Ca-01-KitC Specification

Version V1.0

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Document development/revision/abolishment resume

Version	Date	Developed/revised content	Make	Verify
V1.0	2021.02.08	First developed	Chaomei Den	Ning Guang

一、 Overview

Ca-01-KitC is an All Netcom Cat.1 module with Mini-PCIe interface launched by Essence. The chip solution adopts the UIS8910 platform of Unigroup Zhanrui, supports LTE 3GPP Rel.13 technology, can adapt to different operators and products, and ensures the maximum flexibility of product design.
Ca-01-KitC supports a variety of development methods, such as USB Internet access, standard AT, Lua script secondary development, etc., and can provide professional and timely online technical support.
Ca-01-KitC has built-in rich network protocols, integrates multiple industry standard interfaces, and supports multiple drivers and software functions (such as Windows XP, Windows Vista, Windows 7/8/8.1/10, Linux, Android and other operating systems USB driver, etc.), which greatly expands its application range in the M2M field, such as CPE, routers, data cards, tablet computers, vehicles, security, and industrial-grade PDAs.

Advantages

FOTA upgrade (support Luat cloud background, custom background);
Comprehensive coverage of various network standards;
Standard MiNi PCIe packaged modules provide maximum convenience for customers to design and use;
Support a variety of drivers and software functions (such as USB drivers under Windows, Linux, Android and other operating systems, etc.);
Support the secondary development of AT and Lua;

Parameters

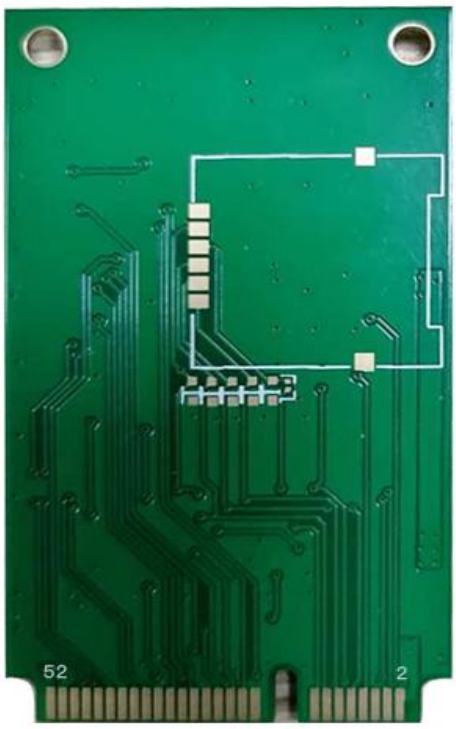
List 1 Main parameter description

Model	**Ca-01-KitC**
Package	**Standard MiNi-PCIe**
Size	**51mm * 30mm * 3.3mm (±0.2mm)**
Frequency range	**LTE-TDD:B34/B38/B39/B40/B41 LTE-FDD:B1/B3/B5/B8**
Data	**LTE-TDD:** **Upstream and downstream ratio 2** **Maximum 8Mbps (DL)/Maximum 2Mbps (UL)** **Upstream and downstream ratio 1** **Maximum 6Mbps (DL)/Maximum 4Mbps (UL)** **LTE-FDD:** **Maximum 10Mbps (DL)/Maximum 5Mbps (UL)**

Output Power	LTE-TDD: Class3(23dBm+1/-3dB) LTE-FDD: Class3(23dBm+-2dB)
Receiving sensitivity	FDD B1: -99dBm (10M) FDD B3: -98dBm (10M) FDD B5: -99dBm (10M) FDD B8: -99dBm (10M) TDD B34: -98dBm (10M) TDD B38: -98dBm (10M) TDD B39: -98dBm (10M) TDD B40: -98dBm (10M) TDD B41: -98dBm (10M)
Power consumption	20uA @Shutdown 3mA @sleep, typical
Working temperature	-40 ℃ ~ 85 ℃
Storage environment	-40 ℃ ~ 125 ℃ , < 90%RH
Power supply	Power supply voltage: 3.3V~4.3V, typical value 3.8V, current recommendation is greater than 2A
Interface	1 USB 2.0 high-speed interface (up to 480Mbps) 1.8V/3.0V (U) SIM card interface NETLIGHT interface (NET_STATUS and NET_MODE) 2 UART interfaces RESET (active high) PWR (active high at boot) 2 ADC interfaces
Software features	USB driver： Windows7/8.1/10 Linux/Android RNDIS driver： Windows 7/8/8.1/10 Linux/Android ECM driver： Linux/Android

	Protocol stack： **TCP/UDP/PPP/FTP/HTTP/NITZ/CMUX/NDIS/NTP/** **HTTPS/PING/FTPS/FILE/TLS support for TCP/UDP/HTTP/FTP**
Antenna	**IPEX port**

二、Dimension



三、PIN definition

Ca-01-KitC has 52 ports in total, as shown in the pin diagram, see pin function definition table for pin function definition

Ca-01-KitC Development board pin function definition table

PIN No.	MiNi PCIe PIN definition	I/O attributes	Description
1	WAKEUP_OUT	O	Wake up AP
2	VCC_IN	P	Module main power supply VBAT3.3V-4.3V, typical value 3.8V

3	UART2_RXD	I	Module data reception
4	GND	P	GND
5	UART2-TXD	O	Module sending number
6	NC	NC	NC
7	NC	NC	NC
8	USIM_VDD	P	USIM card power supply
9	GND	P	GND
10	USIM_DATA	I/0	USIM card data
11	1.8V	PO	Output 1.8V
12	USIM_CLK	0	USIM card clock line
13	NC	NC	NC
14	USIM_RST_N	O	USIM card reset line
15	GND	P	GND
16	USIM_CD	I	USIM card presence detection
17	NC	NC	NC
18	GND	P	GND
19	WAKEUP_MODULE	I	Pull down the wake-up module
20	LCD_BST	I	Flight mode control pin, low level enters flight mode, high level exits flight mode, no need to float
21	GND	P	GND
22	MINI_RESET_N	I	Module reset, active high, reset the module by pulling the pin high for more than 1s

23	UART1_RXD	I	Module receives data
24	VCC_IN	P	Module main power supply VBAT3.3V-4.3V, typical value 3.8V
25	UART1_CTS	I	DTE request to send data to the module
26	GND	P	GND
27	GND	P	GND
28	UART1_RTS	O	Module clear data transmission
29	GND	P	GND
30	NC	NC	NC
31	UART1_TXD	O	Module sends data
32	WAKEUP_OUT	0	Wake up AP
33	MINI_PWRKEY	I	The module is turned on/off, the module is turned on when the pin is pulled up for more than 1.5s in the off state, and the module is turned off when the pin is pulled up for more than 1.5s in the on state
34	GND	P	GND
35	GND	P	GND
36	USB_DM	IO	USB differential data negative
37	GND	P	GND
38	USB_DP	IO	USB differential data positive
39	VCC_IN	P	Module main power supply VBAT3.3V-4.3V, typical value 3.8V
40	GND	P	GND

41	VCC_IN	P	Module main power supply VBAT3.3V-4.3V, typical value 3.8V
42	NET_MODE	O	Network status indication
43	GND	P	GND
44	NC	NC	NC
45	ADC2	I	Analog-to-digital converter, input range 0-1.25V, ADC resolution 12bits, no need to float.
46	NC	NC	NC
47	ADC3	I	Analog-to-digital converter, input range 0-1.25V, ADC resolution 12bits, no need to float.
48	NC	NC	NC
49	NC	NC	NC
50	GND	P	GND
51	NC	NC	NC
52	VCC_IN	P	Module main power supply VBAT3.3V-4.3V, typical value 3.8V

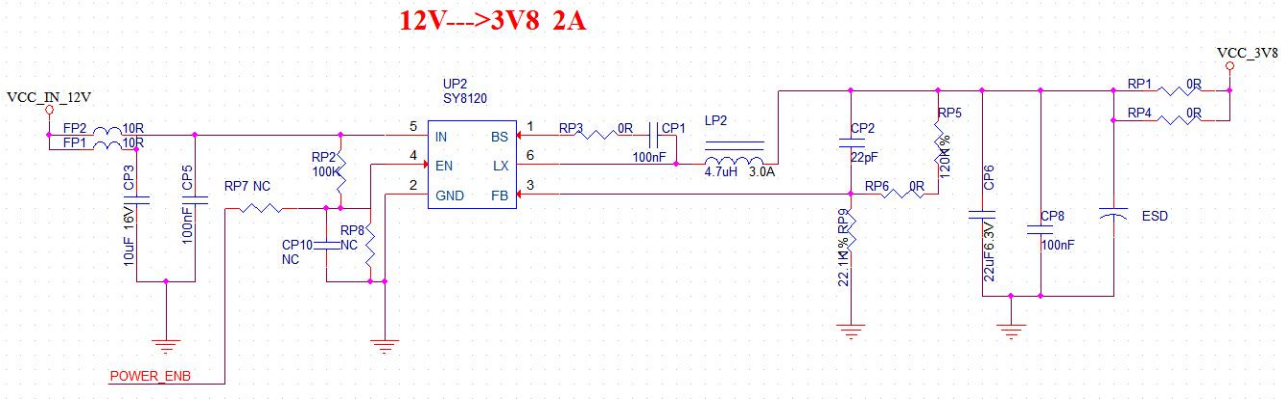
四、Application guide

1、Power supply

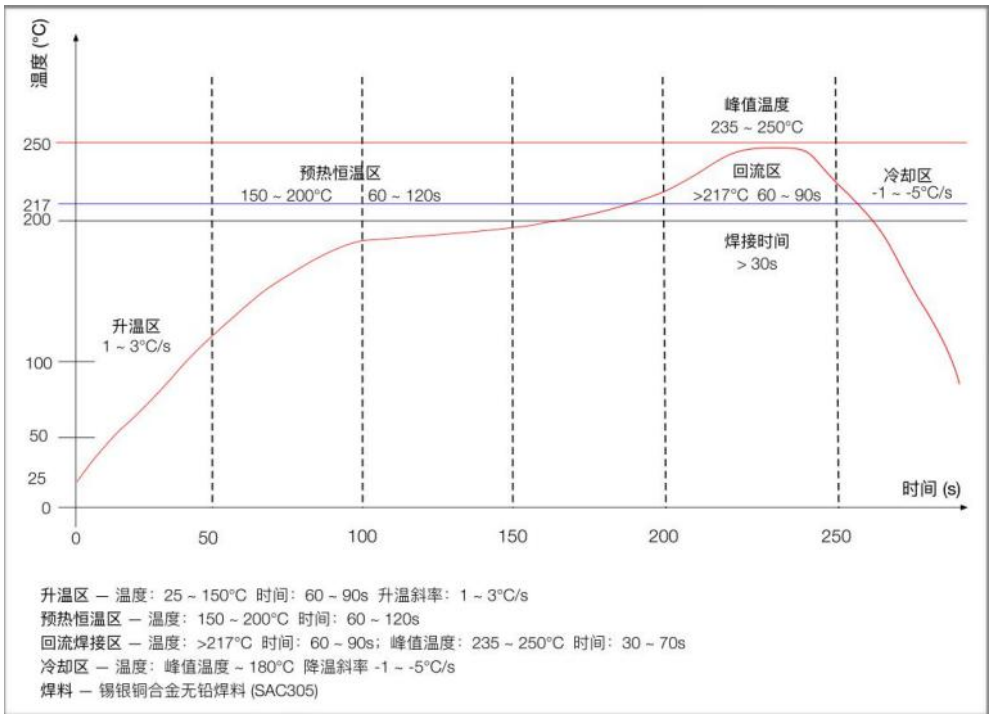
（1）、The recommended voltage is 3.8V and the peak current is above 2A.

（2）、DIt is recommended to reserve the position of the dynamic response capacitor for the DC-DC power supply circuit to optimize the output ripple when the load changes greatly.

（3）、It is recommended to add ESD devices to the 3.8V power interface.



五、Reflow soldering curve



六、Packaging

The packaging of Ca-01-KitC is electrostatic bag packaging.

七. Contact us

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