

G53Q6 5G Ultra Speed Broadband Router

Introduction

G53Q6 5G Ultra Speed Broadband Router is a kind of internet of things wireless communication router. It is based on 3Gpp Release 17 technology, uses Sub6 5G/LTE-FDD/LTE-TDD/HSPA+ industrial module, to provide convenient and high speed network transmission function.

This series of product uses industrial grade high performance ARM Quad Core 1.8GHz communication processor, and embedded real-time operation system as software supporting platform. It provides safe, stable, high speed 5G SA/NSA network, and provides 4 gigabit Ethernets, USB, RS-485/232 and 2.4G/5G WIFI-6 interface.

It can be used in bus Wi-Fi, finance, postal, smart power grids, smart transportation, environment monitor, fire protection monitor, security, water conservancy, public safety, advertising release, industrial control, earth quake monitor, meteorological watch, instrument monitor.etc



Features

Industrial design

- Use high performance industrial wireless module
- Use high performance ARM Quad Cortex A53 at 1.8GHz processor
- Support low power consumption, include sleep mode, timing online and offline mode, timing switch on and off mode
- Use plate metal CRS shell, with good heat dissipation
- Power supply: +9V~32V DC(48V DC extendable)
- Degree of protection: IP34(can be extended to IP51)

Network characteristic

- Port flow detection
- Link real time monitoring, backup, failover
- Multiple VPN protocol(PPTP/L2TP, IPSec, GRE, OPENVPN, DMVPN, WireGuard, Zerotier)
- Support RS-485/232 serial port DTU, Modbus, RTU, MQTT protocol
- Support dial as required(audio, SMS, data trigger)
- Support Multiple platform management protocol

Stability

- Soft and hardware watchdog and multilevel link detection, with the capability of fault automatic diagnosis and automatic recovery, to ensure device working on stable and safe way
- Multiple-mechanisms of equipment self-checking, to ensure link unimpeded and alarming
- ESD protection for each port, to prevent static shock
- Wireless network signal indicator light(NET)

Software

- Deep customization OS based on OpenWRT
- Support secondary development
- Support OpenJDK development environment
- Support R language development environment

Remote management

- Remote parameter configuration
- Remote parameter backup
- Remote reboot and log query
- Remote upgrading
- Remote online monitoring

Functions

- Support Sub6 5G, down compatible for 4G(FDD and TDD) LTE, and 3G network
- Support 5x gigabit Ethernets, provide RS-232 / RS-485
- Support IPv4/IPv6
- Upgrade or read device operation logs with external USB ports
- Support hardware WDT, provide anti-log off mechanism to ensure data terminal online forever
- Support PPTP, L2TP, GRE etc. multiple VPN
- Support multiple management protocols, such as SNMPv3, TR069, MQTT, HomtecsM2M etc.
- Supports static routing, RIP, OSPF
- Support multiple functions (DHCP, DDNS, firewall, NAT, DMZ host etc.)
- Support ICMP, TCP, UDP, Telnet, SSH, SFTP, FTP, HTTP, HTTPS etc.
- Industrial Industrial Dual SIM/UIM Card design.
- Support dual band 2.4G Wi Fi 802.11n and 5G Wi Fi 802.11ax protocols
- Support hybrid positioning with base stations and Wi Fi

Extended functions

- Support WAN, wireless and wire backup/failover **【optional】**
- GPS/Beidou orientation **【optional】**
- USB internal storage extension, 8GB-256GB **【optional】**

Specification

Wireless

Wireless module:	Industrial grade
Bands:	5G Band: N1/N2/N3/N5/N7/N8/N12/N20/N25/N28/N40/N41/N66/N71/N77/N78/N79 FDD-LTE Band: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/ B30/B32/B66/B71 TDD-LTE Band: B34/B38/B39/B40/B41/B42/B43/B48
Theory bandwidth:	900Mbps UL; 4Gbps DL
Transmitted power:	<23dBm +/-1dB @25°C
Consumption:	data<750mA/12V; idle <600mA/12V(WiFi is enabled default)
Receive sensitivity:	<-97dBm @10MHz QPSK

WIFI

Bandwidth:	IEEE802.11n/802.11ac standard, 2.4G 300Mbps / 5G 867Mbps 【optional】
Security encryption:	WEP, WPA, WPA2, WPS 【optional】
Transmitted power:	17-18dBm(11g), 18-20dBm(11b), 15dBm (11n), 17-18dBm(11ac)
Receive sensitivity:	2.4G: <-72dBm@54Mbps, <-64dBm@HT20 MCS7 , <-61dBm@HT40 MCS7 5G: <-64dBm@HT20 MCS7, <-61dBm@HT20 MCS7, <-55dBm@VHT80 MCS9

Interface

LAN/WAN:	5x Gigabit Ethernets(RJ45 port), 5x LAN or 4x LAN + 1x WAN, self-adaption MDI/MDIX, built-in electromagnetic isolation protection
Industrial interface:	1 x RS232, 1 x RS485 port, apply to the collecting equipment which comes with RS485/RS232 interface
Indicator light:	1 x “WAN”, 4 x “LAN”, “PWR”, “WLAN”, “ERR”, “NET”
Antenna interface:	9 x SMA interface(5G-1; 5G-2; 5G-3; 5G-4; 5G-5; 1 x GPS; 2 x Wi-Fi-2.4G; 2 x Wi-Fi-5.8G) , 50ohm
USB interface:	USB 2.0 port, can be used for system software upgrade import and system operation logs export
SIM/UIM interface:	Industrial Dual SIM/UIM card design, 1.8V/3V automatic detection
Terminal interface:	9V~32V power supply, industrial ports, and general IO; Power supply has no polarity,

Address: 2A, F5 Building, TCL International E-City, #1001 Zhongshanyuan Road, Nanshan District, Shenzhen, 518052, China

	anti reverse connection, and overvoltage and overcurrent protection
Reset:	Parameters can be restored to the factory

Power supply

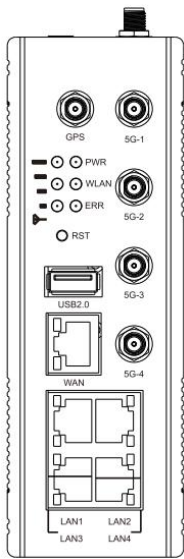
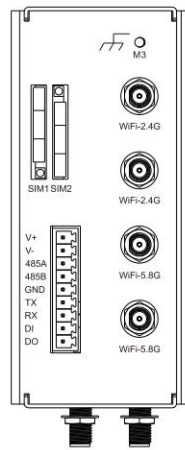
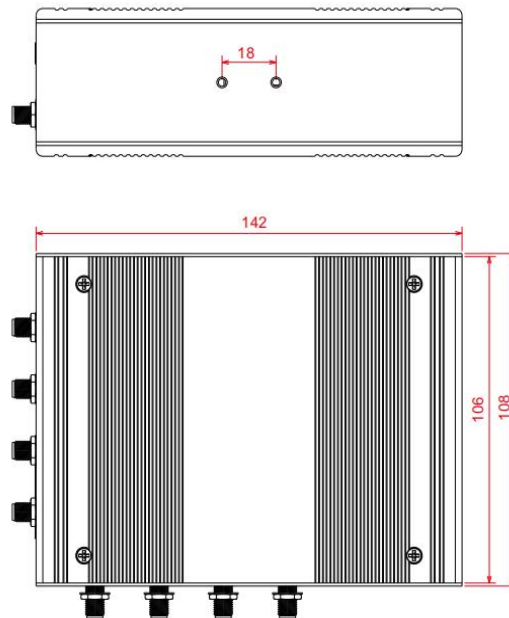
- Standard power: DC 12V/1.5A, non-polarity

Appearance

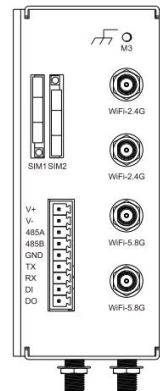
- Shell: aluminum profiles
- Dimension: 142×108×48mm
- Weight: about 750g

Others

- CPU: ARM Quad Cortex A53 at 1.8GHz
- Flash: Nor 32MB+Nand 256MB(can be extended)
- RAM: 1GB DDR3 1866MHz
- Working temperature: -30~+75℃
- Storage temperature: -40~+85℃
- Relative humidity: < 95% non condensing

G53Q6 interface graph
Front:

Up:

Size:

G51-M5 interface wiring instruction

Terminal2(9PIN)		
1	V+	Power input positive
2	V-	Power input negative
3	485A	485-A
4	485B	485-B
5	GND	Digital GND signal
6	TX	RS232-TXD
7	RX	RS232-RXD
8	DI	Digital signal input
9	DO	Digital signal output



<p>DI: Digital input DI, can be used to detect external switch status signals to trigger alarms, etc</p> <ul style="list-style-type: none"> * 47K Ω impedance * NPN base, 4.7K Ω resistor+5V pull-up * ON: +3.0V ~ +5.0V DC * OFF: 0 ~ 0.6V * Counting mode * Common DC reference ground 	<p>OFF model: </p> <p>ON model: </p>
<p>DO: Digital output DO, can be used to control external drive devices, relay switches etc.</p> <ul style="list-style-type: none"> * Relay: can be used to directly drive 5 V relays * Pulse signal: can define frequency, output alarm 	<p>Counting mode: the number of ON - OFF cycles</p>
<p>Isolation protection: 3KV DC or 2KV rms</p>	

Technical graph

