

DEXATEK

DK9179

Bluetooth Low Energy Module Specification

Revision History

This table describes the changes to the specification.

Version	Date	Description
1.0.0	2020/11/12	Official Release
2.0.0	2020/11/27	Modify Info

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I. Introduction

The DK9179 module is compact, surface mount Bluetooth Low Energy, Bluetooth mesh, Thread, Zigbee, 802.15.4 , ANT and 2.4 GHz compliant wireless module. The module is based on Nordic nRF52840 radio Transceiver IC, has a ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz, Flash memory. The outstanding performance at low power consumption and ultra-low cost, the DK9179 module is leading the way for the new generation of Bluetooth low energy modules.

II. Key Features

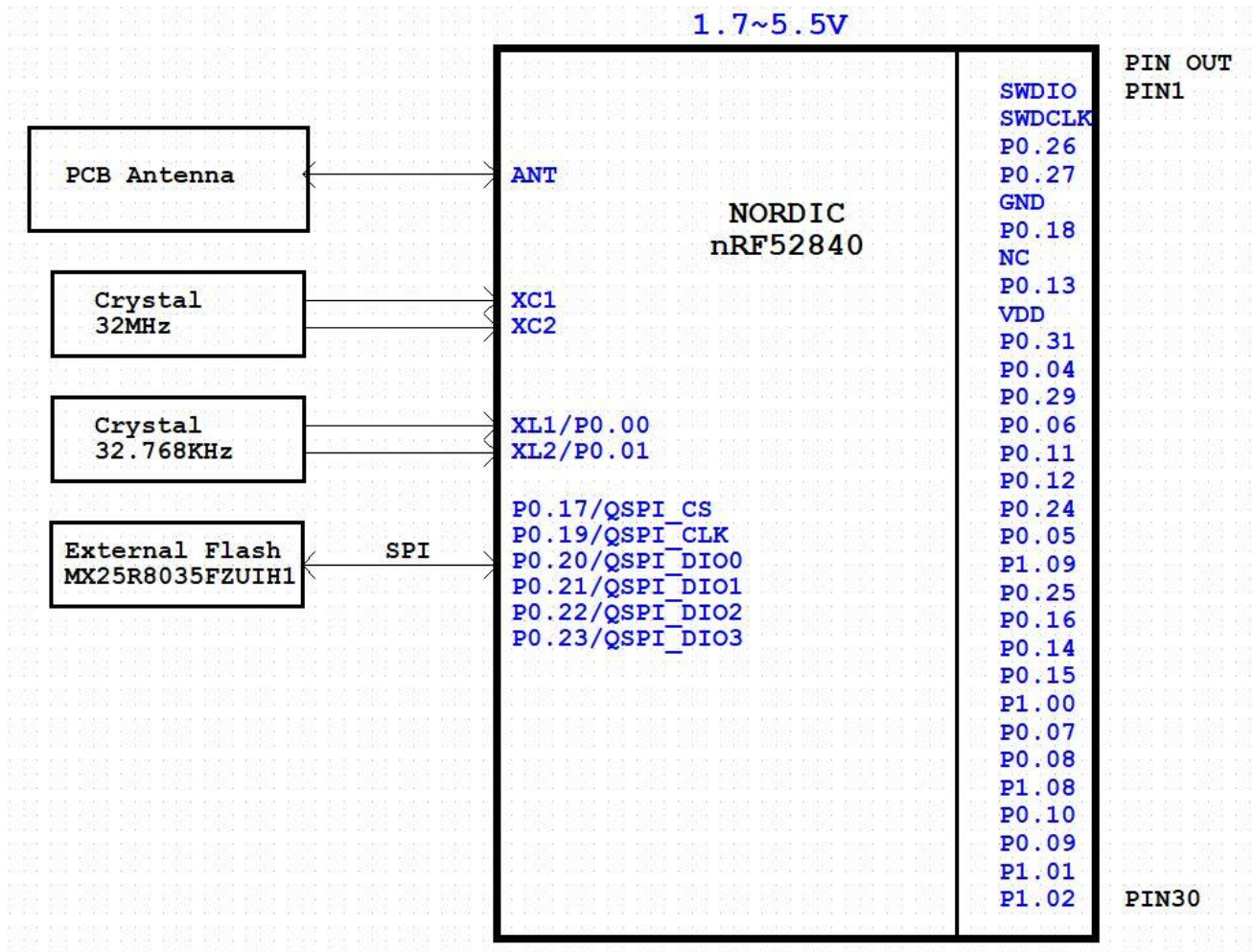
- ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz
- 2.4GHz multi-protocol transceiver
- Supported data rates :

Bluetooth®5: 2 Mbps, 1 Mbps,

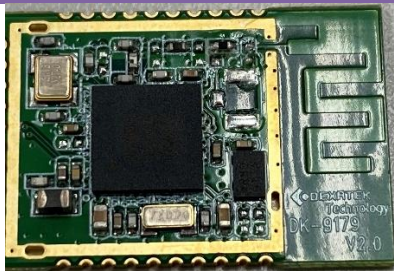
IEEE 801.15.4-2006: 250 kbps
- 1MB flash, 256kB RAM
- Flexible power management , DC/DC power mode

Wide supply voltage range: LDO (1.8 to 3.3V)
- Flexible and configurable 25 GPIO
- Peripheral 12-bit/200ksps ADC, Temperature sensor
- Up to 4x SPI master/3x SPI slave with EasyDMA
- Up to 2x I2C compatible 2-wire master/slave
- 2x UART (CTS/RTS) with EasyDMA
- 128-bit AES/ECB/CCM/AAR co-processor (on-the-fly packet encryption)
- Quadrature Decoder (QDEC)
- Bluetooth mesh and Thread support

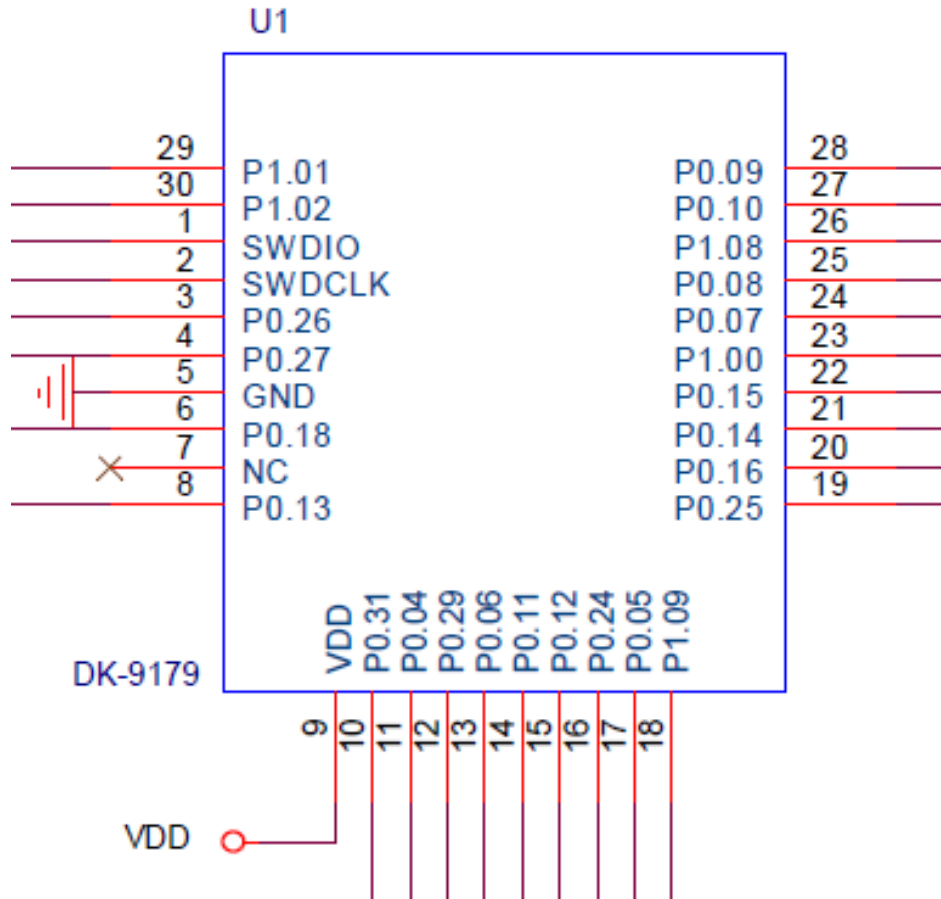
III. Block Diagram



IV. Specification

Model	DK-9179
	
Antenna	PCB Antenna
Main Chip	nRF52840
Application	smart home sensors and controllers industrial IoT sensors and controllers
Transmit Power	Transmit Mode output power: 0 ~+8 dBm
Wireless Standards	Bluetooth ® 5.0
Data Rates	Bluetooth®5: 2 Mbps, 1 Mbps, IEEE 802.15.4-2006: 250kbps
Work Mode	Bluetooth ® 5.0
Frequency Range	2405MHz---2480MHz
Power Consumption (in different states)	Radio transmitting @ 0 dBm output power, 1 Mbps BLE : 6.4mA
Voltage:	3.3V
Modulation Technique	GFSK Modulation
Wireless Security	AES/ECB/CCM/AAR Encryption
Dimension(W×D×H)	25x17x2.3 mm
Certification	BQB
Environment	Operating Temperature: -10°C~45°C Storage Temperature: -20°C~65°C

V. Module Pin Definition

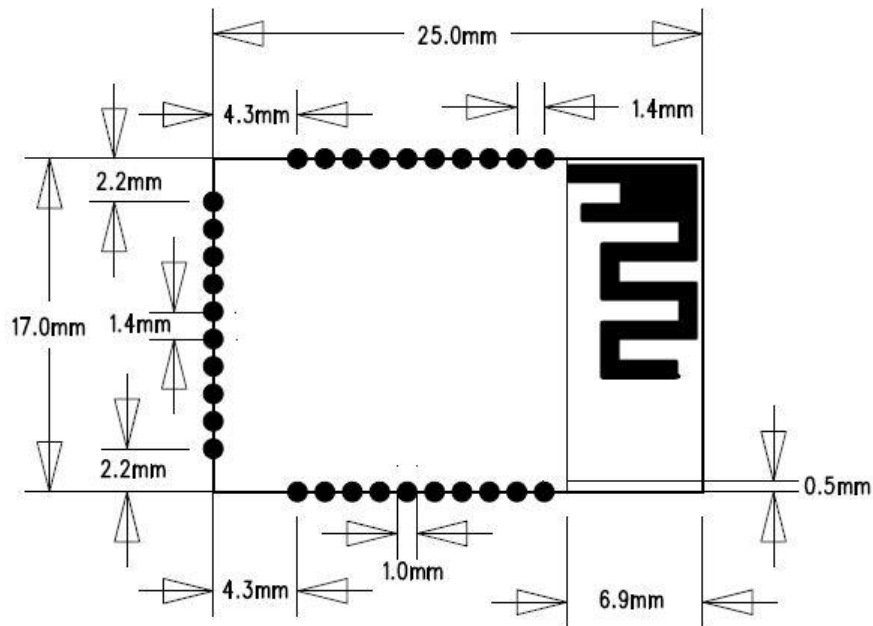


DK-9179B Module Pin Definition			
1	<u>SWDIO</u>	16	P0.24
2	<u>SWDCLK</u>	17	P0.05 (ADC)
3	P0.26	18	P1.09
4	P0.27	19	P0.25
5	<u>GND</u>	20	P0.16
6	P0.18	21	P0.14
7	NC	22	P0.15
8	P0.13	23	P1.00 (SWO)
9	<u>VDD</u>	24	P0.07
10	P0.31 (ADC,LF)	25	P0.08
11	P0.04 (ADC)	26	P1.08
12	P0.29 (ADC,LF)	27	P0.10(NFC2)
13	P0.06	28	P0.09(NFC1)
14	P0.11	29	P1.01
15	P0.12	30	P1.02

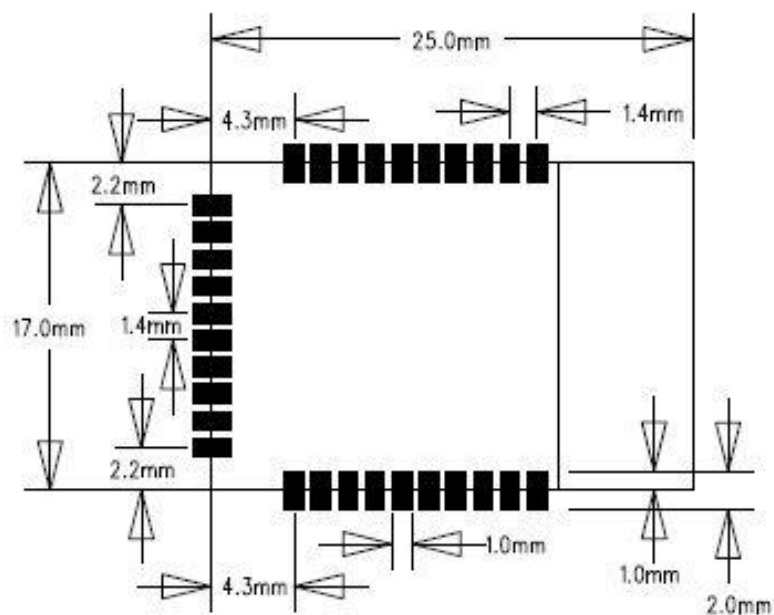
VI. Product Dimension

- PCB SIZE: (W) 25 x (D) 17 mm
- PIN OUT: 30
- Recommended Layout of solder Pad

TOP Layer

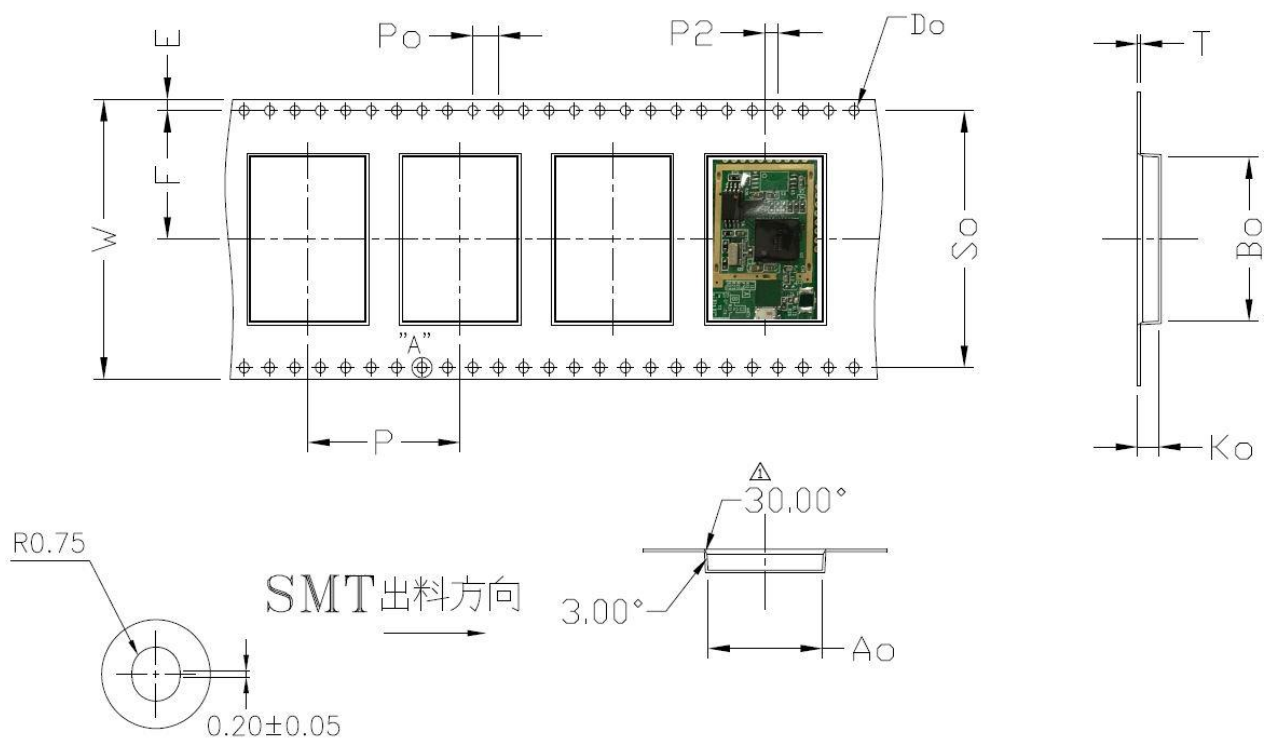


BOTTOM Layer



VIII. Packaging Info

● Reel Packaging



ITEM	DIM	ALTERNATE
W	44.00 ^{+0.30} _{-0.30}	
E	1.75 ^{+0.10} _{-0.10}	
F	20.20 ^{+0.15} _{-0.15}	
S ₀	40.40 ^{+0.10} _{-0.10}	
P	24.00 ^{+0.10} _{-0.10}	
P ₀	4.00 ^{+0.10} _{-0.10}	
P ₂	2.00 ^{+0.15} _{-0.15}	
D ₀	ø1.50 ^{+0.10} _{-0.00}	
T	0.40 ^{+0.05} _{-0.05}	
A ₀	18.00 ^{+0.10} _{-0.10}	
B ₀	25.80 ^{+0.10} _{-0.10}	
K ₀	3.30 ^{+0.10} _{-0.10}	

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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 turning the equipment off and on, the user is encouraged to try to correct the interference by one 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

If the identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module, Contains FCC ID: SZY-DK9185

Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the multi-transmitter procedures.

The host integrator must follow the integration instructions provided in this document and ensure that the composite-system end product complies with the requirements by a technical assessment or evaluation to the rules and to KDB Publication 996369.

The host integrator installing this module into their product must ensure that the final composite product complies with the requirements by a technical assessment or evaluation to the rules, including the transmitter operation and should refer to guidance in KDB 996369.

L'émetteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

If the identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module, Contains IC: 28614-DK9185

Si le numéro d'identification n'est pas visible lorsque le module est installé à l'intérieur d'un autre appareil, alors l'extérieur de l'appareil dans lequel le module est installé doit également afficher une étiquette faisant référence au module fourni, Contient IC : 28614-DK9185

The Separation distance between the device and the user should be more than 20cm. In Canada this device may only be operated indoors.

En Canada, ce dispositif est autorisé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Pour satisfaire aux exigences essentielles de la FCC et d'Industrie Canada concernant l'exposition, une distance minimum de 20 cm doit être respectée entre l'équipement et l'utilisateur ou des personnes se trouvant à proximité.

NCC statement:

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

For module:

此模組於取得認證後將依規定於模組本體標示審驗合格標籤，並要求平台廠商於

平台上標示本產品內含發射器模組  CCXXxxLPyyyZzW