


# ESP8266EX

## Datasheet



Version 6.9  
Espressif Systems  
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# About This Guide

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This document introduces the specifications of ESP8266EX.

## Release Notes

Date	Version	Release Notes
2015.12	V4.6	Updated Chapter 3.
2016.02	V4.7	Updated Section 3.6 and Section 4.1.
2016.04	V4.8	Updated Chapter 1.
2016.08	V4.9	Updated Chapter 1.
2016.11	V5.0	Added Appendix II “Learning Resources”.
2016.11	V5.1	Changed the power consumption during Deep-sleep from 10 $\mu$ A to 20 $\mu$ A in Table 5-2.
2016.11	V5.2	Changed the crystal frequency range from “26 MHz to 52 MHz” to “24 MHz to 52 MHz” in Section 3.3.
2016.12	V5.3	Changed the minimum working voltage from 3.0 V to 2.5 V.
2017.04	V5.4	Changed chip input and output impedance from 50 $\Omega$ to 39 + j6 $\Omega$ .
2017.10	V5.5	Updated Chapter 3 regarding the range of clock amplitude to 0.8 V ~ 1.5 V.
2017.11	V5.6	Updated VDDPST from 1.8 V ~ 3.3 V to 1.8 V ~ 3.6 V.
2017.11	V5.7	<ul style="list-style-type: none"><li>• Corrected a typo in the description of SDIO_DATA_0 in Table 2-1;</li><li>• Added the testing conditions for the data in Table 5-2.</li></ul>
2018.02	V5.8	<ul style="list-style-type: none"><li>• Updated Wi-Fi protocols in Section 1.1;</li><li>• Updated description of the integrated Tensilica processor in 3.1.</li></ul>

Date	Version	Release Notes
2018.09	V5.9	<ul style="list-style-type: none"> <li>• Update document cover;</li> <li>• Added a note for Table 1-1;</li> <li>• Updated Wi-Fi key features in Section 1.1;</li> <li>• Updated description of the Wi-Fi function in 3.5;</li> <li>• Updated pin layout diagram;</li> <li>• Fixed a typo in Table 2-1;</li> <li>• Removed Section AHB and AHB module;</li> <li>• Restructured Section Power Management;</li> <li>• Fixed a typo in Section UART;</li> <li>• Removed description of transmission angle in Section IR Remote Control;</li> <li>• Other optimization (wording).</li> </ul>
2018.11	V6.0	<ul style="list-style-type: none"> <li>• Added an SPI pin in Table 4-2;</li> <li>• Updated the diagram of packing information.</li> </ul>
2019.08	V6.1	Removed description of the GPIO function in Section 4.1.
2019.08	V6.2	Updated notes on CHIP_EN in Section 5.1
2019.12	V6.3	Add feedback links.
2020.04	V6.4	<ul style="list-style-type: none"> <li>• Removed the description of “Antenna diversity”;</li> <li>• Updated the feedback links.</li> </ul>
2020.07	V6.5	<ul style="list-style-type: none"> <li>• Updated the description of HSPI in Section 4.3;</li> <li>• Updated links in Appendix.</li> </ul>
2020.10	V6.6	<ul style="list-style-type: none"> <li>• Fixed a typo in Figure 2-1;</li> <li>• Updated the link of <i>ESP8266 Pin List</i>.</li> </ul>
2022.07	v6.7	<ul style="list-style-type: none"> <li>• Updated Figure 2-1;</li> <li>• Updated the link of <i>ESP8266 Hardware Resources</i>.</li> </ul>
2022.10	v6.8	Updated typos in Chapter 6.
2023.02	v6.9	Added link to <a href="#">Xtensa® Instruction Set Architecture (ISA) Summary</a> in Section 3.1.1.

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