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Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

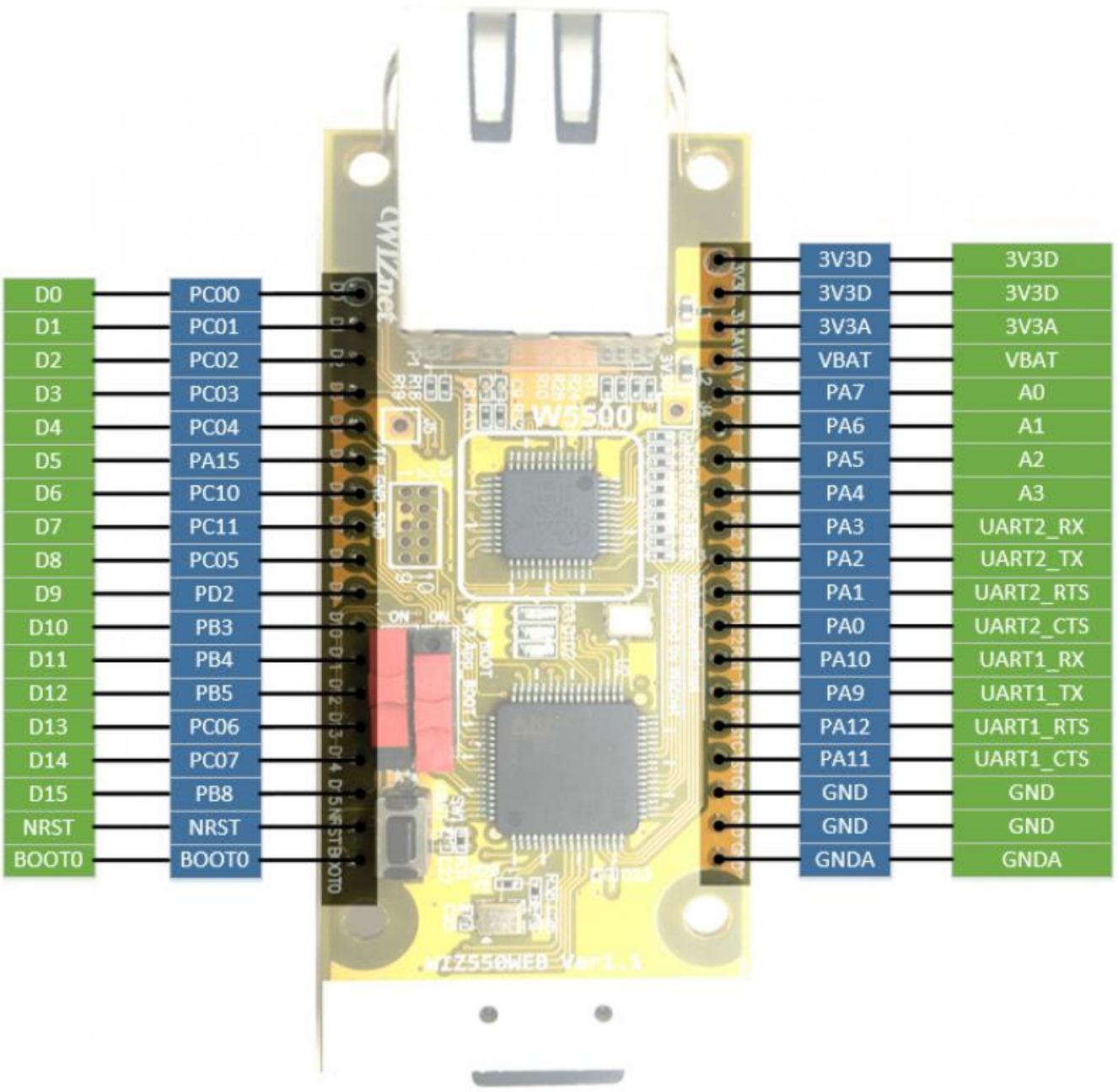
Details	
Product Status	Active
Module/Board Type	MCU Core
Core Processor	ARM® Cortex®-M3
Co-Processor	-
Speed	-
Flash Size	8MB
RAM Size	-
Connector Type	RJ-45, 2.54mm Headers
Size / Dimension	1.18" x 2.93" (30mm x 74.4mm)
Operating Temperature	-
Purchase URL	https://www.e-xfl.com/product-detail/wiznet/wiz550web

Hardware Specification

WIZ550web

- MCU : STM32F103RCT6 (256KB Flash, 48KB SRAM)
- TCP/IP Controller : W5500
- RJ45(Integrated Transformer) : J1B1211CCD
- External Flash Memory : AT45DB081D
- EEPROM : 24AA64T-I/OT
- 2.54mm Pin Header x 2

WIZ550web Pinout



Pin Description

As it is used in the EVB and for the web-server by default

Ref No.	Pin No.	Symbol	Type	Description
J1	1	D0	I/O	Digital 0 I/O

Ref No.	Pin No.	Symbol	Type	Description
	2	D1	I/O	Digital 1 I/O
	3	D2	I/O	Digital 2 I/O
	4	D3	I/O	Digital 3 I/O
	5	D4	I/O	Digital 4 I/O
	6	D5	I/O	Digital 5 I/O
	7	D6	I/O	Digital 6 I/O
	8	D7	I/O	Digital 7 I/O
	9	D8	I/O	Digital 8 I/O / Boot Pin
	10	D9	I/O	Digital 9 I/O
	11	D10	I/O	Digital 10 I/O
	12	D11	I/O	Digital 11 I/O
	13	D12	I/O	Digital 12 I/O
	14	D13	I/O	Digital 13 I/O
	15	D14	I/O	Digital 14 I/O
	16	D15	I/O	Digital 15 I/O
	17	NRST	I	System Reset Input, Active Low
	18	BOOT0	I	BOOT0 Input, Active High

Ref No.	Pin No.	Symbol	Type	Description
	1	3V3D	P	Supply DC +3.3V , Digital Power
J2	2	3V3D	P	Supply DC +3.3V , Digital Power
	3	3V3A	P	Supply DC +3.3V , Analog Power

Ref No.	Pin No.	Symbol	Type	Description
	4	VBAT	P	Supply DC +3.3V , Low Power Mode
	5	A0	I	Analog 0 Input
	6	A1	I	Analog 1 Input
	7	A2	I	Analog 2 Input
	8	A3	I	Analog 3 Input
	9	UART2_RX	I	Receiver input for UART2
	10	UART2_TX	O	Transmitter output for UART2
	11	UART2_RTS	O	Request To Send output for UART2
	12	UART2_CTS	I	Clear To Send input for UART2
	13	UART1_RX	I	Receiver input for UART1
	14	UART1_TX	O	Transmitter output for UART1
	15	UART1_RTS	O	Request To Send output for UART1
	16	UART1_CTS	I	Clear To Send input for UART1
	17	GND	P	Digital Power Ground
	18	GND	P	Digital Power Ground
	19	GNDA	P	Analog Power Ground

AC/DC Characteristics

WIZ550WEB

General Operating Conditions

Symbol	Parameter	Pins	Min	Typ	Max	Unit
V*DD*	Standard operating voltage	3V3D	2	3.3	3.6	V

Symbol	Parameter	Pins	Min	Typ	Max	Unit
VDDA	Analog operation voltage (ADC not used)	3V3A	2.0	3.3	3.6	V
	Analog operation voltage (ADC used)	3V3A	2.4	3.3	3.6	V
VBAT	Backup operating voltage	VBAT	0.8	3.3	3.6	V
VIN	I/O Digital input voltage	D0~D15	0	-	VDD+0.3	V
	I/O Analog input voltage	A0~A3	0	-	VDD+0.3	V
	BOOT0	BOOT0	0	-	5.5	V
	NRST	NRST	0	-	VDD+0.3	V

I/O Static Characteristic

Symbol	Parameter	Pins	Min	Typ	Max	Unit
VIL	Low level input voltage	D0~D15	-0.5	-	0.7	V
VIH	High level input voltage	D0~D15	2.0	-	VDD	V
VIO	Output current sunk by any I/O and control pin	D0~D15	-	-	25	mA
	Output current source by any I/O and control pin	D0~D15	-	-	-25	mA
VIL(NRST)	NRST Input low level voltage	NRST	-0.5	-	0.8	V
VIH(NRST)	NRST Input high level voltage	NRST	2	-	3.3	V

Reference Schematic & Parts

Schematic

항목	Version	Schematic
WIZ550web 1.1		wiz550web_v1.1_20151217.pdf

WIZ550web

74.95mm(W) x 30mm(L) x 24mm(H) (±0.5)