STM32WBxM Wireless Modules
Bluetooth® LE 5.2,
Zigbee 3.0 and Thread

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STM32

STM32 MCU portfolio

MPU					**STM32MP1** 4158 CoreMark 650 MHz Cortex –A7 209 MHz Cortex –M4
High Perf MCUs		**STM32F2** Up to 398 CoreMark 120 MHz Cortex-M3	**STM32F4** Up to 608 CoreMark 180 MHz Cortex-M4	**STM32F7** 1082 CoreMark 216 MHz Cortex-M7	**STM32H7** Up to 3224 CoreMark Up to 550 MHz Cortex -M7 240 MHz Cortex -M4

Mainstream MCUs	**STM32F0** 106 CoreMark 48 MHz Cortex-M0	**STM32G0** 142 CoreMark 64 MHz Cortex-M0+	**STM32F1** 177 CoreMark 72 MHz Cortex-M3	**STM32F3** ● 245 CoreMark 72 MHz Cortex-M4	**STM32G4** ● 550 CoreMark 170 MHz Cortex-M4
				Optimized for mixed-signal Applications	

Ultra-low Power MCUs	**STM32L0** 75 CoreMark 32 MHz Cortex-M0+	**STM32L1** 93 CoreMark 32 MHz Cortex-M3	**STM32L4** 273 CoreMark 80 MHz Cortex-M4	**STM32L4+** 409 CoreMark 120 MHz Cortex-M4	**STM32L5** 443 CoreMark 110 MHz Cortex-M33	**STM32U5** 651 CoreMark 160 MHz Cortex-M33

Wireless MCUs		**STM32WL** 162 CoreMark 48 MHz Cortex-M4 48 MHz Cortex-M0+	**STM32WB** ● 216 CoreMark 64 MHz Cortex-M4 32 MHz Cortex-M0+		

● Optimized for mixed-signal applications   ● Cortex-M0+ Radio co-processor

LONGEVITY 10 YEARS COMMITMENT

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Make the choice of STM32WB series the 7 keys points to make the difference

Open 2.4 GHz radio Multi-protocol

Dual-core / Full control Ultra-low-power

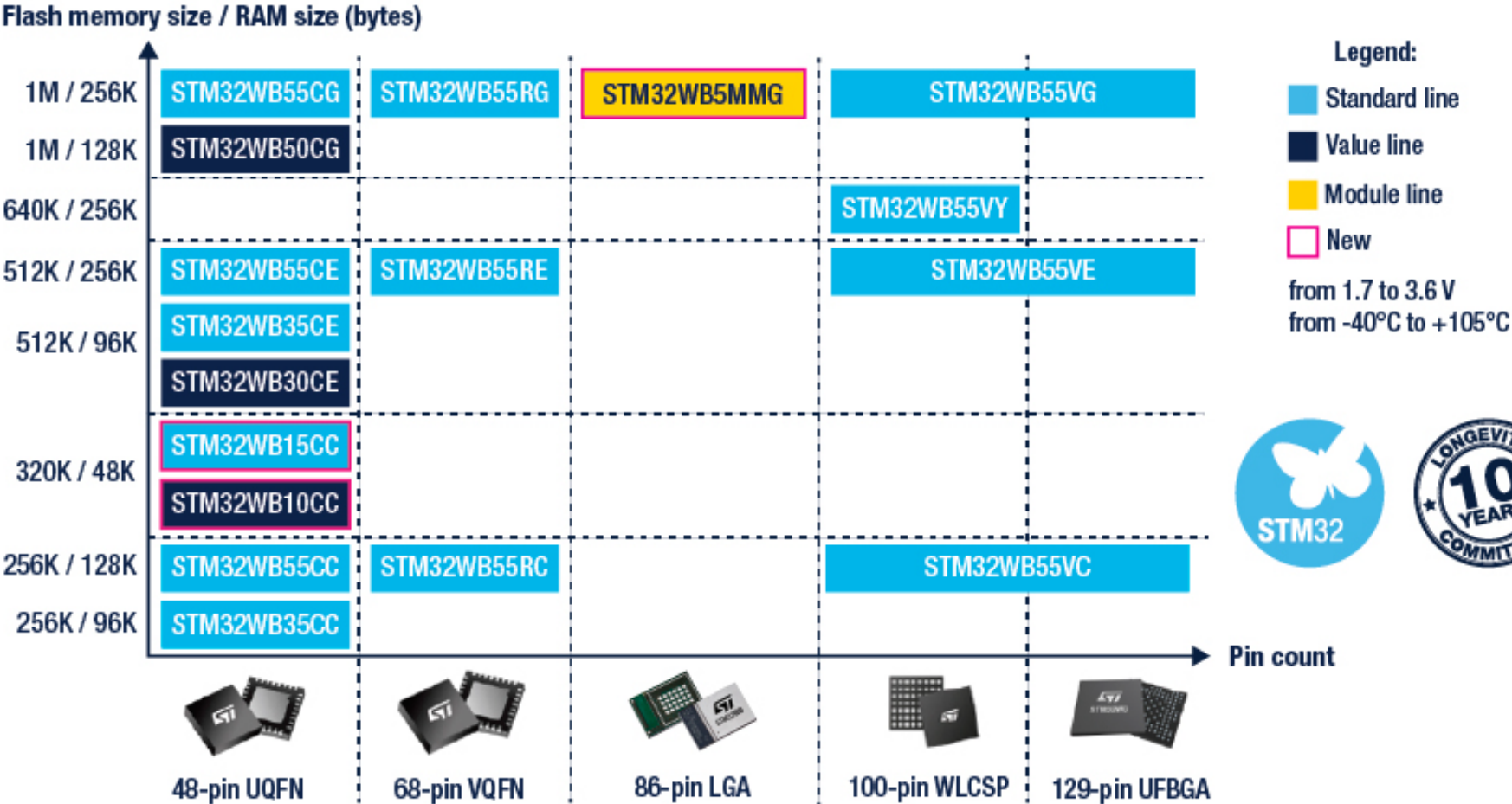**IoT Protection ready**

Massive integration Cost saving

1MB Flash

3.6 V — 129-pin

1.7 V — 48-pin

256KB Flash

A large offer

STM32 Cube

STM32 CubeMonitor-RF
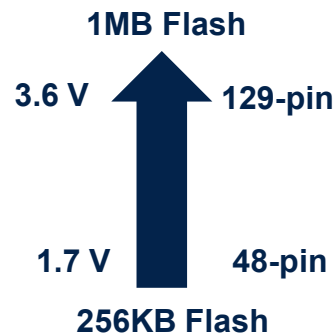
Advanced RF tool, Energy control with C code generation

LONGEVITY 10 YEARS COMMITMENT

No matter what!

Bluetooth LE 5.2, OpenThread, Zigbee 3.0 and proprietary protocol capable

Flash memory size / RAM size (bytes)

Flash / RAM	48-pin UQFN	68-pin VQFN	86-pin LGA	100-pin WLCSP / 129-pin UFBGA
1M / 256K	STM32WB55CG	STM32WB55RG	STM32WB5MMG	STM32WB55VG
1M / 128K	STM32WB50CG			
640K / 256K				STM32WB55VY
512K / 256K	STM32WB55CE	STM32WB55RE		STM32WB55VE
512K / 96K	STM32WB35CE			
	STM32WB30CE			
320K / 48K	STM32WB15CC			
	STM32WB10CC			
256K / 128K	STM32WB55CC	STM32WB55RC		STM32WB55VC
256K / 96K	STM32WB35CC			

Pin count

Legend:
- Standard line
- Value line
- Module line
- New

from 1.7 to 3.6 V
from -40°C to +105°C

STM32

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Available as a module
to reduce your time to market

STM32WB

FCC ID: YCP-STM32WB
IC ID: 32WB

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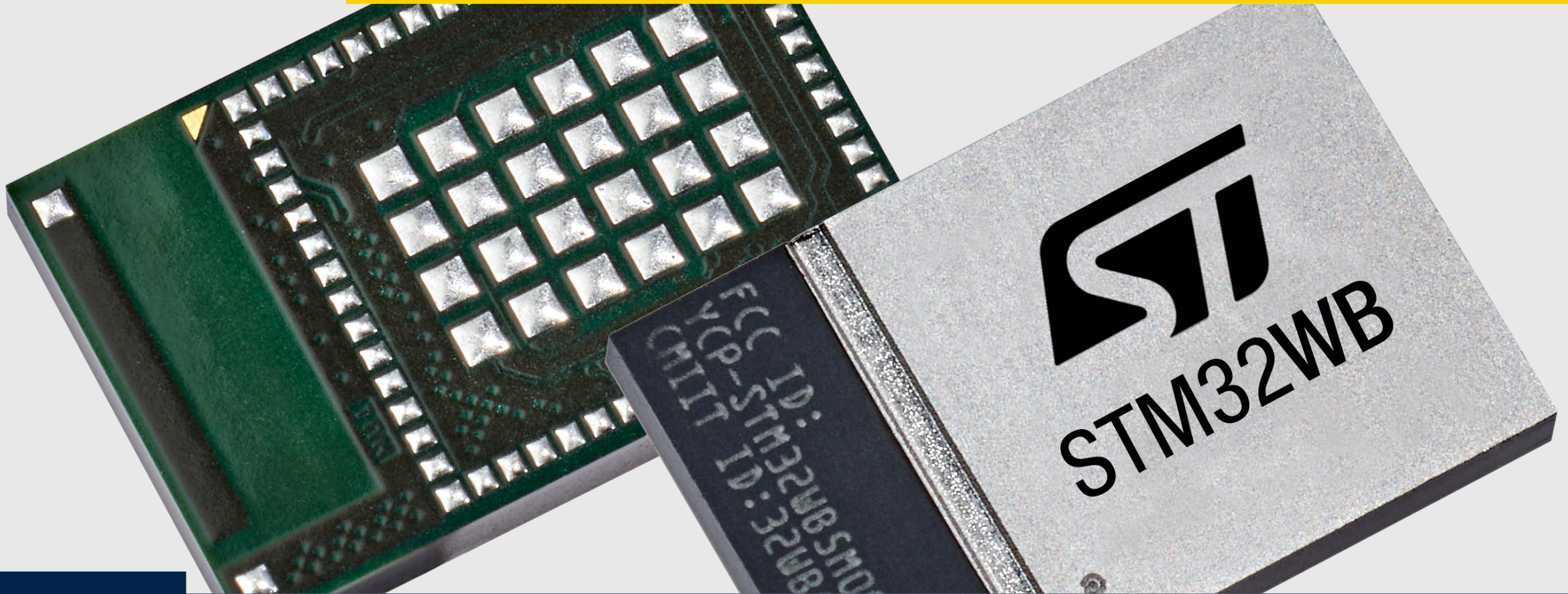
Easy to integrate - Light certification for customer

Key advantages

- WLCSP100 package integrated

- Maximum of features exposed

- Low-cost PCB for the mother board

Bottom view

Top view

In production NOW!

STM32WB5M multi-protocol module

Small form factor

7.3x11 mm

Full ref design up to antenna, crystals
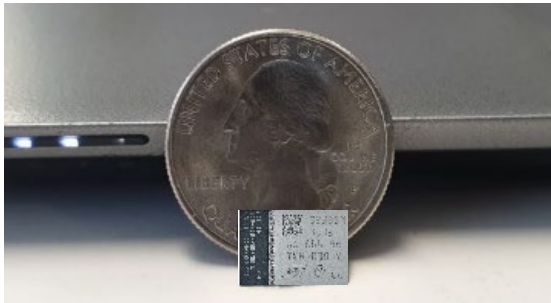
Reduce the cost

Down to 2 PCB layers

Everything inside (single cap outside)

Free of charge radio stack

Certified FCC, CE, NCC, JRF, KC, SRRC, ISED, GOST

Multi-protocols

Bluetooth®

zigbee

OPENTHREAD released by Google

+ Concurrent modes & Proprietary 2.4GHz

RPN : STM32WB5MMGH6TR

Strong feature set

Dual-core based

1MB Flash/256KB RAM

LCD, USB FS, ADC, COMP

Security

OTA (application, radio)

Discovery kit

STM32 ecosystem

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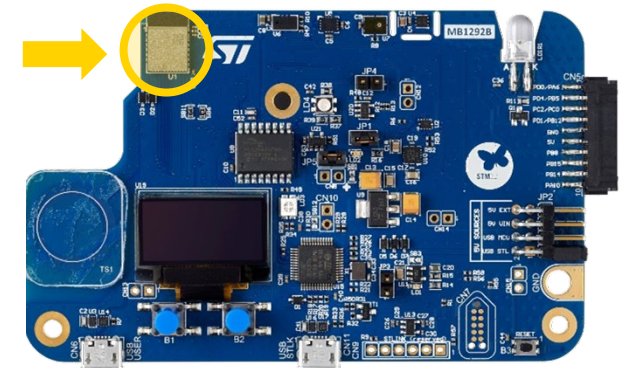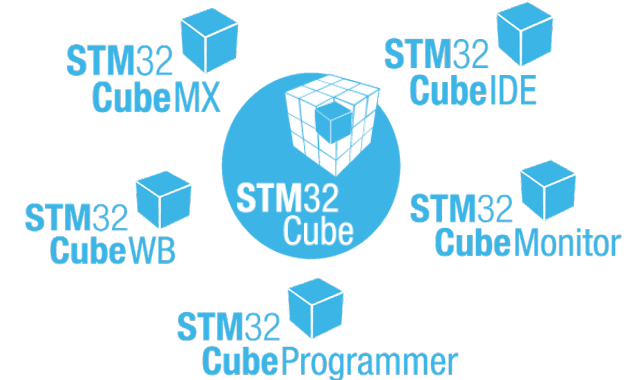
Prototyping made as easy as 1,2,3
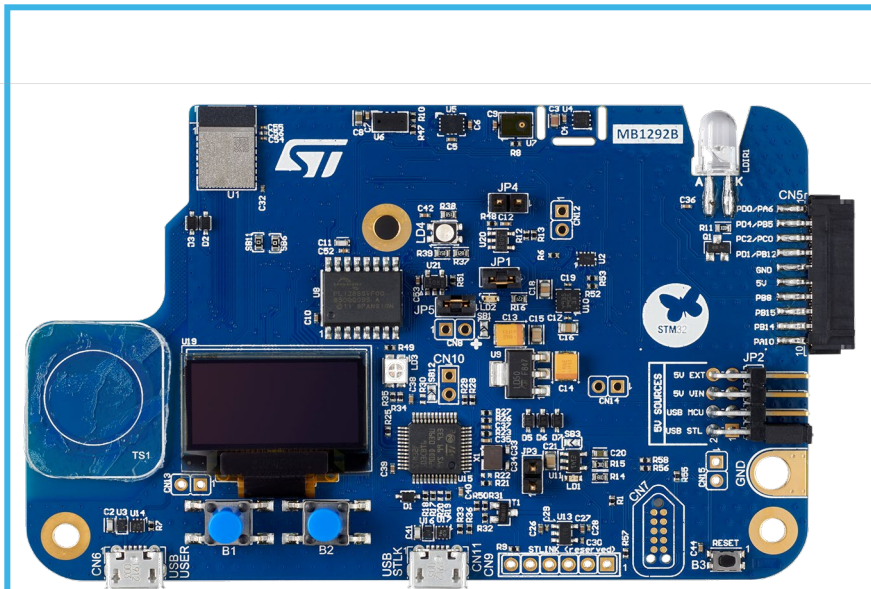
STM32WB5MM-DK*

Hardware
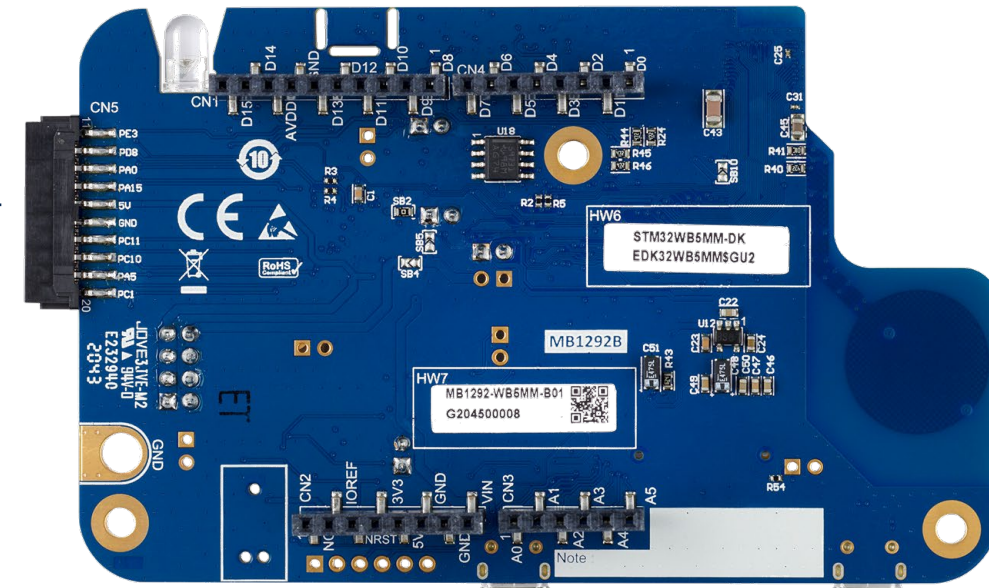**Discovery Kit**

Available in Q1/2021
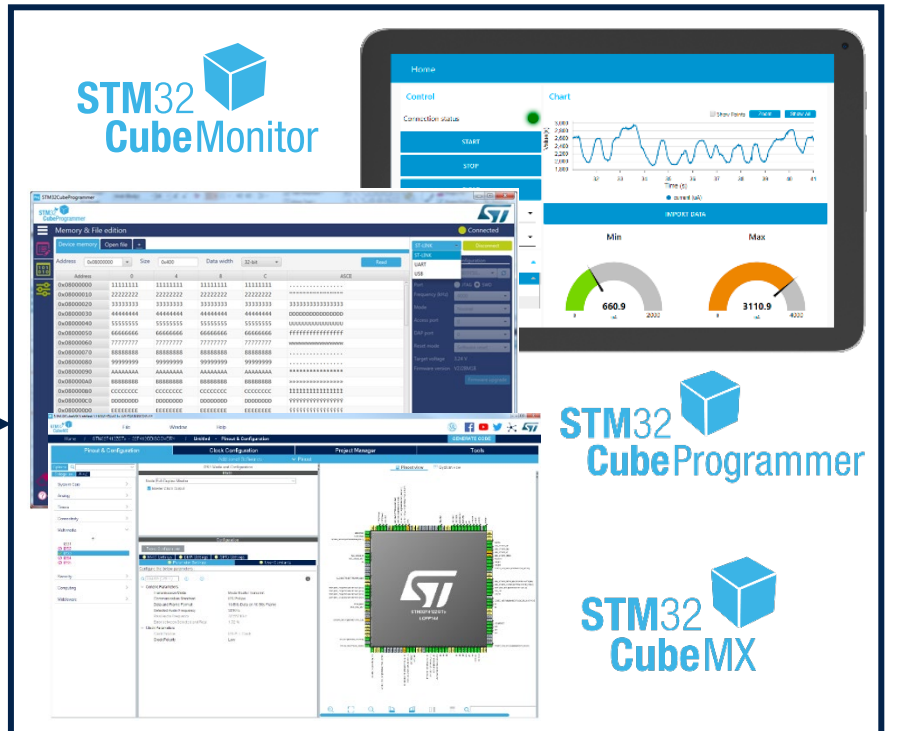
STM32WB

STM32CubeMX/STM32CubeWB/
STM32CubeProg & STM32CubeMonRF
Code generation
Power calculation

STM32WB5MM-DK

Sensors:
ToF,Temp/humidity,
3-axis motion, Mic

Module
STM32WB5MMGH6TR

Touch Sense

OLED screen
(SPI connection)

User USB

2 user buttons

STLink

multicolor LED

IR LED

STMOD+

EXT Flash (quad-SPI)

Reset button
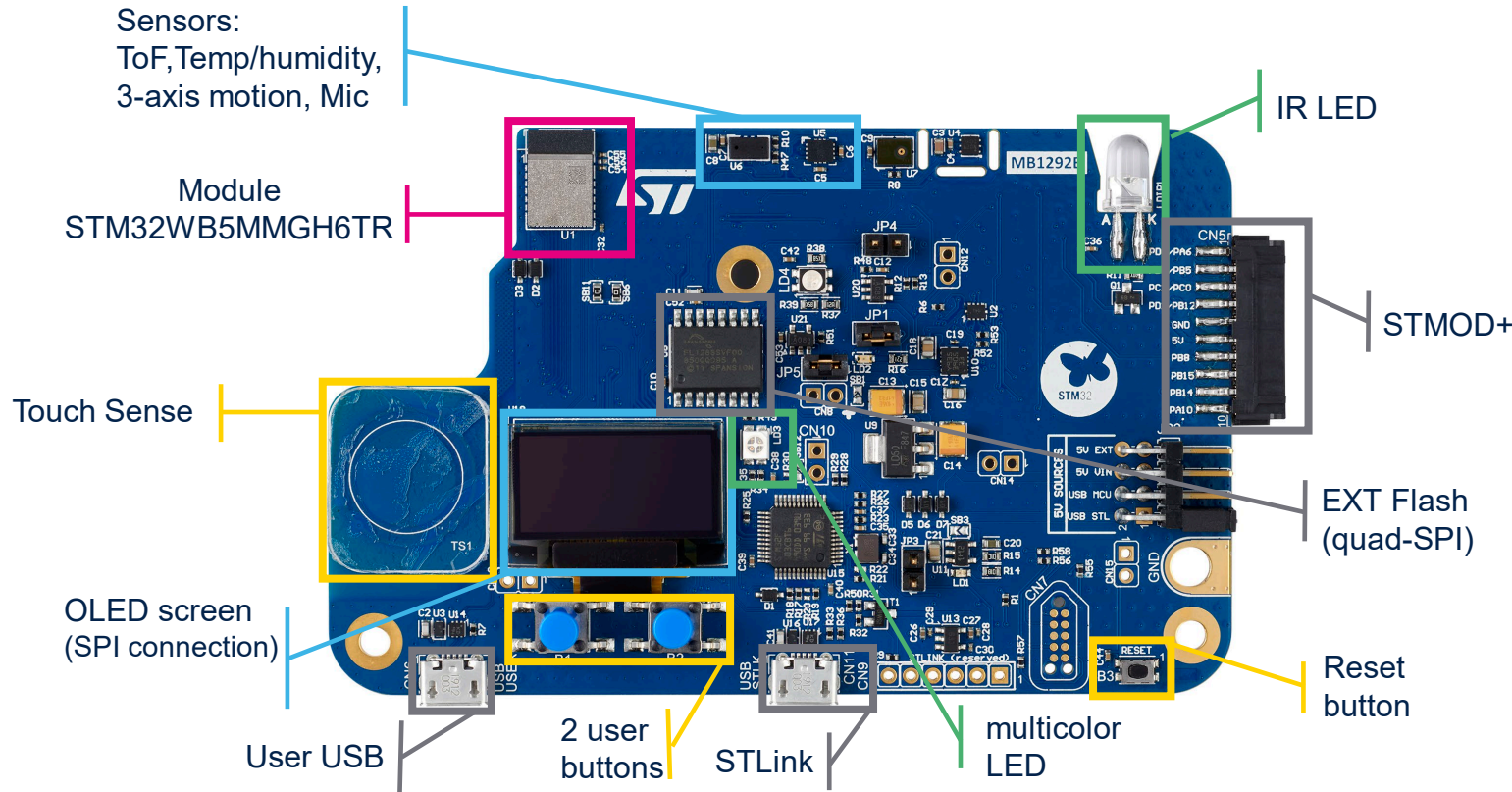
Top view
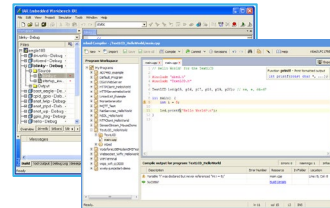
Bottom view
(ARDUINO connectors)

A complete flow, from configuration up to monitoring
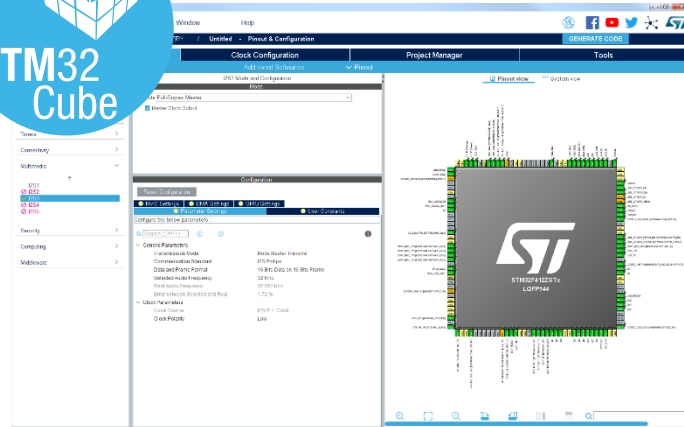
FREE IDE's
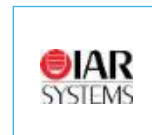
More to come after mass market launch

STM32CubeMX, GUI Builders
Configure & Generate Code

ST and Partner IDEs
Compile and Debug

STM32CubeProg/Monitor
Monitor, Program & Utilities

Releasing your creativity

f /STM32

🐦 @ST_World

⚛ community.st.com

🌐 www.st.com/STM32WB

wiki wiki.st.com/stm32mcu

🐙 github.com/STMicroelectronics

🎓 STM32WB online training

📰 STM32WB blog article

MO OC MOOC – STM32WB workshop

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Thank you

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