SPECIFICATION

MODEL:Gateway-GTW351

Confirmation

REVISION HISTORY					
VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2022/3/11	RDM210916_V1.0	10	specification	

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CONTENT

1. General description

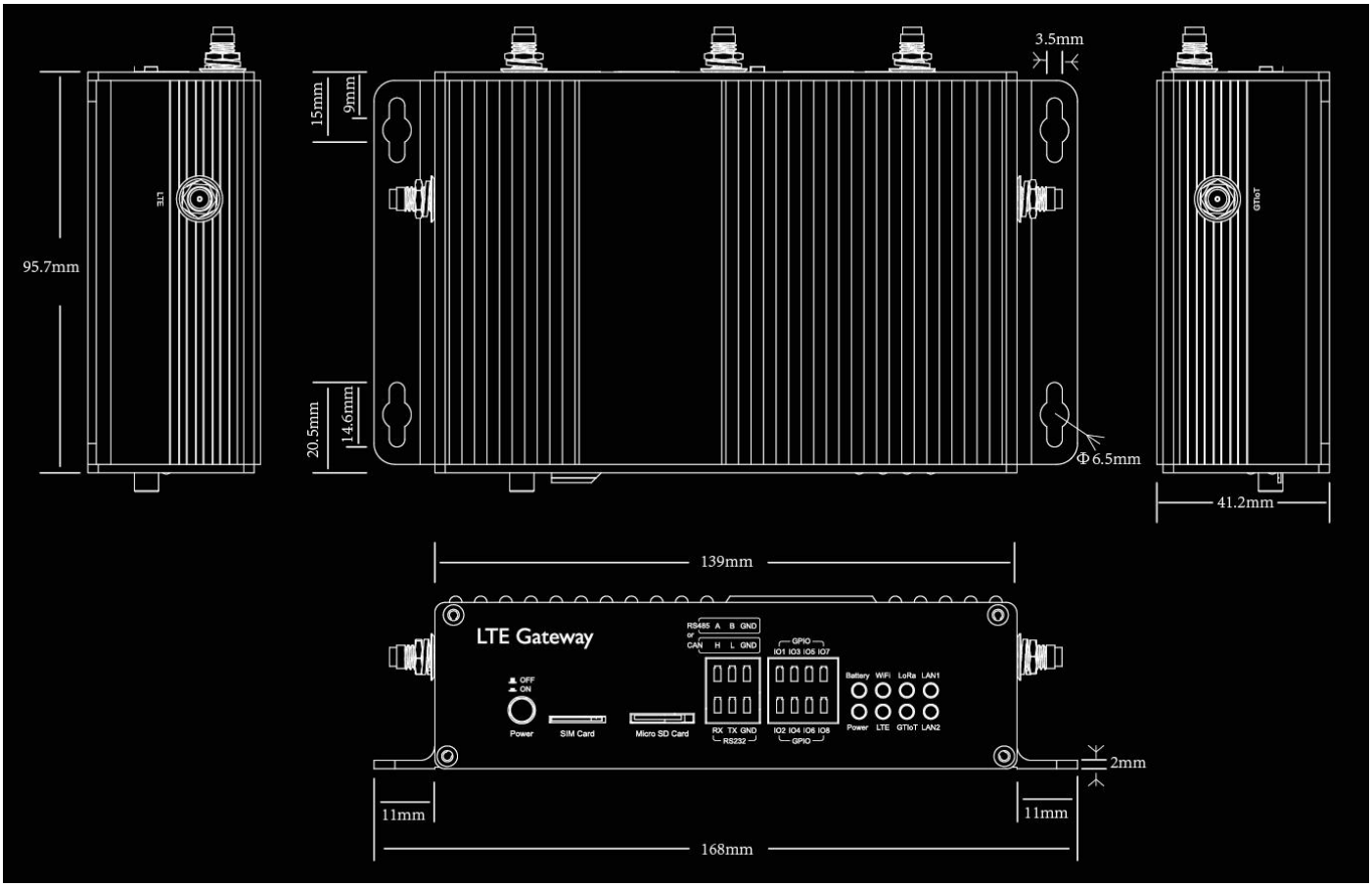
GTW351 is a multi-functional smart home business IoT gateway,Highly integrated wireless communication (WiFi2.4G/5.8G, ZigBee,) processing power,It can also be extended via USB connection to an external RF module.Using the GTW351's WAN or LAN ports to access the network, you can implement the home wireless router function,Also can easily build smart home network, provides RS485,RS232,GPIO interface,combination of ZigBee,BLE and WiFi enables remote data acquisition and remote control, using industrial-grade wireless technology and the highest level of encryption to ensure smart home network security.Widely used in smart home, communication, intelligent medical treatment, gateway of Internet of Things and other solutions.

Using MT7628 scheme, the frequency up to 580MHz.
Optimized memory usage to minimize resource usage
Support IEEE802.11 a/b/g/n and 802.11ac standards
Integration of ZigBee,WiFi,BLE wireless network protocols
WAN and LAN network interface implement home network routing
The mature, stable and extensible OpenWRT 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,GPIO interfaces for industrial use, and supports ModBus and other common protocols.
Customization for special applications, open API interface
Operating temperature: 0° C to +55° C

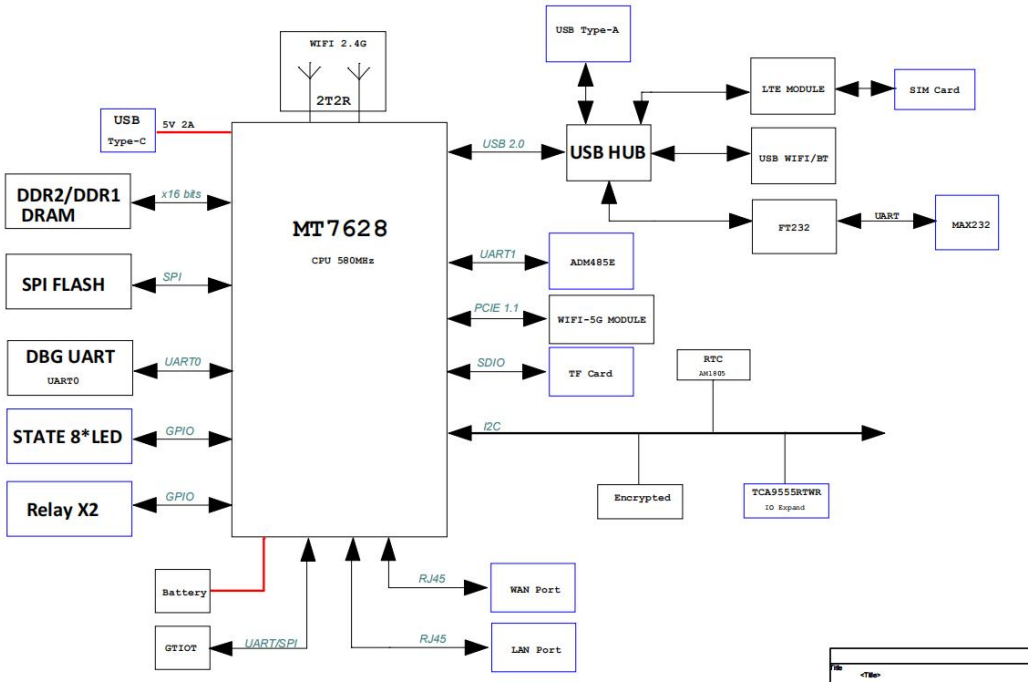
2. Product pictures

Below pictures are for reference only :

3. Product view



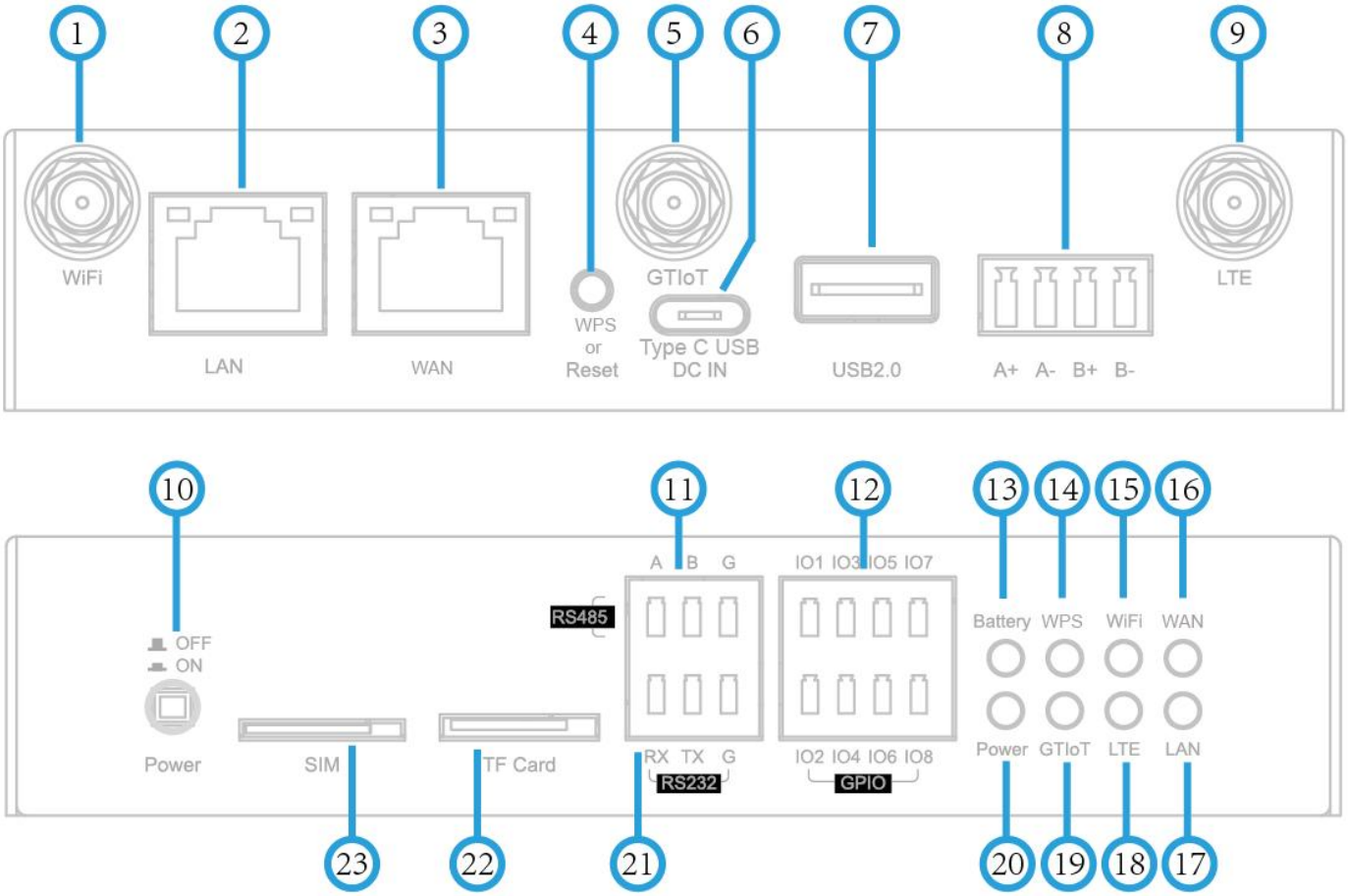
4.Hardware block diagram



5. Product features

Processor	Chip	MT7628A
	CPU Frequency	MIPS 24KEc 580MHz
Storage	Internal Memory	64MB DDR2(Optional 128MB)
	Internal Storage	16MB SPI(Optional 32MB)
Network	2G/3G/4G/LTE Cat4	LTE for EU、LTE for AU、LTE for US (Optional)
	Built-in WiFi	802.11 a/b/g/n,802.11ac(Optional)
	WiFi 2.4G Frequency Range	2.400~2.497GHz
	WiFi 5G Frequency Range	5.15~5.925GHz（Optional）
	Ethernet port(LAN)	1*RJ45 10/100Mbps WAN 1*RJ45 10/100Mbps LAN
	PoE	IEEE802.3af standard， PoE PD with TVS protection(optional)
I/O interface	USB-A 2.0 x 1;Type C for Power Supply RS232/RS485 3P 15EDGK-3.81mm GPIO 4P*2 15EDGK-3.81mm Relay*2 4P 15EDGK-3.81mm GTIoT/Debug/Default button	
Protocol	ZigBee	3.0（Optional）
	Bluetooth/BLE	5.0（Optional）
	RS485	TIA485/EIA-485-A -7~+12V
	RS232	±5~±15V
Control interface	GPIO	3.3V level
	Relay	2*3A 250VAC
Extended interface	LEDs	4G,WAN,LAN,IoT,Power,Wi-Fi,Battery,WPS
	SIM Slot	Micro SIM Card
	SD Card	Micro SD Card
Power pack	Supply voltage	DC5V 2A
	Battery voltage	3.7V 500mAH~2000mAH
	Energy	Within 5W(for reference only)
Environment	Operating temperature	-20~55℃
	Operating humidity	10%~95%
	IP protection levels	IP30
Mechanical properties	Size (mm)	168*95.7*41.2
	Net Weight (g)	425
Operating system(OS)	Linux OpenWRT	
Other	WiFi antenna,GTIoT antenna,LTE antenna	

6. Extension I/O definition



Item No.	Default function
1	WLAN Antenna
2	LAN RJ45
3	WAN RJ45
4	Default button
5	GTIoT Antenna
6	TypeC and DC IN
7	USB2.0 A type
8	Relay control interface
9	LLTE Antenna
10	Power ON/OFF
11	RS485 interface
12	GPIO interface
13	Battery LED
14	WPS LED
15	WLAN LED

16	WAN LED
17	LAN LED
18	LTE LED
19	GTIoT LED
20	Power LED
21	RS232 interface
22	Micro SD Card Socket
23	SIM Card Socket

7. Interface definition description

Relay control interface			
1	A+	2	A-
3	B+	4	B-

RS485 interface			
1	A	2	B
3	GND		

RS232 interface			
1	RX	2	TX
3	GND		

GPIO interface					
1	IO1	TCA9555RTWR P0_0	2	IO3	TCA9555RTWR P0_2
3	IO5	TCA9555RTWR P0_4	4	IO7	TCA9555RTWR P0_6
5	IO2	TCA9555RTWR P0_1	6	IO4	TCA9555RTWR P0_3
7	IO6	TCA9555RTWR P0_5	8	IO8	TCA9555RTWR P0_7
Note: GPIO multi-channel interface is the main chip GPIO 39 (pin 139 of mt7628) to expand multi-channel GPIO through tca9555rtwr, and then cooperate with the control of I2C to realize the high-low level switching of GPIO.					

8. Precautions for use

1. Relative humidity : 10% ~ 90% .
2. Storage temperature : -20 ~ 70℃
3. Operation temperature : -20°C to +55°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.