



**5GHz/2.4GHz
Dual Band Wi-Fi Module**

TA3235 Module Datasheet V2.4

Beijing Jia An Electronics Technology Co., Ltd.

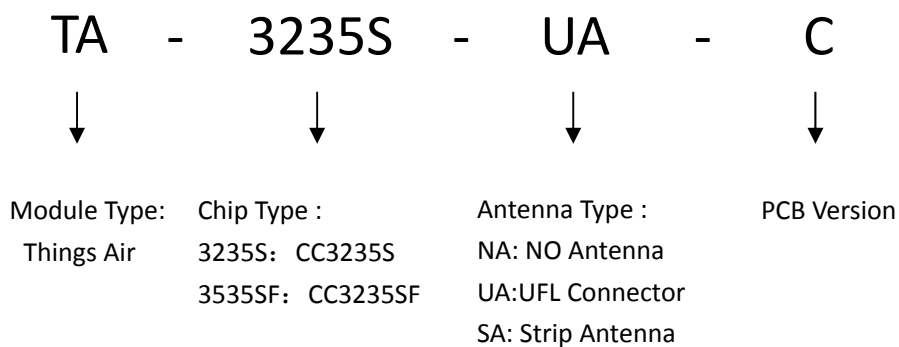
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History

Date	Version	Description	Draft	Approval
2020-01-11	V1.3	Release	Zhaoyaxi	Amy
2020-04-07	V2.0	Add detailed contact information	Amy	Jessy
2020-07-06	V2.1	Correct operating voltage	Amy	
2020-08-25	V2.2	Change the Terminal Description	ZYX	
2020-9-29	V2.3	Change the Mechanical Drawing	ZXY	
2020-12-24	V2.4	Change the Terminal Description	ZYX	

Module Name Information



PART NUMBER	Description
TA3235SUA-C	UFL output:2.4G or 5G
TA3235SNA-C	Half-hole antenna pull-out pad, one is 2.4G, and the other is 5G.
TA3235SSA-C	Strip Antenna: 2.4G or 5G

Features

- Multiple-core architecture, system-on-chip (SoC)
- 802.11 a/b/g/n: 2.4 GHz and 5 GHz
- Multilayered security features, help developers protect identities, data, and software IP
- Low-Power Modes for battery powered application
- Coexistence with 2.4 GHz Radios
- Operating temperature: -20°C to +70°C
- Application microcontroller subsystem:
 - Arm® Cortex®-M4 core at 80 MHz
 - User-dedicated memory
 - 256KB RAM
 - Optional 1MB executable Flash
 - Rich set of peripherals and timers
 - 27 I/O pins with flexible multiplexing options
 - UART, I2S, I2C, SPI, SD, ADC, and 8-bit parallel interface
 - 8-bit Synchronous Image Interface
 - Timers and PWM
 - Debug Interfaces: JTAG, cJTAG, and SWD
- Wi-Fi network processor subsystem:
 - Wi-Fi® core:
 - 802.11 a/b/g/n 2.4 GHz and 5 GHz
 - Modes:
 - Access Point (AP)
 - Station (STA)
 - Wi-Fi Direct® (only supported on 2.4 GHz)
 - Security:
 - WEP
 - WPA™/ WPA2™ PSK
 - WPA2 Enterprise
 - Internet and application protocols:
 - HTTPs server, mDNS, DNS-SD, DHCP
 - IPv4 and IPv6 TCP/IP stack
 - 16 BSD sockets (fully secured TLS v1.2 and SSL 3.0)
 - Built-in power management subsystem:
 - Configurable low-power profiles (always, intermittent, tag)
 - Advanced low-power modes
 - Integrated DC/DC regulators
- Multilayered security features:
 - Separate execution environments
 - Networking security
 - Device identity and key
 - Hardware accelerator cryptographic engines (AES, DES, SHA/MD5, CRC)
 - Application-level security (encryption, authentication, access control)
 - Initial secure programming
 - Software tamper detection
 - Secure boot
 - Certificate signing request (CSR)
 - Unique per device key pair
- Application Throughput
 - UDP: 16 Mbps
 - TCP: 13 Mbps
- Power-Management Subsystem:
 - Integrated DC/DC converters support a wide range of supply voltage:
 - VBAT wide-voltage mode: 2.5 V to 3.6 V
 - VIO is always tied with VBAT
 - Wi-Fi TX Power
 - 2.4 GHz: 16.5 dBm at 1 DSSS
 - 5 GHz: 14.5 dBm at 6 OFDM
 - Wi-Fi RX Sensitivity
 - 2.4 GHz: -94.5 dBm at 1 DSSS
 - 5 GHz: -89 dBm at 6 OFDM
- Additional Integrated Components
 - 40.0 MHz Crystal
 - 32.768 kHz Crystal (RTC)
 - 32 Mbit SPI Serial Flash

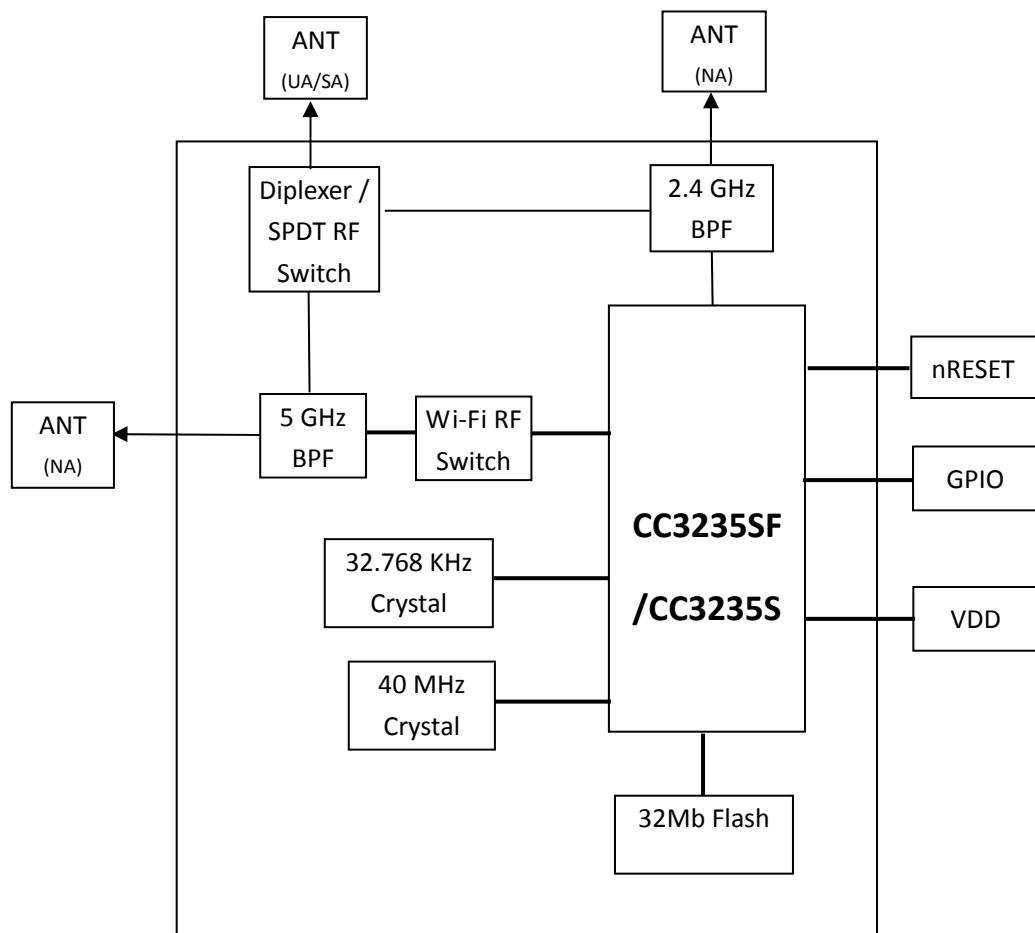
Applications

- Building and Home Automation
- Asset Tracking
- Medical and Healthcare
- Appliances
- Factory Automation
- Grid Infrastructure

Description

The TA3235 is a WIFI module. The integrated hardware solution comprises the CC3235S/CC3235SF Wi-Fi wireless MCU. Customers may reuse the reference design to design their own Board. The software and hardware design resources reduce engineering efforts, shorten time to market, and help developers and customers release their products with cloud connectivity features faster.

Block Diagram

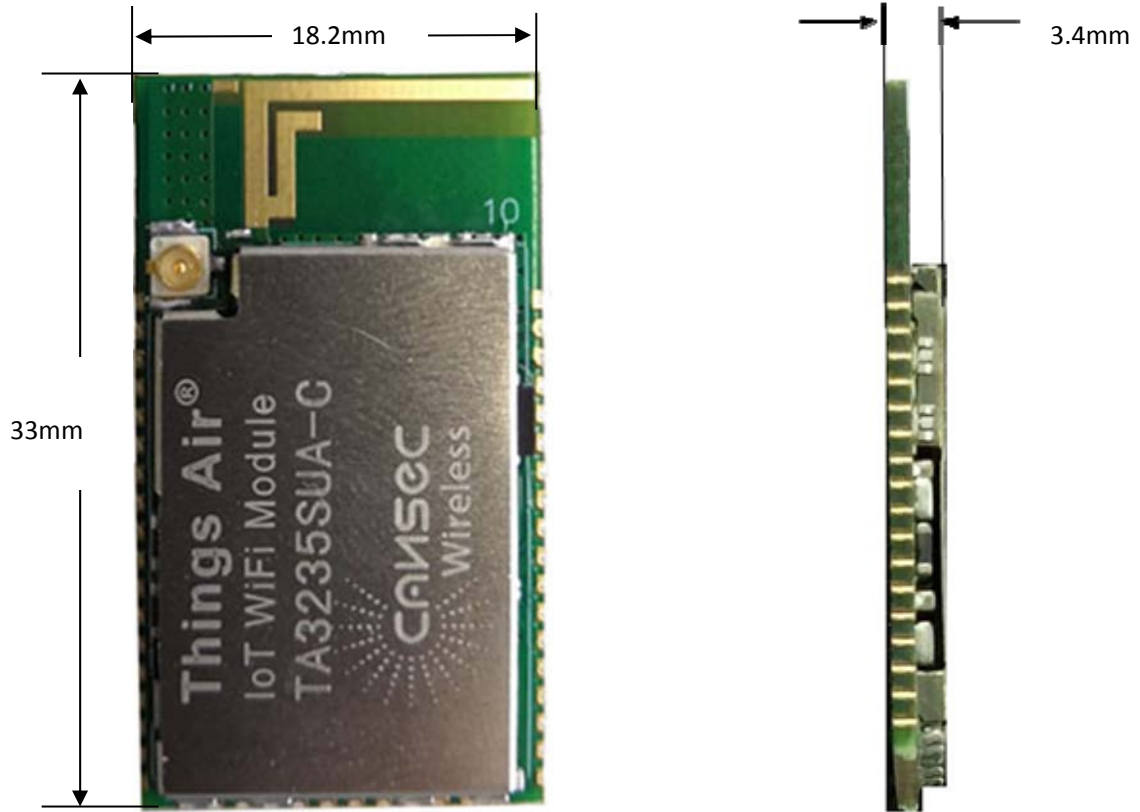


Specifications

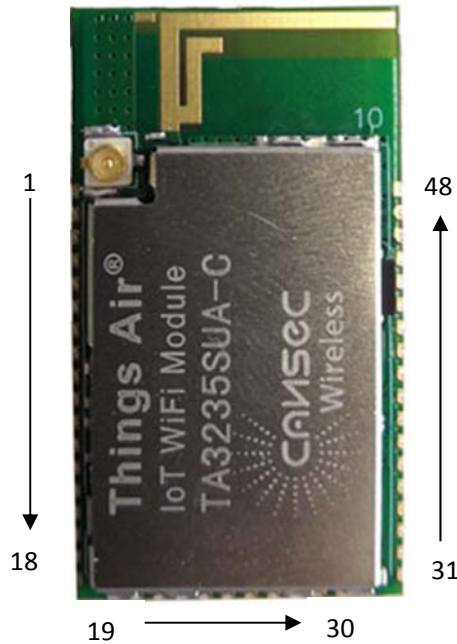
Parameter		Min	Typ	Max	Unit
Operating Voltage		2.5	3.3	3.6	V
Operating Temperature		-20	-	+70	°C
Current Consumption	Sleep Mode	2.4G	-	5.2	uA
		5G	-	5.2	uA
	Receive mode (MCU active)	2.4G	-	77	mA
		5G	-	87	mA
	Transmit Mode(CW) (at +18 dBm ,+3.3V)	2.4G	-	380	mA
5G		-	470	mA	
TX Power(CW)		2.4G	16.5	18	dBm
		5G	14.5	18	dBm
RX Sensitivity		2.4G (at 1 DSSS)	-	-94.5	dBm
		5G (at 6 OFDM)	-	-89	dBm

Mechanical Drawing

TA3235S/SF UA/SA/NA-C



Terminal Description



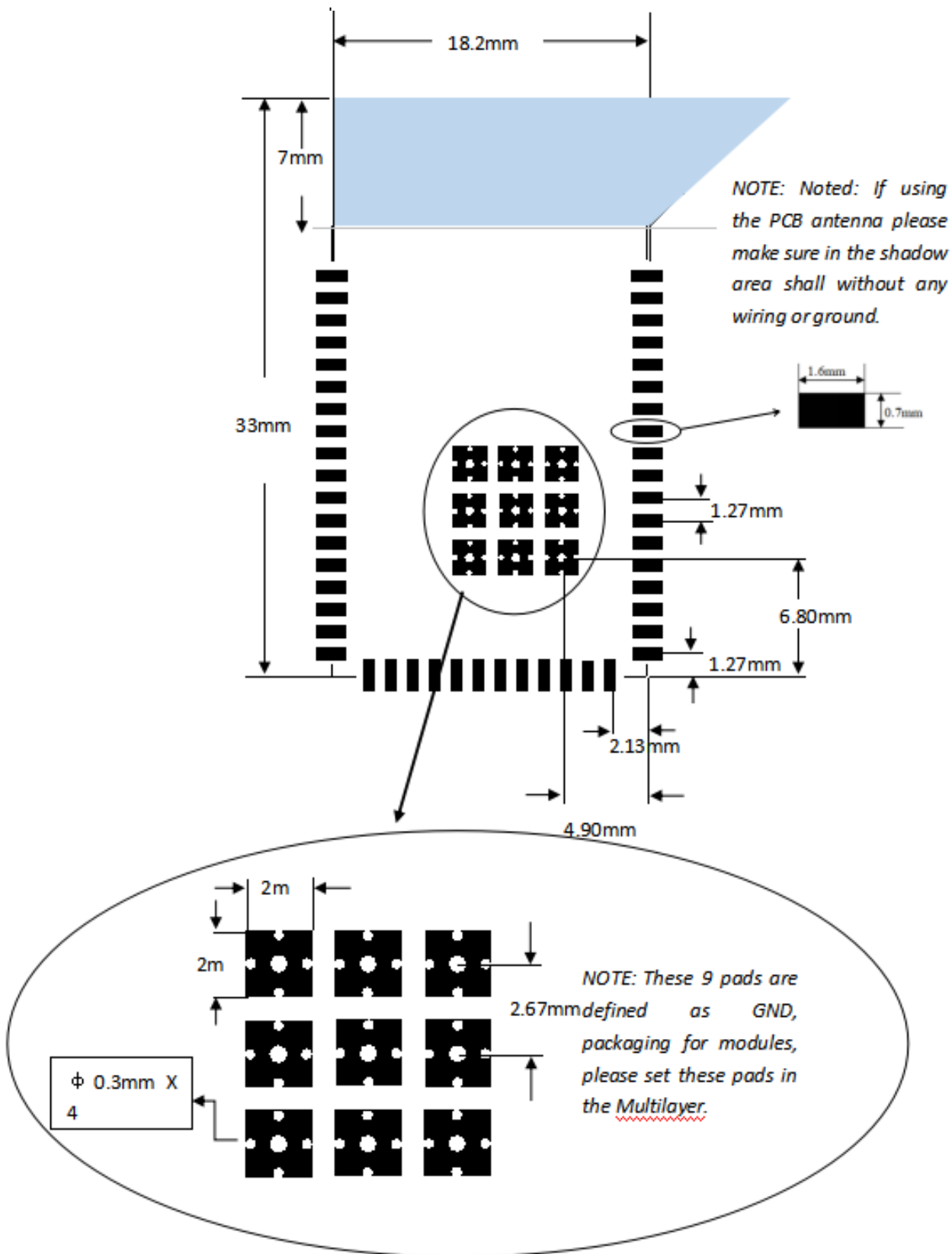
Pad Number	Name	Pin Type	Description	CC3235 Pkg pin number
1	GND	Ground Pin	Connect to GND	
2	RF2.4G	ANT	2.4G output	
3	GND	Ground Pin	Connect to GND	
4	GND	Ground Pin	Connect to GND	
5	GND	Ground Pin	Connect to GND	
6	nRESET	I	Master chip reset input. Activelow input. Internal pullup	32
7	SOP02	O	Configuration sense-on-power	21
8	SOP01	O	Configuration sense-on-power and 5 GHz switch control	34
9	SOP00	O	Configuration sense-on-power and 5 GHz switch control	35
10	NC	-	-	-
11	NC	-	-	-
12	NC	-	-	-
13	GND	Ground Pin	Connect to GND	

14	GND	Ground Pin	Connect to GND	
15	VCC	Power	Chip Supply Voltage (VBAT)	10,37,39,44,47,54
16	VCC	Power		
17	GPIO30	I/O	General-purpose input or output	53
18	DCDC_AN A2_SW_P	I/O	Analog2 DCDC converter +ve switching node	45
19	GND	Ground Pin	Connect to GND	
20	GPIO00	I/O	General-purpose input or output	50
21	GPIO01	I/O	General-purpose input or output	55
22	GPIO02	I/O	Analog input (1.5V max) or general-purpose input or output	57
23	GPIO03	I/O	Analog input (1.5V max) or general-purpose input or output	58
24	GPIO04	I/O	Analog input (1.5V max) or general-purpose input or output	59
25	GPIO05	I/O	Analog input (1.5V max) or general-purpose input or output	60
26	GPIO06	I/O	General-purpose input or output	61
27	GPIO07	I/O	General-purpose input or output	62
28	GPIO08	I/O	General-purpose input or output	63
29	GPIO09	I/O	General-purpose input or output	64
30	GND	Ground Pin	Connect to GND	
31	GND	Ground Pin	Connect to GND	
32	GPIO10	I/O	General-purpose input or output	1
33	GPIO11	I/O	General-purpose input or output	2
34	GPIO12	I/O	General-purpose input or output	3
35	GPIO13	I/O	General-purpose input or output	4

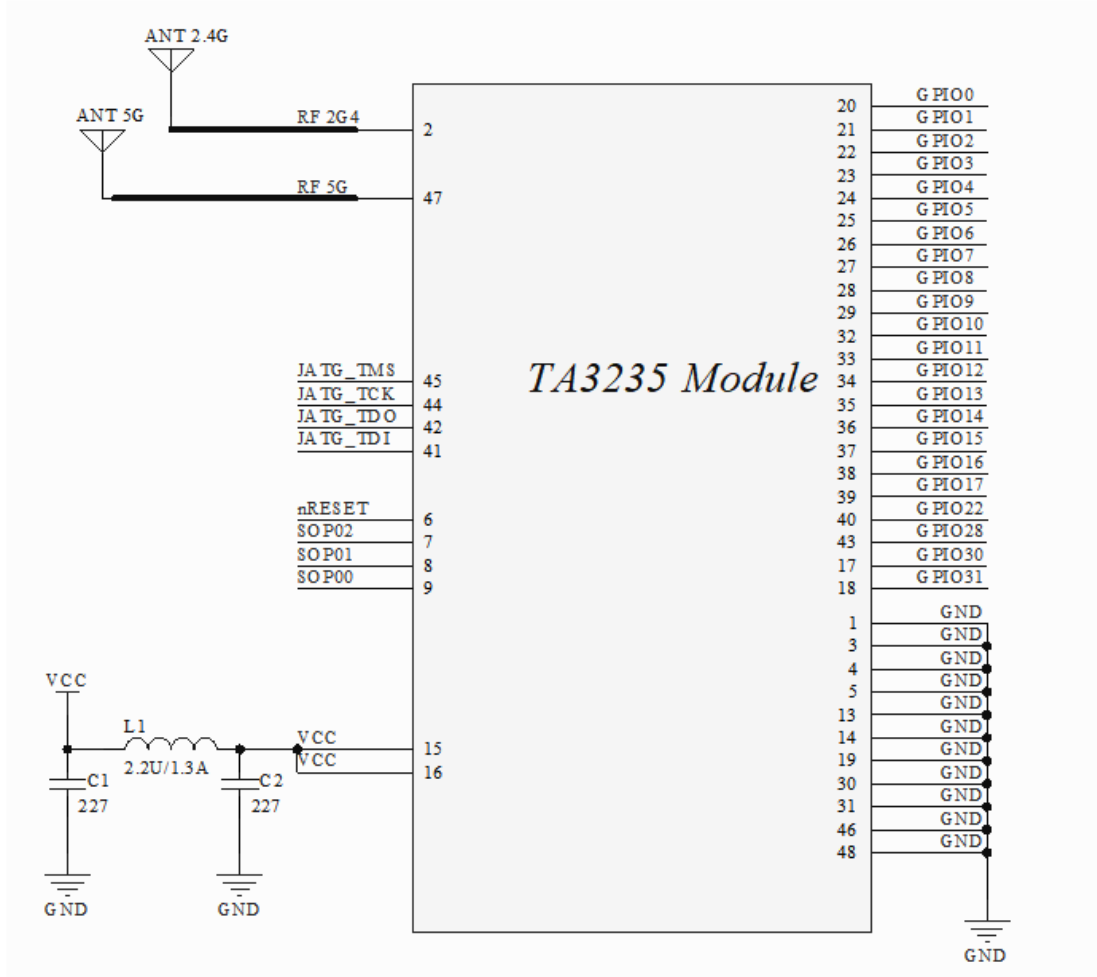
36	GPIO14	I/O	General-purpose input or output	5
37	GPIO15	I/O	General-purpose input or output	6
38	GPIO16	I/O	General-purpose input or output	7
39	GPIO17	I/O	General-purpose input or output	8
40	GPIO22	I/O	General-purpose input or output	15
41	JATG-TDI	I/O	JTAG interface: data input	16
42	JATG-TDO	I/O	JTAG interface: data output	17
43	GPIO28	I/O	General-purpose input or output	18
44	JATG-TCK	I/O	JTAG / SWD interface: clock	19
45	JATG-TMS	I/O	JTAG / SWD interface: mode select or SWDIO	20
46	GND	Ground Pin	Connect to GND	
47	RF 5G	ANT	5G output	
48	GND	Ground Pin	Connect to GND	

NOTE: about the proper pin multiplexing options, please reference CC3235Sx datasheet from www.ti.com for more details

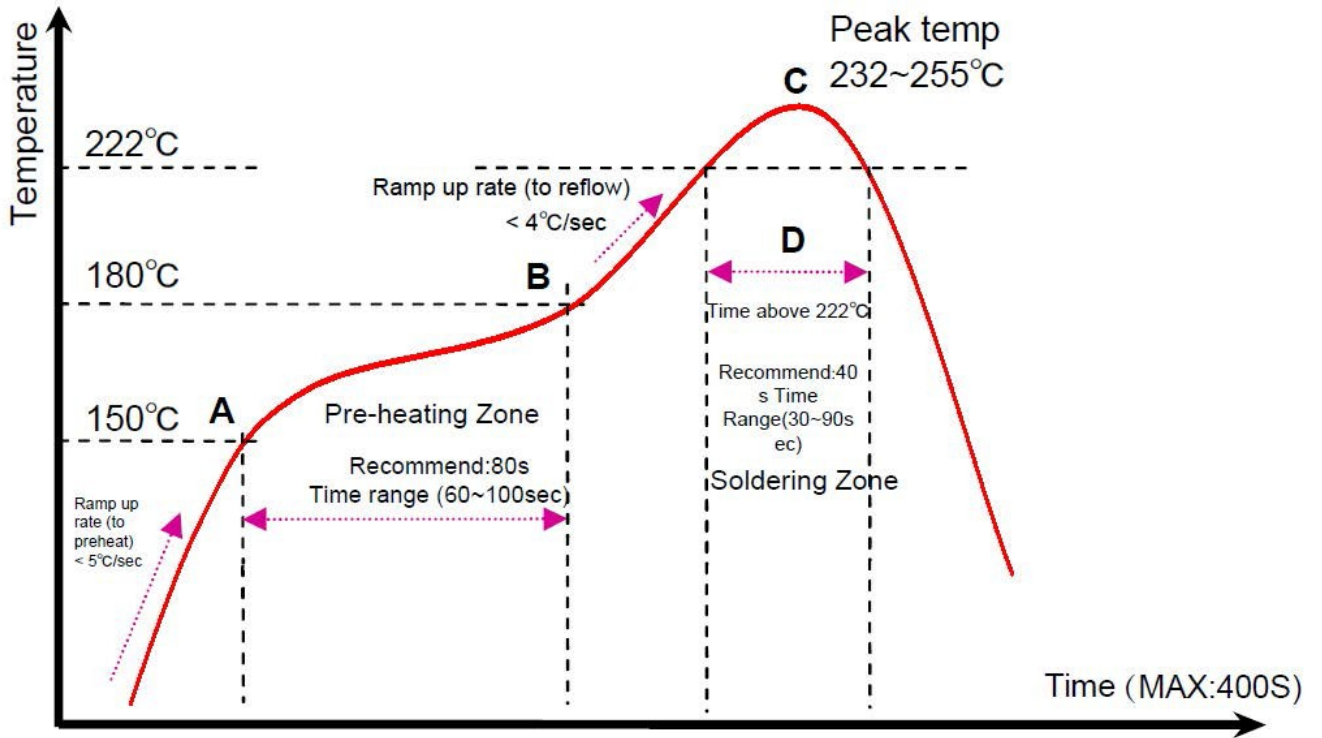
Recommended PCB Layout for Package



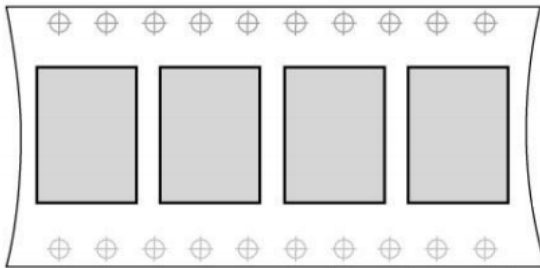
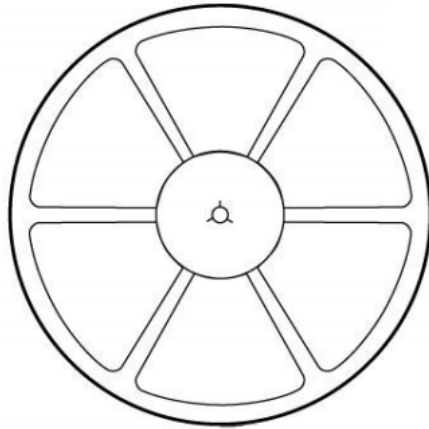
Reference Schematics



Recommended Reflow Profile for Lead Free Solder



Package



- Tape and Reel
- Helical antenna version Module exception
- Note: For package, we have three package types: Reel, Tray, Simple way for choosing, depend on customer's request or quantity request

Contact Details



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