4G215.DTU.Module
Product Specification

Historical versions

Document version	Modification content	Modifier	Date	Remarks
V1.0	First Release	Cao Ziqiang	2025-07-03	

Contents

1. Product overview

4G215.DTU.Module The product is a Cat.1 wireless communication module, which is used to expand the network data transmission channel of the device. The product has fast speed, and it connects with the data processing board of the device through the serial port, strong anti-interference ability, and supports remote control, remote debugging, remote upgrade and other functions of the device.

2. Product features

(1) Communication interface: supports 3GPP Rel.13/14 Cat.1 radio communication interface;

(2) Data transmission: support 1.4/3/5/10/15/20MHz bandwidth;

(3) Simple use: serial port (1200-115200bp s, default 9600, NONE/ODD/EVEN);

(4) Device selection: industrial components, which can work for a long time in-40℃~+85℃;

(5) Convenient configuration: support network and serial port AT command configuration;

(6) Protection measures: software watchdog feeding dog signal;

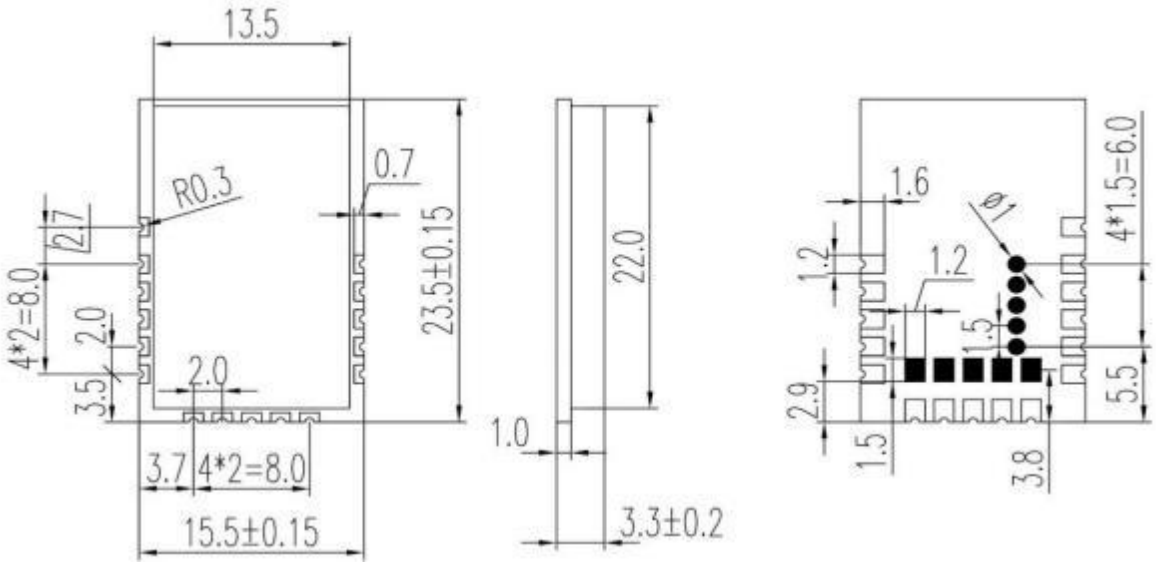
(7) Data security: private protocol, data verification;

(8) Simple maintenance: support firmware remote upgrade;

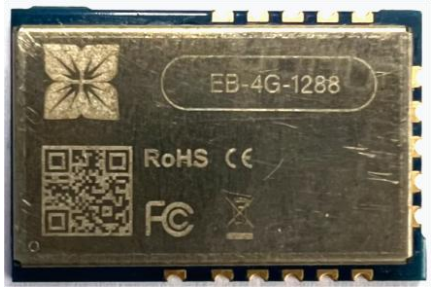
(9) High integration: ultra-small size, can be integrated into small volume of embedded products.

3. Product dimensions

3.1 Structural dimensions (unit: mm for module PCB and shielding cover)

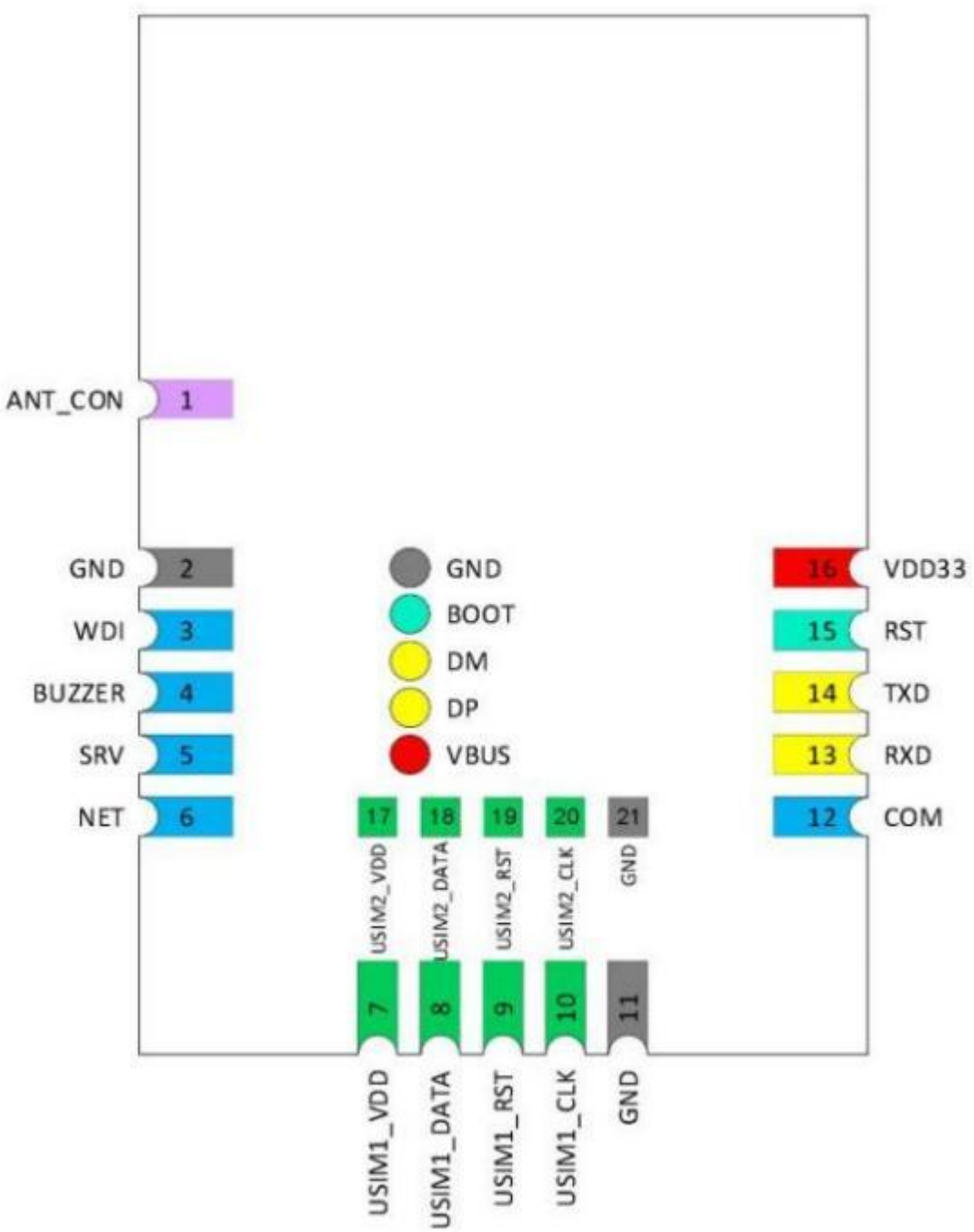


3.2 Product real picture



4. Product interface

4.1 Pin definition



Pin	Pin name	Type	Description	DC characteristic	Remarks
1	ANT	I/O	Radio frequency antenna interface	50Ω characteristic impedance	
2	GND	landing	landing		
3	WDI	I/O	Output a square wave signal of 1Hz	0/1.8V	Look at the watchdog feed dog output pin, baseboard circuit The design proposal suggests adding a hard watchdog circuit to improve the performance High product overall reliability
4	BUZZER	I/O	Beeper output	0/1.8V	The upper power supply will output a high level for 2 seconds and then turn low. If not used, it will be suspended
5	SRV	I/O	SRV pilot lamp	0/1.8V	The upper power output is low for 2 seconds and then high. When the module is connected to the cloud server, it remains low
6	NET	I/O	NET pilot lamp	0/1.8V	The upper power output is low for 2 seconds and then high. It remains low after the module is connected to the network
7	USIM1_V DD	power output	(U) SIM card 1 Power supply	1.8V IOmax =50mA	
8	USIM1_D ATA	Digital input and output	(U) SIM card 1 data	USIM_VDD	
9	USIM1_RS T	numeric output	(U) SIM card 1 reset	USIM_VDD	
10	USIM1_CL K	numeric output	(U) SIM card 1 clock	USIM_VDD	
11	GND	landing	landing		
12	COM	I/O	COM pilot lamp	0/1.8V	The upper power supply outputs a low level for 2 seconds and then turns high. It remains low after successful communication with subordinate devices
13	RXD	I	Receive data on the main port	0/1.8V	
14	TXD	0	Send data over the main port	0/1.8V	
15	RST	I	Module reset pins	0 valid	Internal pull-up, low level effective, not used hang in the air
16	VDD33	supply electricity	Power supply 3.3V	Vmax =3.45V Vmin =3.15V Vnorm =3.3V	The external power supply shall provide a current carrying capacity of more

					than 1200mA, and the ripple is recommended to be less than 200mV
17	USIM2_V DD	power output	(U) SIM Card 2 Power supply	1.8V IOmax =50mA	
18	USIM2_D ATA	Digital input and output	(U) SIM Card 2 data	USIM_VDD	
19	USIM2_RST	numeric output	(U) SIM card 2 reset	USIM_VDD	
20	USIM2_CL K	numeric output	(U) SIM card 2 clock	USIM_VDD	
21	GND	landing	landing		
Burnt Mouth	GND	landing	landing		
	BOOT	digital input	The mandatory module enters emergency download mode		Low level effective Do not pull down t his pin before the module is normall y turned on It is recommended to r eserve test points
	DM	Digital input and output	USB differential data(-)		The 90Ω differen tial impedance is required to comp ly with the USB2. 0 specification. If not, it will b e left empty
	DP	Digital input and output	USB differential data(+)		
	VBUS	digital input	USB check	Vmax=5.25V Vmin=3.5V Vnorm=5.0V	Typical val ue 5.0V not used then suspended

5. Product specifications

class	project	parameter
product mix	PCBA size (length/width/height)	23.5*15.5*3.3 (shield cover height 2.3mm) mm
	Board color	blue
	Shield cover size (length/width/height)	13.5*22*2.3mm
	weight	2.3g
	working temperature	-40℃ ~ +85℃
	Storage temperature	-40℃ ~ +90℃
	supply electricity	3.3V/1200mA

hardware part	Communication interface type	TTL, level 1.8V
	Baud rate	1200bps~115200bps (default 9600bps)
	check bit	NONE/ODD/EVEN
	data bit	8
	stop bit	1
4G part	Network standards	LTE-FDD/LTE-TDD
	Working frequency band	B1/B3/B5/B8/B34/B38/B39/B40/B41
	Type of antenna	ANT
	antenna gain	External antenna
	data rate	LTE-fdd: maximum downlink rate 10Mbps, maximum uplink rate 5Mbps LTE-TDD: maximum downlink rate 8.96Mbps, maximum uplink rate 3.1Mbps
	Traffic card	External SIM card slot
Software part	work pattern	Transmissive mode
	Supported network layer protocols	Modbus-TCP
	Software watchdog	support
	Data collection cycle	5 minutes (default)
	Parameter configuration method	APP, remote server, serial port AT command setting
	Support cloud platforms	Value Cloud/customer specified platform
	Software restart	It automatically restarts every 12 hours of continuous operation
other	Number of connected devices	1 unit
	Certificate	CE, ROHS