DEXATEK

DK9179A
Bluetooth Low Energy
Module Specification

Revision History

This table describes the changes to the specification.

Version	Date	Description
1.0.0	2020/11/13	Official Release
2.0.0	2020/11/27	Modify Info

16F.-1, No.81, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221, Taiwan
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I. Introduction

The DK9179A 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 nRF52833 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 DK9179A module is leading the way for the new generation of Bluetooth low energy modules.

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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, 500 kbps, and 125 kbps

  IEEE 801.15.4-2006: 250 kbps

  Proprietary 2.4GHz: 2 Mbps, 1 Mbps
- 512kB flash, 128kB 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

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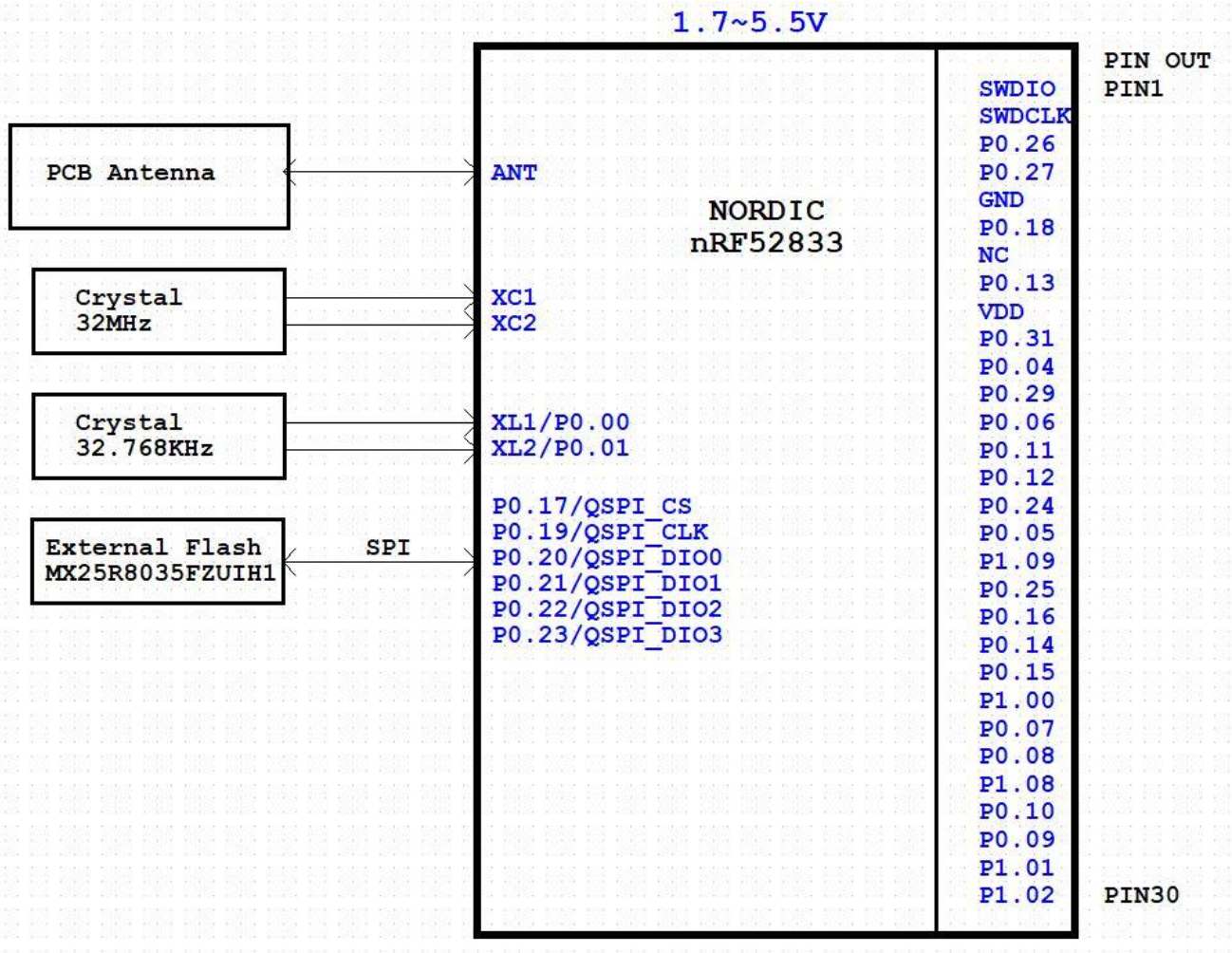
III. Block Diagram



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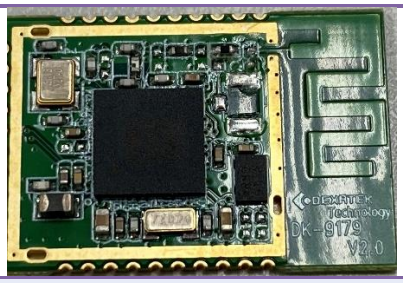
IV. Specification

Model	DK-9179A
	
Antenna	PCB Antenna
Main Chip	nRF52833
Application	smart home sensors and controllers industrial IoT sensors and contollers
Transmit Power	Transmit Mode output power: 0 ~+8 dBm
Wireless Standards	Bluetooth ® 5.0
Data Rates	Bluetooth®5: 2 Mbps, 1 Mbps, 500kbps, and 125kbps IEEE 802.15.4-2006: 250kbps Proprietary 2.4 GHz: 2 Mbps, 1 Mbps
Work Mode	Bluetooth ® 5.0
Frequency Range	2405MHz---2480MHz
Power Consumption (in different states)	Radio transmitting @ 0 dBm output power, 1 Mbps BLE : 6.0mA
Voltage:	1.7V-5.5V
Modulation Technique	GFSK Modulation
Wireless Security	AES/ECB/CCM/AAR Encryption
Dimension(W×D×H)	25x17x2.3 mm
Certification	BQB
Environment	Operating Temperature: -10℃~45℃ Storage Temperature: -20℃~65℃

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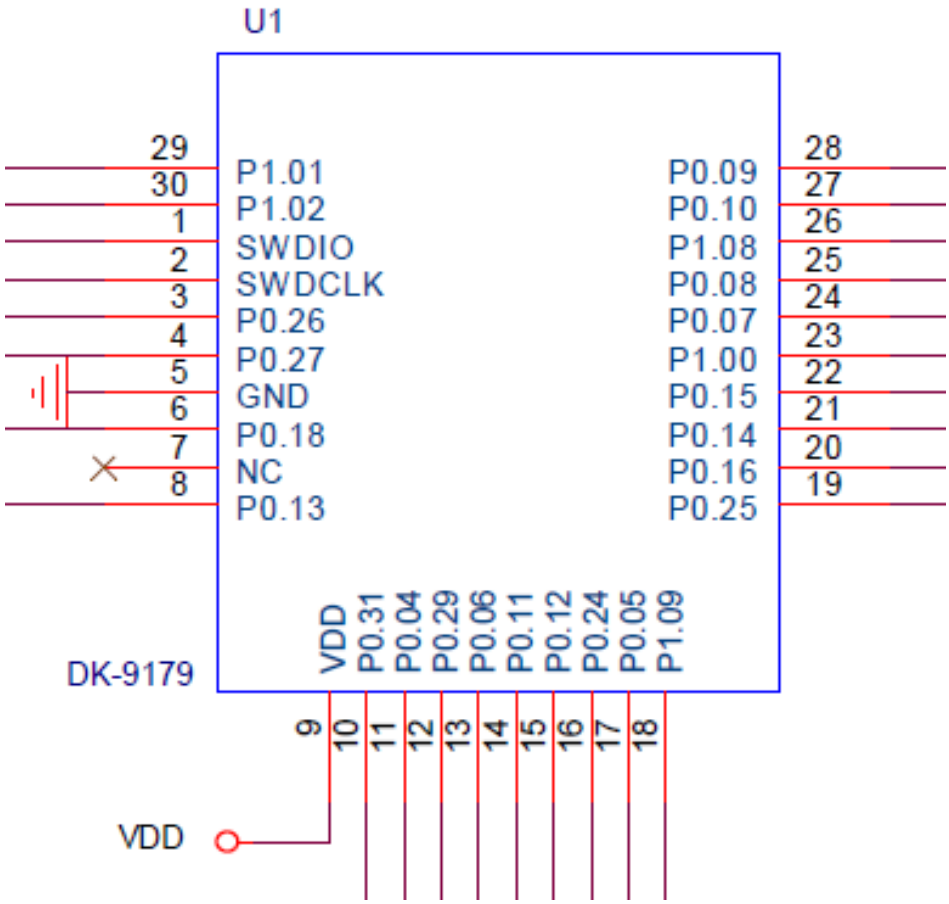
V. Module Pin Definition



DK-9179A Module Pin Definition			
1	**SWDIO**	16	P0.24
2	**SWDCLK**	17	P0.05 (ADC)
3	P0.26	18	P1.09
4	P0.27	19	P0.25
5	**GND**	20	P0.16
6	P0.18	21	P0.14
7	NC	22	P0.15
8	P0.13	23	P1.00 (SWO)
9	**VDD**	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

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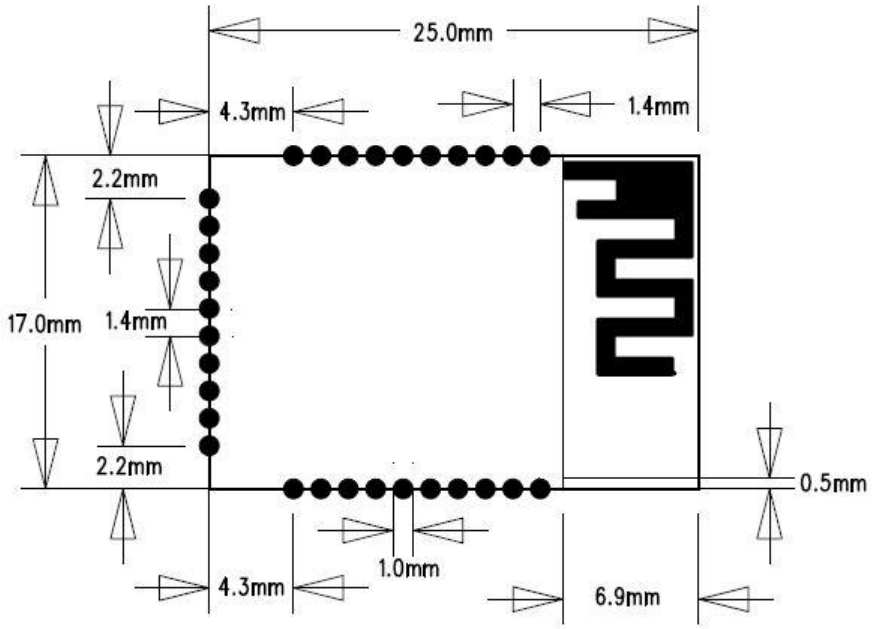
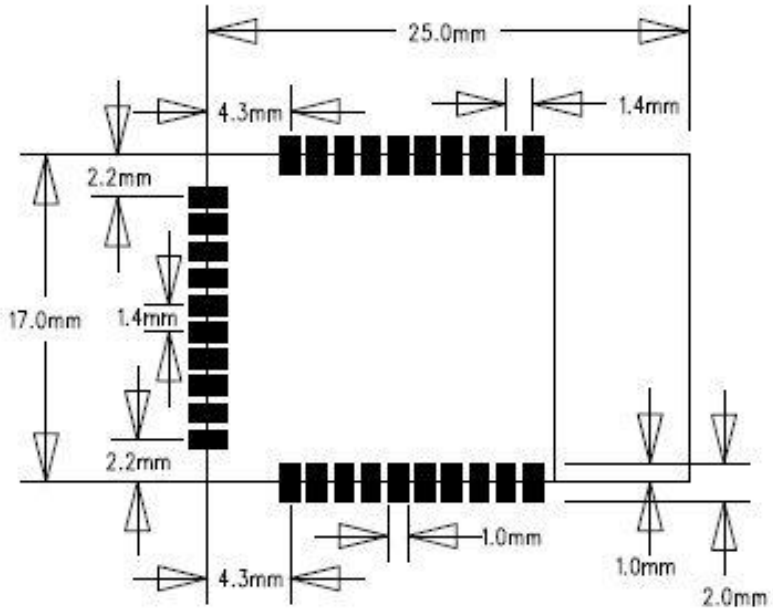
VI. Product Dimension

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

TOP Layer



BOTTON Layer



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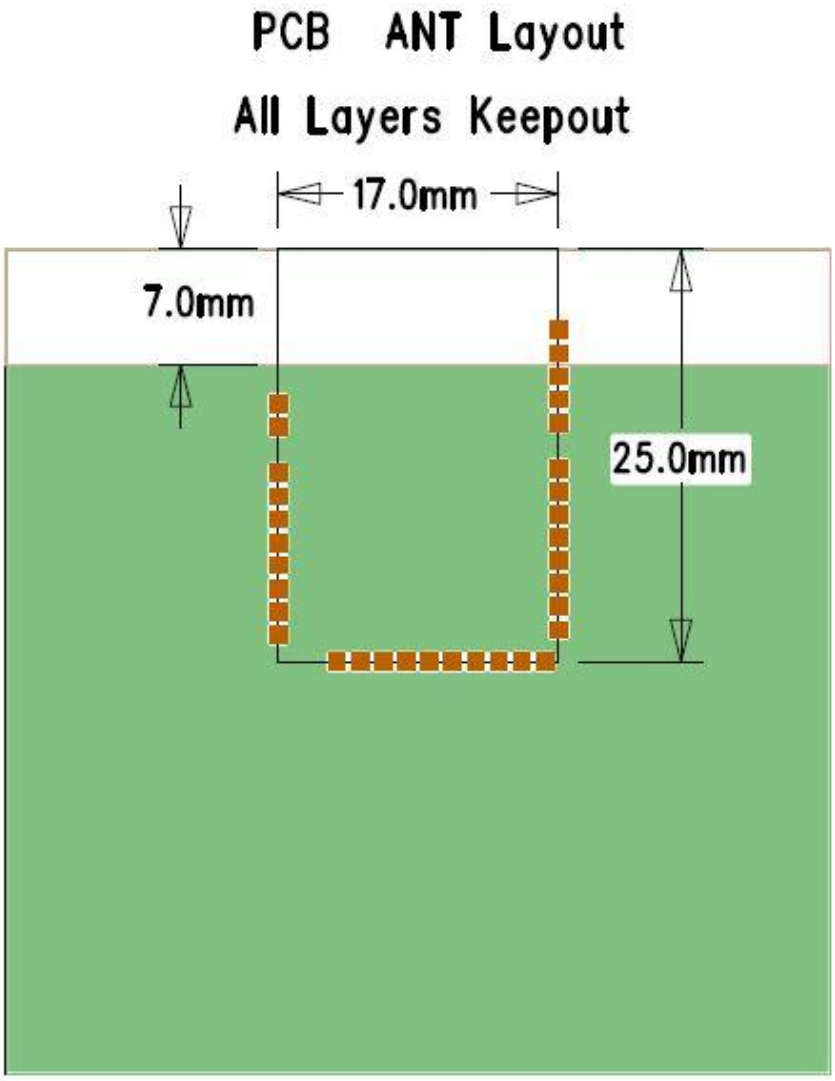
VII. RF Layout Suggestion

Please follow below instruction to avoid RF Performance lose.



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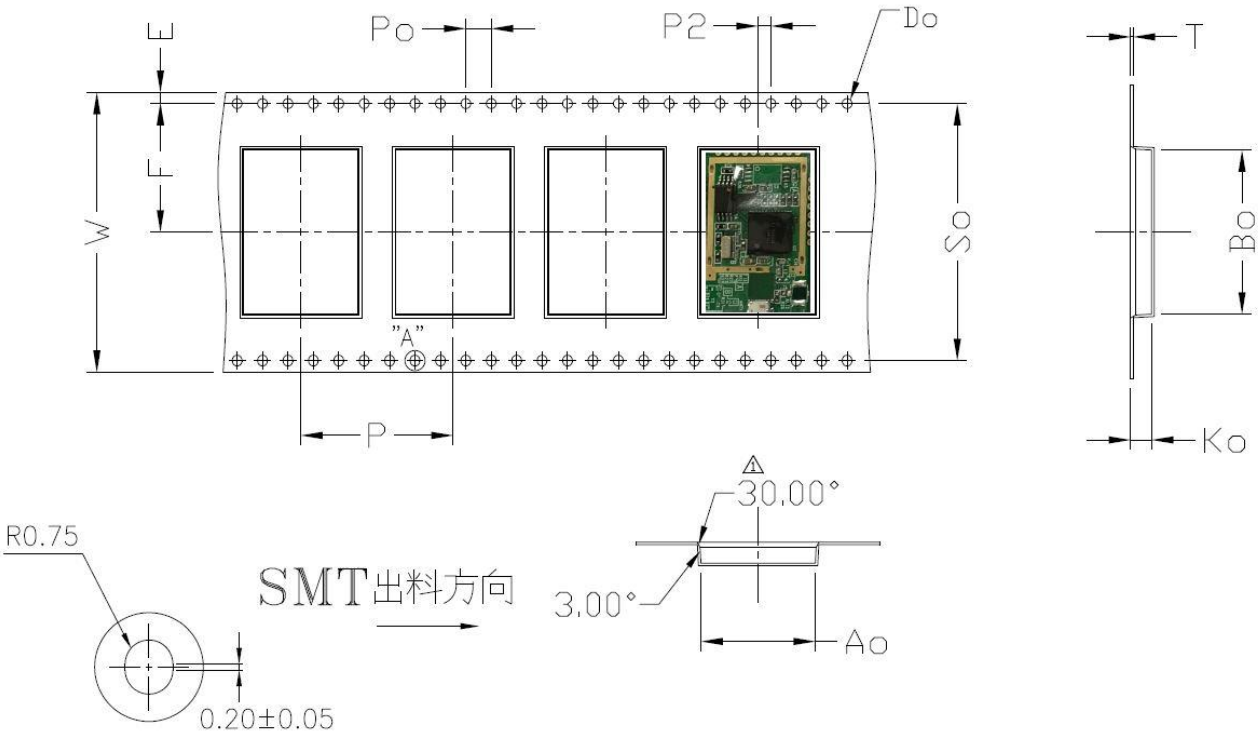
VIII. Packaging Info

● Reel Packaging



ITEM	DIM	ALTERNATE
W	$44.00^{+0.30}_{-0.30}$	
E	$1.75^{+0.10}_{-0.10}$	
F	$20.20^{+0.15}_{-0.15}$	
So	$40.40^{+0.10}_{-0.10}$	
P	$24.00^{+0.10}_{-0.10}$	
Po	$4.00^{+0.10}_{-0.10}$	
P2	$2.00^{+0.15}_{-0.15}$	
Do	$\phi 1.50^{+0.10}_{-0.00}$	
T	$0.40^{+0.05}_{-0.05}$	
Ao	$18.00^{+0.10}_{-0.10}$	
Bo	$25.80^{+0.10}_{-0.10}$	
Ko	$3.30^{+0.10}_{-0.10}$	

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