PKE8721DAF

Board Specification

Rev. 1.3

Sep. 25, 2025

REALSIL MICROELECTRONICS (Suzhou) CO. LTD.

No. 128, West Shenhu Road, Suzhou Industrial Park, Suzhou, Jiangsu Province, China

COPYRIGHT

DISCLAIMER

Please Read Carefully:
Realsil Microelectronics (Suzhou) co. Ltd, (Realsil) reserves the right to make corrections, enhancements, improvements and other changes to its products and services. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

Reproduction of significant portions in Realsil data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Realsil is not responsible or liable for such reproduced documentation. Information of third parties may be subject to additional restrictions.

Buyers and others who are developing systems that incorporate Realsil products (collectively, “Customers”) understand and agree that Customers remain responsible for using their independent analysis, evaluation and judgment in designing their applications and that Customers have full and exclusive responsibility to assure the safety of Customers' applications and compliance of their applications (and of all Realsil products used in or for Customers’ applications) with all applicable regulations, laws and other applicable requirements. Designer represents that, with respect to their applications, Customer has all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. Customer agrees that prior to using or distributing any applications that include Realsil products, Customer will thoroughly test such applications and the functionality of such Realsil products as used in such applications.

Realsil’s provision of technical, application or other design advice, quality characterization, reliability data or other services or information, including, but not limited to, reference designs and materials relating to evaluation kits, (collectively, “Resources”) are intended to assist designers who are developing applications that incorporate Realsil products; by downloading, accessing or using Realsil’s Resources in any way, Customer (individually or, if Customer is acting on behalf of a company, Customer’s company) agrees to use any particular Realsil Resources solely for this purpose and subject to the terms of this Notice.

Realsil’s provision of Realsil Resources does not expand or otherwise alter Realsil’s applicable published warranties or warranty disclaimers for Realsil’s products, and no additional obligations or liabilities arise from Realsil providing such Realsil Resources. Realsil reserves the right to make corrections, enhancements, improvements and other changes to its Realsil Resources. Realsil has not conducted any testing other than that specifically described in the published documentation for a particular Realsil Resource.

Customer is authorized to use, copy and modify any individual Realsil Resource only in connection with the development of applications that include the Realsil product(s) identified in such Realsil Resource. No other license, express or implied, by estoppel or otherwise to any other Realsil intellectual property right, and no license to any technology or intellectual property right of Realsil or any third party is granted herein, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which Realsil products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of Realsil Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from Realsil under the patents or other Realsil’s intellectual property.

Realsil’s Resources are provided “as is” and with all faults. Realsil disclaims all other warranties or representations, express or implied, regarding resources or use thereof, including but not limited to accuracy or completeness, title, any epidemic failure warranty and any implied warranties of merchantability, fitness for a particular purpose, and non-infringement of any third party intellectual property rights.

Realsil shall not be liable for and shall not defend or indemnify Customer against any claim, including but not limited to any infringement claim that related to or is based on any combination of products even if described in Realsil Resources or otherwise. In no event shall Realsil be liable for any actual, direct, special, collateral, indirect, punitive, incidental, consequential or exemplary damages in connection with or arising out of Realsil’s Resources or use thereof, and regardless of whether Realsil has been advised of the possibility of such damages. Realsil is not responsible for any failure to meet such industry standard requirements.

Where Realsil specifically promotes products as facilitating functional safety or as compliant with industry functional safety standards, such products are intended to help enable customers to design and create their own applications that meet applicable functional safety standards and requirements. Using products in an application does not by itself establish any safety features in the application. Customers must ensure compliance with safety-related requirements and standards applicable to their applications. Designer may not use any Realsil products in life-critical medical equipment unless authorized officers of the parties have executed a special contract specifically governing such use. Life-critical medical equipment is medical equipment where failure of such equipment would cause serious bodily injury or death. Such equipment includes, without limitation, all medical devices identified by the U.S.FDA as Class III devices and equivalent classifications outside the U.S.

Customers agree that it has the necessary expertise to select the product with the appropriate qualification designation for their applications and that proper product selection is at Customers’ own risk. Customers are solely responsible for compliance with all legal and regulatory

requirements in connection with such selection.

Customer will fully indemnify Realsil and its representatives against any damages, costs, losses, and/or liabilities arising out of Designer's non-compliance with the terms and provisions of this Notice.

TRADEMARKS

is a trademark of Realsil Microelectronics (Suzhou) co. Ltd. Other names mentioned in this document are trademarks/registered trademarks of their respective owners.

USING THIS DOCUMENT

This document is intended for the software engineer's reference and provides detailed programming information.

Though every effort has been made to ensure that this document is current and accurate, more information may have become available subsequent to the production of this guide.

Contact Us

- **Official website:** https://www.realmcu.com
- **Development documents:** https://aiot.realmcu.com/docs/
- **Official forum:** https://www.realmcu.com/community/cimd
- **Sample purchase:** https://shop467975900.taobao.com
- **Business cooperation:** iot_sales@realsil.com.cn
- **Technical support:** iot_support@realsil.com.cn
- **SDK website:** https://github.com/Ameba-AIoT/ameba-rtos

Contents

Contact Us **4**

Contents **5**

1 Product Overview **6**

1.1 General Description 6
1.2 Characteristics 6
1.3 Application Solution 7
1.4 Main Parameters 7

2 Electrical Characteristics **8**

3 RF Performance **9**

3.1 Wi-Fi 2.4GHz Band RF Specification 9
3.2 Wi-Fi 5GHz Band RF Specification 10
3.3 Bluetooth LE RF Specification 11

4 Appearance Dimensions **14**

5 LED and Keys **15**

6 Pin Definition **16**

7 Schematic Diagram **17**

8 Package Information **18**

Revision History **19**

1 Product Overview

1.1 General Description

The PKE8721DAF development board is designed by Realsil for the PKM8721DAF module. All the module's GPIOs are pin out for the developers to develop and debug the module conveniently. Standard pin headers on both sides can also make operation easier when using bread boards for development and commissioning.

The PKM8721DAF is a multi-radio MCU Module. With the open CPU architecture, customers can develop advanced applications running on the dual-core 32-bit MCU. The radio provides support for Wi-Fi 802.11 a/b/g/n in the 2.4GHz/5GHz band and BLE 5.0 communications. The rich set of peripherals and high performance make it an ideal choice for smart homes, industrial automation, consumer electronics, etc.

The block diagram of PKM8721DAF module is illustrated in Figure 1.

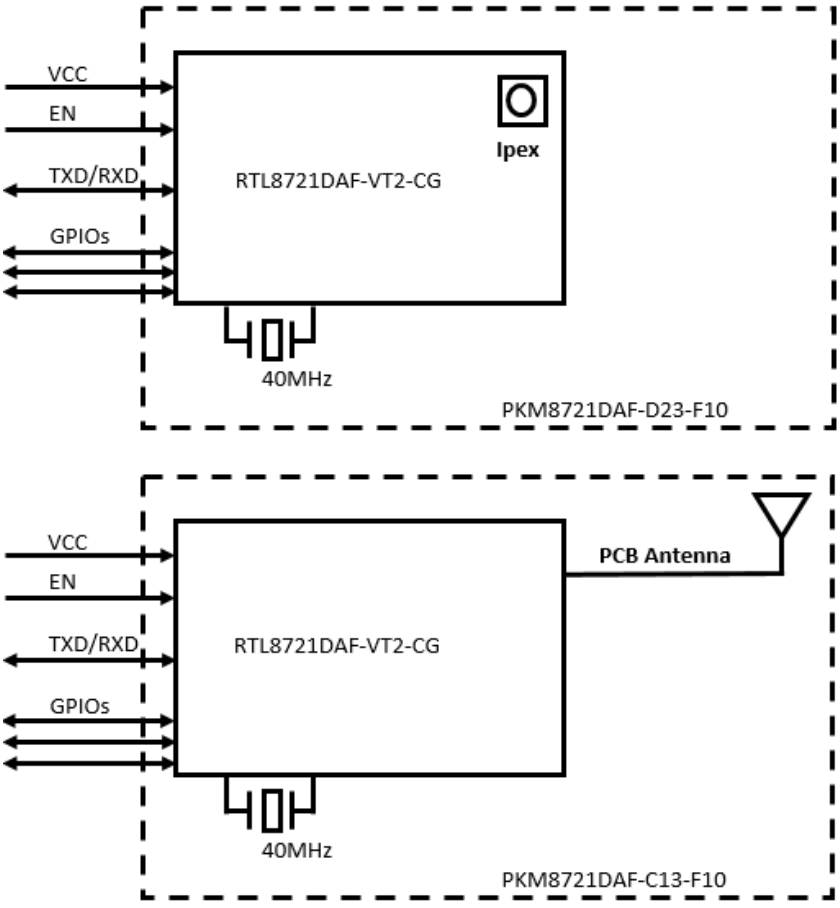


Figure 1. PKM8721DAF Module Block Diagram

NOTE

PKM8721DAF-C13-F10 has onboard antenna, PKM8721DAF-D23-F10 has no onboard antenna and uses IPEX.
PKM8721DAF-C13-F10 is mainly used to show later in the document.

1.2 Characteristics

- Support 802.11 a/b/g/n 1x1, 2.4GHz & 5GHz
- Support 20MHz/40MHz bandwidth, up to the data rate of MCS7
- Support low power beacons listen mode, low power Rx mode, and low power suspends mode(DLPS)
- IEEE 802.11i (WPA, WPA2, WPA3), open, shared key, and pair-wise key authentication services
- TrustZone-M technology for Armv8-M, with Security Attribution Unit (SAU) of up to 8 regions
- Support SWD debug port access protection and prohibition modes

- Support BLE 5.0, both central and peripheral modes
- Support Bluetooth high-power mode (maximum 10dBm)
- Internal co-existence mechanism between Wi-Fi and BT to share the same antenna

1.3 Application Solution

- Smart Homes
- Industrial 4.0
- Low-power IoT
- Smart docking and monitor
- Health-care devices
- Wearables
- Portable devices
- Gaming accessories
- Wireless audio
- Smart interactive toys

1.4 Main Parameters

Table 1. PKM8721DAF Module Main Parameters

Parameter	Description	
Module Name	PKM871DAF-C13-F10	PKM871DAF-D23-F10
Module Package	SMD-22	SMD-22
Module Size	24 ± 0.2mm (L) x 16 ± 0.2mm (W) x 2.8 ± 0.1mm (H)	18 ± 0.2mm (L) x 16 ± 0.2mm (W) x 2.8 ± 0.1mm (H)
Antenna	On-board PCB antenna	IPEX
Wi-Fi Frequency Range	● 2412MHz ~ 2484MHz (2.4GHz ISM Band) ● 5180MHz ~ 5825MHz (5GHz)	
Bluetooth	BLE 5.0	
Bluetooth Frequency Range	2402MHz ~ 2480MHz	
Operating Temperature	-40°C to 105°C	
Storage temperature range	-65°C to 150°C, < 90% RH	
Power supply Range	(3.3 ± 10%)V, current > 500mA	
Interface	UART/GPIO/ADC/PWM/I2C/I2S/SPI/SWD/USB 2.0 HS/SDIO/IR/Cap-touch/Key-Scan/SWD	
Module Certification	FCC/CE/SRRC	

2 Electrical Characteristics

Table 2. PKM8721DAF Module Electrical Characteristics

Parameter condition	Min.	Typ.	Max.	Unit
DC 3.3V Supply Voltage	3.0	3.3	3.6	V
Digital I/O Supply Voltage	1.76	1.8~3..3	3.6	V
DC 3.3 Rating Current (with internal regulator and integrated CMOS PA)			500	mA
ESD HBM Condition (TA=25°C, conforming to JESD22-A114F)			Class 2	
ESD CDM Condition (TA=25°C, conforming to JESD22-C101F)			Class C2	

NOTE

The PKM8721DAF module is electrostatic sensitive devices (ESD) and requires special ESD precautions typically applied to ESD sensitive components. Proper ESD handling and packaging procedures must be applied throughout the processing, handling, transportation and operation of any application that incorporates the PKM8721DAF module. Do not touch the module by hand or solder with non-anti-static soldering iron to avoid damage to the module.

3 RF Performance

3.1 Wi-Fi 2.4GHz Band RF Specification

Table 3. Wi-Fi 2.4GHz Transmitter Performance Specification

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range	Center channel frequency	2412		2484	MHz
Output power with spectral mask and EVM compliance[1]	1 Mbps DSSS		20		dBm
	11 Mbps DSSS		20		dBm
	6 Mbps OFDM		19		dBm
	54 Mbps OFDM		19		dBm
	HT20 MCS0		19		dBm
	HT20 MCS7		19		dBm
	HT40 MCS0		19		dBm
	HT40 MCS7		18		dBm
Tx EVM	6 Mbps OFDM		-30	-5	dB
	54 Mbps OFDM		-34	-25	dB
	HT20 MCS0		-30	-5	dB
	HT20 MCS7		-34	-27	dB
	HT40 MCS0		-29	-5	dB
	HT40 MCS7		-33	-27	dB
Output power variation		-1.5		1.5	dB
Carrier Suppression			-40	-30	dBc
Harmonic Output Power[2]	2nd Harmonic		-18		dBm/MHz
	3rd Harmonic		-22		dBm/MHz
Harmonic Output Power[3]	2nd Harmonic			-50	dBm/MHz
	3rd Harmonic			-50	dBm/MHz

NOTE

- *[1] Power level is tested after Digital Pre-Distortion (DPD) enable.*
- *[2] Harmonic output power is tested at IC port.*
- *[3] Harmonic output power is measured at RF connector with diplexer (RFDIP1606LB598D1T) and appropriate matching.*

Table 4. Wi-Fi 2.4GHz Receiver Performance Specification

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range	Center channel frequency	2412	-	2484	MHz
802.11b Rx Sensitivity	1 Mbps DSSS		-100		dBm
	2 Mbps DSSS		-97		dBm
	5.5 Mbps DSSS		-94		dBm
	11 Mbps DSSS		-90.5		dBm
802.11g Rx Sensitivity	6 Mbps OFDM		-95		dBm
	9 Mbps OFDM		-93.5		dBm
	12 Mbps OFDM		-92.5		dBm
	18 Mbps OFDM		-90.5		dBm
	24 Mbps OFDM		-87		dBm
	36 Mbps OFDM		-84		dBm
	48 Mbps OFDM		-79.5		dBm
	54 Mbps OFDM		-78		dBm
802.11n Rx Sensitivity	HT20 MCS0		-95		dBm
	HT20 MCS1		-92		dBm
	HT20 MCS2		-90		dBm
	HT20 MCS3		-87		dBm
	HT20 MCS4		-83.5		dBm
	HT20 MCS5		-79		dBm
	HT20 MCS6		-77.5		dBm
	HT20 MCS7		-76		dBm

	HT40 MCS0		-92		dBm
	HT40 MCS1		-89		dBm
	HT40 MCS2		-87		dBm
	HT40 MCS3		-83.5		dBm
	HT40 MCS4		-80.5		dBm
	HT40 MCS5		-75.5		dBm
	HT40 MCS6		-74		dBm
	HT40 MCS7		-73		dBm
Maximum Receive Level	6Mbps OFDM		0		dBm
	54Mbps OFDM		0		dBm
	HT20 MCS 0		0		dBm
	HT20 MCS 7		0		dBm
	HT40 MCS 0		0		dBm
	HT40 MCS 7		0		dBm
Adjacent Channel Rejection	11Mbps DSSS		43		dB
	6 Mbps OFDM		44		dB
	54Mbps OFDM		26		dB
	HT20 MCS 0		43		dB
	HT20 MCS 7		23		dB
	HT40 MCS 0		32		dB
	HT40 MCS 7		14		dB

3.2 Wi-Fi 5GHz Band RF Specification

Table 5. Wi-Fi 5GHz Transmitter Performance Specification

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range	Center channel frequency	5180		5825	MHz
Output power with spectral mask and EVM compliance[1]	6 Mbps OFDM		18		dBm
	54 Mbps OFDM		18		dBm
	HT20 MCS0		18		dBm
	HT20 MCS7		17		dBm
	HT40 MCS0		18		dBm
	HT40 MCS7		16		dBm
Tx EVM	6 Mbps OFDM		-30	-5	dB
	54 Mbps OFDM		-32	-25	dB
	HT20 MCS0		-30	-5	dB
	HT20 MCS7		-33	-27	dB
	HT40 MCS0		-30	-5	dB
	HT40 MCS7		-32	-27	dB
Output power variation		-1.5		1.5	dB
Carrier Suppression			-40	-30	dBc
Harmonic output power[2]	2nd Harmonic		-28		dBm/MHz
	3rd Harmonic		-30		dBm/MHz
Harmonic output power[3]	2nd Harmonic			-50	dBm/MHz
	3rd Harmonic			-50	dBm/MHz

NOTE

- *[1] Power level is tested after Digital Pre-Distortion (DPD) enable.*
- *[2] Harmonic output power is tested at IC port.*
- *[3] Harmonic output power is measured at RF connector with diplexer (RFDIP1606LB598D1T) and appropriate matching.*

Table 6. Wi-Fi 5GHz Receiver Performance Specification

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range	Center channel frequency	5180		5825	MHz
802.11a Rx Sensitivity	6 Mbps OFDM		-94.5		dBm
	9 Mbps OFDM		-92.5		dBm
	12 Mbps OFDM		-91.5		dBm

	18 Mbps OFDM		-89.5		dBm
	24 Mbps OFDM		-86.5		dBm
	36 Mbps OFDM		-83		dBm
	48 Mbps OFDM		-78.5		dBm
	54 Mbps OFDM		-77		dBm
802.11n Rx Sensitivity	HT20 MCS0		-94		dBm
	HT20 MCS1		-91.5		dBm
	HT20 MCS2		-89		dBm
	HT20 MCS3		-86		dBm
	HT20 MCS4		-82.5		dBm
	HT20 MCS5		-78		dBm
	HT20 MCS6		-76.5		dBm
	HT20 MCS7		-75		dBm
	HT40 MCS0		-91		dBm
	HT40 MCS1		-88.5		dBm
	HT40 MCS2		-85.5		dBm
	HT40 MCS3		-82.5		dBm
	HT40 MCS4		-79		dBm
	HT40 MCS5		-74.5		dBm
	HT40 MCS6		-73		dBm
	HT40 MCS7		-71.5		dBm
Maximum Receive Level	6Mbps OFDM		0		dBm
	54Mbps OFDM		0		dBm
	HT20 MCS0		0		dBm
	HT20 MCS7		0		dBm
	HT40 MCS0		0		dBm
	HT40 MCS7		0		dBm
Adjacent Channel Rejection	6Mbps OFDM		33		dB
	54Mbps OFDM		10		dB
	HT20 MCS0		29		dB
	HT20 MCS7		10		dB
	HT40 MCS0		29		dB
	HT40 MCS7		11		dB

3.3 Bluetooth LE RF Specification

Table 7. Bluetooth LE Transmitter Performance Specification

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range	Center channel frequency	2402	-	2480	MHz
Output Power	At max. power output level		8		dBm
Bluetooth LE 1Mbps					
Carrier Frequency Offset and Drift	Frequency offset[1]		±10		kHz
	Frequency drift		±10		kHz
	Max. drift rate		±10		kHz/50us
Modulation characteristics	Δf1 avg.		250		kHz
	Δf2 max.	185			kHz
	Δf1 avg./Δf2 avg.		0.92		
In-Band Spurious Emission	±2MHz offset		-46		dBm
	>±3MHz offset		-49		dBm
Bluetooth LE 2Mbps					
Carrier Frequency Offset and Drift	Frequency offset[1]		±30		kHz
	Frequency drift		±10		kHz
	Max. drift rate		±10		kHz/50us
Modulation characteristics	Δf1 avg.		500		kHz
	Δf2 max.	370			kHz
	Δf1 avg./Δf2 avg.		0.93		
In-Band Spurious Emission	±4MHz offset		-48		dBm

	±5MHz offset		-50		dBm
	>±3MHz offset		-50		dBm
Bluetooth LE 125kbps					
Carrier Frequency Offset and Drift	Frequency offset[1]		±15		kHz
	Frequency drift		±10		kHz
	Max. drift rate		±10		kHz/50us
Modulation characteristics	Δf1 avg.		250		kHz
	Δf2 max.	185			kHz

NOTE

[1] Initial carrier frequency offset should be calibrated in MP process in the customer side.

Table 8. Bluetooth LE Receiver Performance Specification

Parameter	**Condition**	**Min.**	**Typ.**	**Max.**	**Unit**
Frequency Range	Center channel frequency	2402	2440	2480	MHz
Bluetooth LE 1Mbps					
Receiver Sensitivity	PER<30.8%		-99[1]		dBm
Max. Usable Signal	PER<30.8%		0		dBm
C/I co-channel (PER<30.8%)	Co-channel sensitivity		6		dB
C/I 1MHz (PER<30.8%)	Adjacent channel selectivity		-5		dB
C/I 2MHz (PER<30.8%)	2nd adjacent channel selectivity		-48		dB
C/I >= 3MHz (PER<30.8%)	3rd adjacent channel selectivity		-55		dB
C/I Image Channel (PER<30.8%)	Image channel selectivity		-25		dB
C/I Image 1MHz (PER<30.8%)	1MHz adjacent to image channel selectivity		-26		dB
Inter-modulation			-30		dBm
Out-of-band blocking[2]	30MHz to 2000MHz	-30			dBm
	2003MHz to 2399MHz	-35			dBm
	2484MHz to 2997MHz	-35			dBm
	3000MHz to 12.75GHz	-30			dBm
Bluetooth LE 2Mbps					
Receiver Sensitivity	PER<30.8%		-95[1]		dBm
Max. Usable Signal	PER<30.8%		0		dBm
C/I co-channel (PER<30.8%)	Co-channel sensitivity		6		dB
C/I 2MHz (PER<30.8%)	Adjacent channel selectivity		-2		dB
C/I 4MHz (PER<30.8%)	2nd adjacent channel selectivity		-43		dB
C/I >= 6MHz (PER<30.8%)	3rd adjacent channel selectivity		-53		dB
C/I Image Channel (PER<30.8%)	Image channel selectivity		-25		dB
C/I Image 2MHz (PER<30.8%)	1MHz adjacent to image channel selectivity		-23		dB
Inter-modulation			-28		dBm
Out-of-band blocking[2]	30MHz to 2000MHz	-30			dBm
	2003MHz to 2399MHz	-35			dBm
	2484MHz to 2997MHz	-35			dBm
	3000MHz to 12.75GHz	-30			dBm
Bluetooth LE 125kbps					
Receiver Sensitivity	PER<30.8%		-106[1]		dBm
C/I co-channel (PER<30.8%)	Co-channel sensitivity		3		dB
C/I 1MHz (PER<30.8%)	Adjacent channel selectivity		-15		dB
C/I 2MHz (PER<30.8%)	2nd adjacent channel selectivity		-53		dB
C/I >= 3MHz (PER<30.8%)	3rd adjacent channel selectivity		-62		dB
C/I Image Channel (PER<30.8%)	Image channel selectivity		-33		dB
C/I Image 1MHz (PER<30.8%)	1MHz adjacent to image channel selectivity		-35		dB
Bluetooth LE 500kbps					
Receiver Sensitivity	PER<30.8%		-101[1]		dBm
C/I co-channel (PER<30.8%)	Co-channel sensitivity		4		dB
C/I 1MHz (PER<30.8%)	Adjacent channel selectivity		-9		dB
C/I 2MHz (PER<30.8%)	2nd adjacent channel selectivity		-50		dB

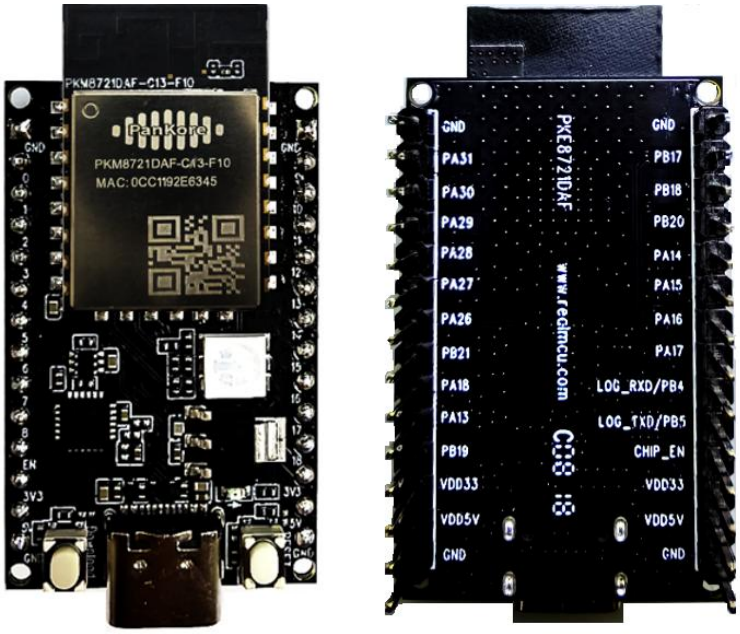
C/I >= 3MHz (PER<30.8%)	3rd adjacent channel selectivity		-58		dB
C/I Image Channel (PER<30.8%)	Image channel selectivity		-31		dB
C/I Image 1MHz (PER<30.8%)	1MHz adjacent to image channel selectivity		-29		dB

NOTE

- *[1] The receiver sensitivity is measured at the chip out, and channels 2440MHz and 2480MHz may have extra degradation due to spurs interference.*
- *[2] Frequencies where the requirements are not met are called "spurious response frequencies". The number of spurs must not exceed 10 if blocking signal power level is as specified above, and must not exceed 3 if it is reduced to -50dBm.*

4 Appearance Dimensions

Board dimension: 46.6 ± 0.2mm (L) x 25.4 ± 0.2mm (W) x 3.3 ± 0.2mm (H)



Top View Bottom View

Figure 2. PKE8721DAF-C13-F10 Board Appearance

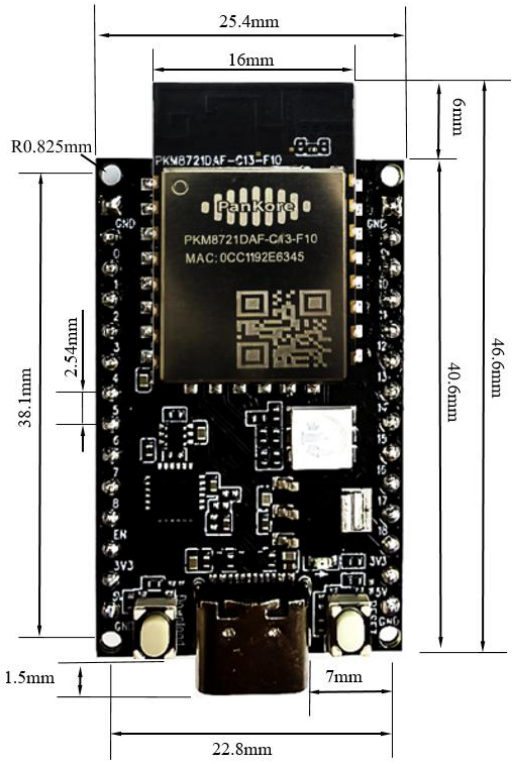


Figure 3. PKE8721DAF-C13-F10 Board Dimensions

5 LED and Keys

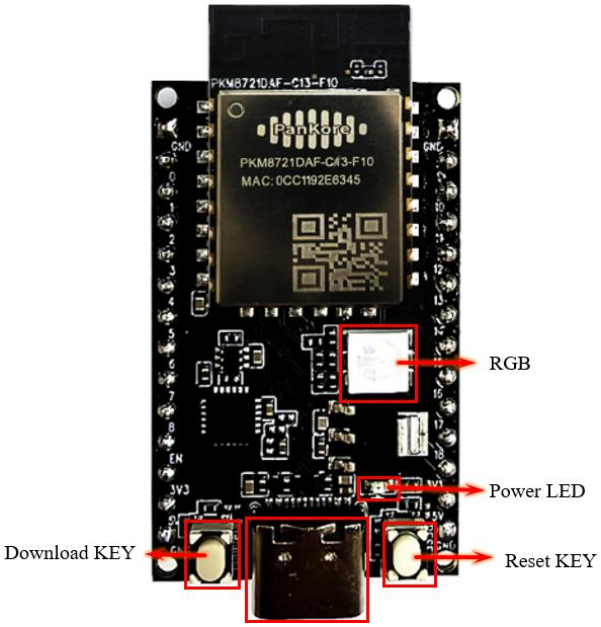


Figure 4. LED and Keys

Table 9. Information of LED and Keys

LED & Keys	Function	Note
Power LED	3.3 V power light	LED lights up when 3.3V is available.
RGB	RGB light	The red, blue and green colors are controlled by PA14, PA15 and PA16
Reset KEY	Reset button	
Download KEY	Set the module to download mode	Follow these steps to enter the download mode: (1) Press and hold the Download KEY (2) Press the Reset KEY and release it (3) Release the Download KEY

6 Pin Definition

The PKE8721DAF development board leads out 19 I/O interfaces. Figure 5 describes the board interfaces, and the pin function definition table is also layout to list the interface definition.

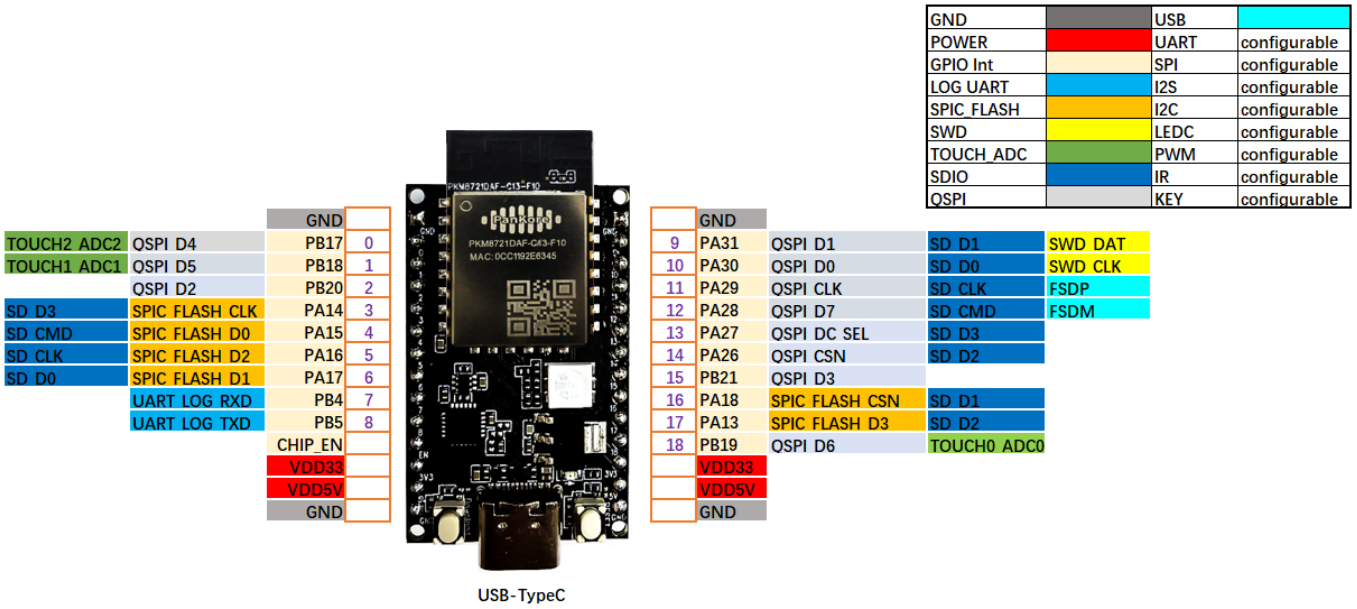


Figure 5. PKE8721DAF Board Interface Description

Table 10. PKE8721DAF Board Pin Definition

Pin No.	Pin Name	Description
0	PB17	QSPI_D4/TOUCH2_ADC2/ TIM9_TRIG
1	PB18	QSPI_D5/TOUCH1_ADC1/ TIM8_TRIG
2	PB20	QSPI_D2/SWD_CLK/ TIM9_TRIG
3	PA14	SPIC_FLASH_CLK/SD_D3
4	PA15	SPIC_FLASH_D0/SD_CMD
5	PA16	SPIC_FLASH_D2/SD_CLK
6	PA17	SPIC_FLASH_D1/SD_D0/ TIM9_TRIG
7	PB4	UART_LOG_RXD
8	PB5	UART_LOG_TXD
9	PA31	QSPI_D1/SD_D1/SWD_DAT/ TIM8_TRIG/UART_TX (Default)
10	PA30	QSPI_D0/SD_D0/SWD_CLK/ TIM9_TRIG/ UART_RX (Default)
11	PA29	QSPI_CLK/SD_CLK/FSDP
12	PA28	QSPI_D7/SD_CMD/FSDM
13	PA27	QSPI_DC_SEL/SD_D3
14	PA26	QSPI_CSN/SD_D2
15	PB21	QSPI_D3/SWD_DAT/ TIM8_TRIG
16	PA18	SPIC_FLASH_CSN/SD_D1/ TIM8_TRIG
17	PA13	SPIC_FLASH_D3/SD_D2
18	PB19	QSPI_D6/TOUCH0_ADC0

NOTE

All I/O can be configured as UART/SPI/LEDC/I2S/I2C/PWM/IR/KEY/DMIC (PA30 is default UART RX; PA31 is default UART TX); Detail Available pin refer to " PKM8721DAF_pin_mux_v1.0.xlsx " table

7 Schematic Diagram & Layout

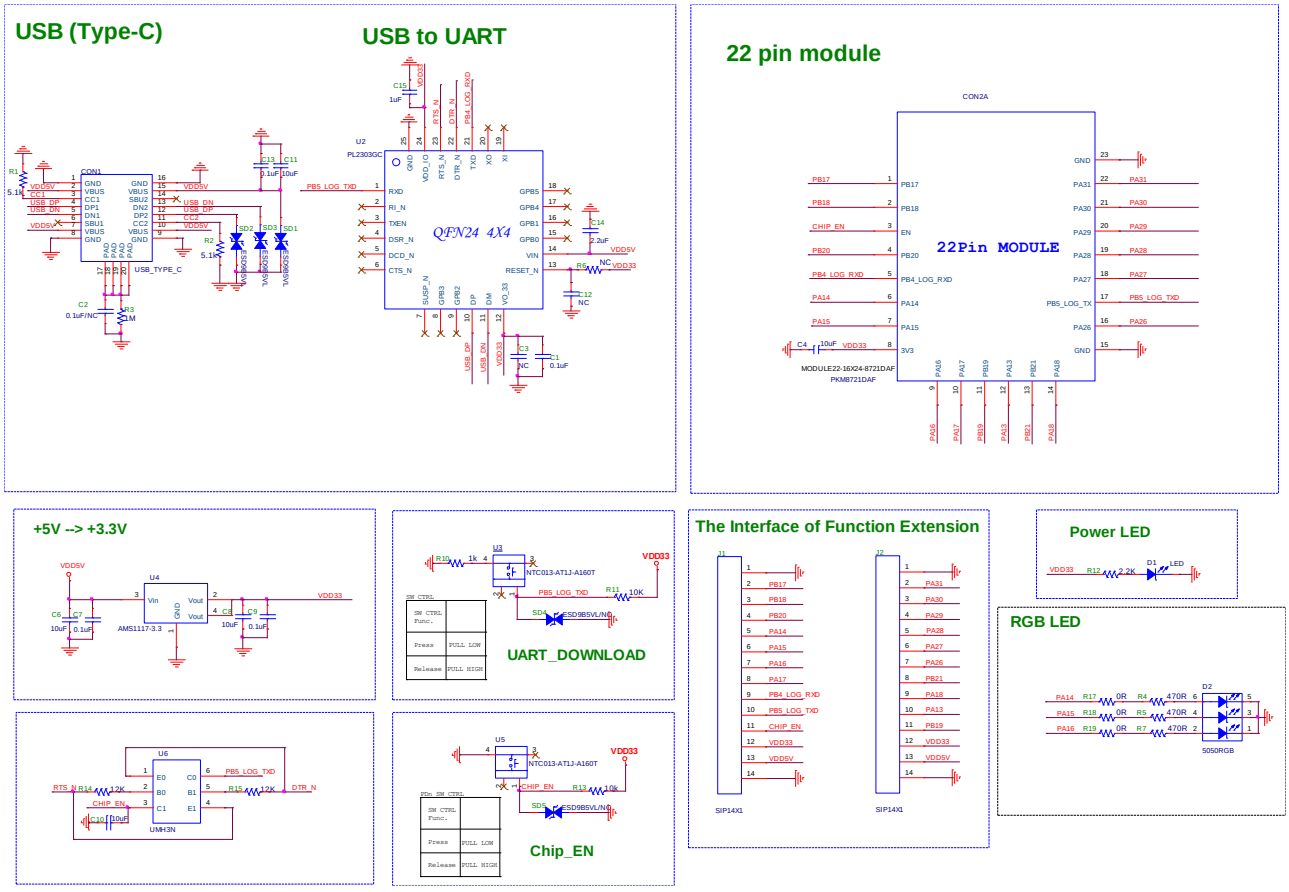


Figure 6. PKE8721DAF Schematic Diagram

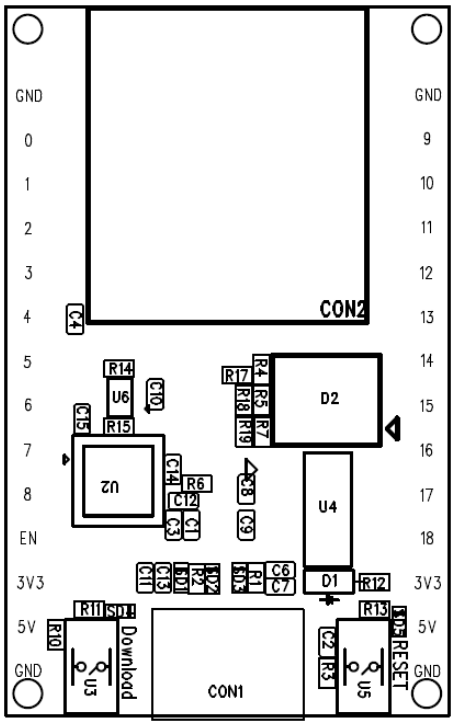


Figure 7. PKE8721DAF Layout

8 Package Information

The PKE8721DAF development board is packaged for inserted pearl cotton with electrostatic bags.

Revision History

Data	Revision	Summary
2024-10-30	1.0	Initial release
2025-02-21	1.1	Module block diagram modification.
2025-04-17	1.2	Modify the EVB silkscreen in chapter 4.
2025-09-25	1.3	Correct some formats