

# Product Summary

# WE20D

High performance, Standalone Wi-Fi 802.11 a/b/g/n Dual Band and Bluetooth 5.0 combo engines

- Standalone WiFi a/b/g/n 1T1R 2.4 & 5 GHz Dual Band and Bluetooth 5.0 protocol
- 21 x 14 x 2.2 mm
- High performance
- Supports AP, STA and AP+STA
- Supports TCP, UDP, HTTP and SSL and MQTT



## Overview

WE20D is a high performance, Wi-Fi 802.11 a/b/g/n dual band and Bluetooth 5.0 combo module, targeted for applications where highly reliable wireless connection, High performance and ease of integration are the key requirements.

WE20D is a highly integrated single chip 802.11 a/b/g/n WiFi and BLE combo module. WE20D has a 1T1R capable WLAN baseband operating on 2.4GHz and 5GHz band, RF circuitary, built-in 4MB Flash and a host for other peripherals. The module ships with either an on board high performance antenna or u.FL connector or just an RF port for the use to connect external antenna.

## Key features

Protocol	802.11 a/b/g/n, 2.4 and 5 GHz , Bluetooth 5.0	Modes	<ul style="list-style-type: none"><li>• Supports AP, STA and AP+STA for WiFi</li><li>• Central and Peripheral for BLE</li></ul>
Processor	Dual Core KM4 Processor@200 MHz and KM0 @ 20MHz	Form factor	21 mm x 14 mm x 2.2 mm
RAM	512 KB (KM4) + 64 KB (KM0)	Footprint	Castellations 30
ROM	384 KB	Firmware	Serial Command
Flash	4 MB	Internet services	Supports TCP, UDP, HTTP and SSL and MQTT
Crystals	40 MHz		
Antenna	PCB chip, u.FL Connector		

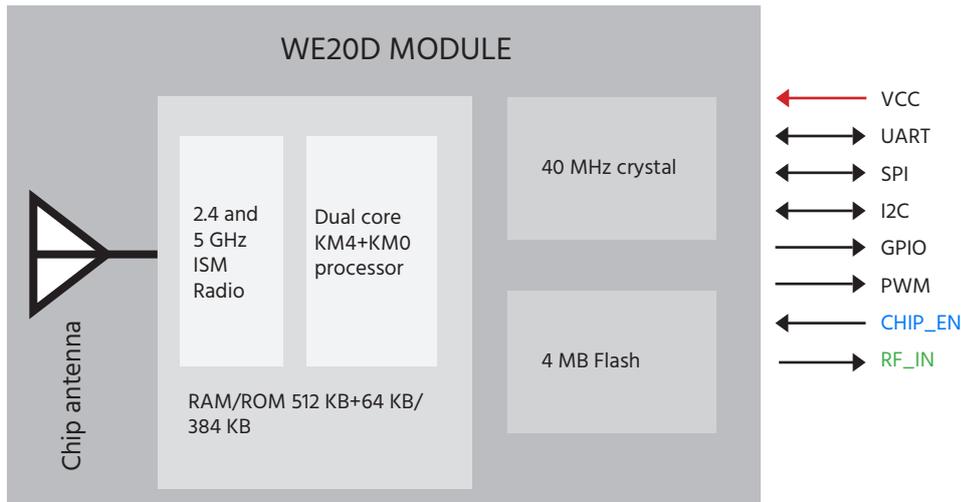
## Applications

- Gateways
- Audio/Video
- Smart Toys
- Industry 4.0
- Health Care
- Internet of things



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# Block diagram



# Specifications

## INTERFACES

UART, SPI, GPIO, PWM, I<sup>2</sup>C

## Module FEATURES

- 802.11 a/b/g/n, 1T1R, 2.4 and 5 GHz, Bluetooth 5.0
- Supports Secure Boot, Supports LE Secure connections
- Supports WEP, WPA, WPA2, WPS
- 3 x UART
- 2 x I2C
- 1 x USB 2.0 Device
- 3 x ADC Channels
- 2 x SPI Master Clock upto 25Mbps or 1 x SPI Slave upto 5Mbps
- 12 x PWM with configurable duration and duty
- 8 x HS Timers
- 1 x LP Timer
- Chip Enable pin to de-assert the whole module without any external power cut components.

## MODULATION MODE

DSSS, OFDM for WiFi a/b/g/n

## NETWORK PROTOCOL

TCP/UDP/ARP/ICMP/DHCP/DNS/HTTP/MQTT

## INTERFACE PROTOCOL

Celium Connectivity Serial Command

### Further information

For contact information, visit [www.celiumdevices.com](http://www.celiumdevices.com)

For more product details and ordering information, see the product data sheet.



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