. Precautions for use

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: 0 to 90°C/-40 ~ 105°C
3. Operation temperature: 0°C to +70°C/-40°C to +85°C
4. Do not squeeze、 distort or disassemble the board.
5. Keep the board away from static electricity .
6. Keep the board away from water and other liquid.
7. Clean the board with soft and clean dry cloth when it's dirty.
8. Don't use long connect wires which may affect performance and image quality.