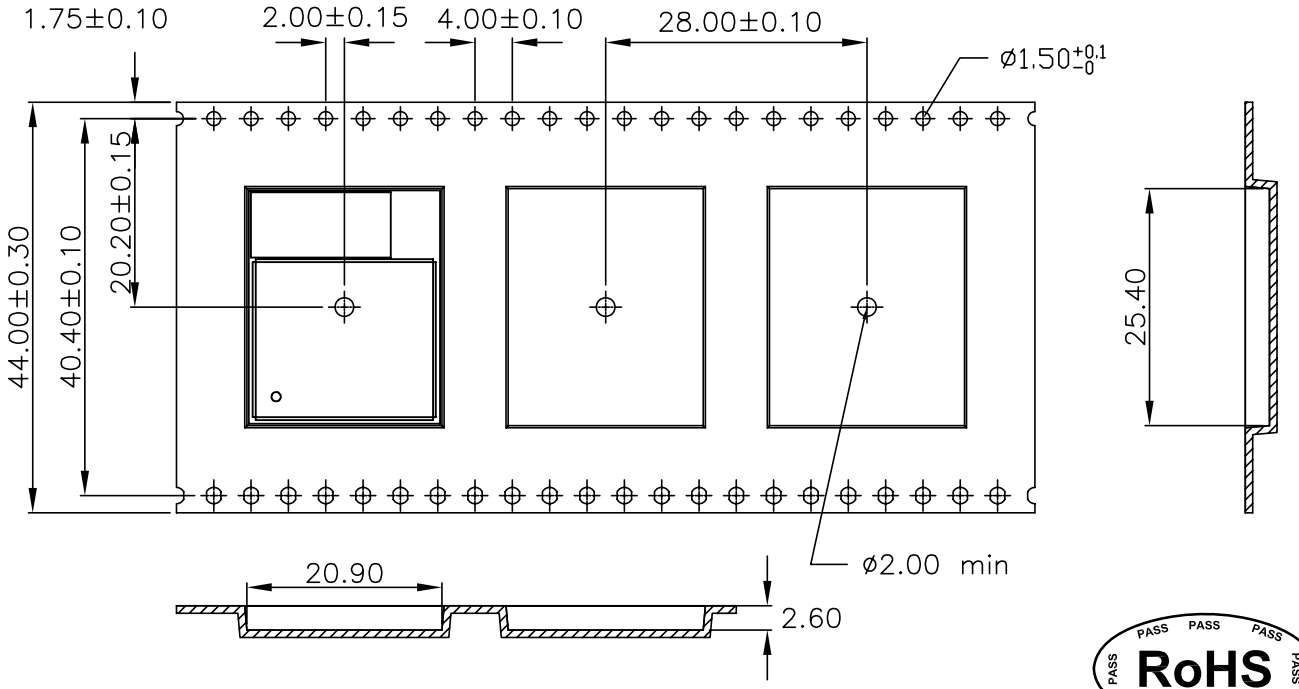
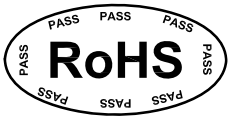
1 Features

- Fully integrated and green/RoHS module includes all required clocks, serial peripheral interface (SPI) flash, and passives
- Integrated Wi-Fi® and internet protocols
- 802.11a/b/g/n: 2.4 GHz and 5 GHz
- FCC, IC/ISED, ETSI/CE, and MIC certified
- FIPS 140-2 Level 1 validated IC inside
- Rich set of IoT security features helps developers protect data
- Low-power modes for battery powered application
- Coexistence with 2.4 GHz radios
- Industrial temperature: –40°C to +85°C
- 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
      - WPA3™ Personal
      - WPA3™ 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 on, intermittently connected, tag)
    - Advanced low-power modes
    - Integrated DC/DC regulators
- Application throughput
  - UDP: 16 Mbps
  - TCP: 13 Mbps
- Multilayered Security Features:
  - Separate execution environments
  - Networking security
  - Device identity and key
  - Hardware accelerator cryptographic engines (AES, DES, SHA/MD5, CRC)
  - File system security (encryption, authentication, access control)
  - Initial secure programming
  - Software tamper detection
  - Secure boot
  - Certificate signing request (CSR)
  - Unique per device key pair
- Recovery mechanism – ability to recover to factory defaults
- Power-Management Subsystem:
  - Integrated DC/DC converters support a wide range of supply voltage:
    - Single wide-voltage supply, VBAT: 2.3 V to 3.6 V
  - Advanced low-power modes:
    - Shutdown: 1 µA, hibernate: 5.5 µA
    - Low-power deep sleep (LPDS): 115 µA
    - Idle connected (MCU in LPDS): 710 µA
    - RX traffic (MCU active): 53 mA
    - TX traffic (MCU active): 223 mA
- Wi-Fi TX power
  - 2.4 GHz: 15.34 dBm at 1 DSSS
  - 5 GHz: 12.78 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 on module
  - 40.0 MHz crystal with internal oscillator
  - 32.768 kHz crystal (RTC)
  - 32 Mbit SPI Serial Flash
  - RF filters, diplexer, and passive components
- QFM package
  - 1.27-mm pitch, 63-pin, 20.5-mm × 17.5-mm QFM package for easy assembly and low-cost PCB design
- Module supports SimpleLink Developers Ecosystem

2 Tape Specifications





1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.40±0.05mm.
6. Packing length per 13" reel : 23.5 Meters.(樣品盤)
7. Component load per 13" reel : 800 pcs.

W	44.00±0.30
A0	20.90±0.10
B0	25.40±0.10
K0	2.60±0.10

3. FCC Certification and Statement

CAUTION

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

The CC3135MOD modules from TI are certified for the FCC as a single-modular transmitter. The modules are FCC-certified radio modules that carries a modular grant.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation of the device.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursua nt to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful inte rference in a residential installation. This equipment generates uses and can radiate radio frequency energy a nd, if not installed and used in accordance with the instructions, may cause harmful interference to radio com munications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turn ing the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help important announcement

Important Note:
In the event that these conditions cannot be met (for example certain laptop configurations or co -location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.
End Product Labeling
The final end product must be labeled in a visible area with the following" Contains FCC ID: 2AK5Y-T52030"
Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01r01
2.2 List of applicable FCC rules
CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter
2.3 Specific operational use conditions
This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.
2.4 Limited module procedures
Not applicable
2.5 Trace antenna designs
Not applicable
2.6 RF exposure considerations
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

2.7 Antennas

This radio transmitter FCC ID:2AK5Y-T52030 has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Internal/External Identification	Antenna type and antenna number	Operate frequency band	Maximum antenna gain	Notes
Internal	Ceramic Antenna	2400-2483.5MHz 5150-5850MHz	2.4GWIFI:1.0dBi 5.2GWIFI:2.6dBi 5.3GWIFI:2.6dBi 5.5GWIFI:2.6dBi 5.8GWIFI:2.6dBi	WIFI Antenna

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID:2AK5Y-T52030".

2.9 Information on test modes and additional testing requirements

Host manufacturer which install this modular with single modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C:**15.247** ,15.407,**15.209** requirement, only if the test result comply with FCC part 15.247 ,15.407,15.209 requirement, then the host can be sold legally.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.