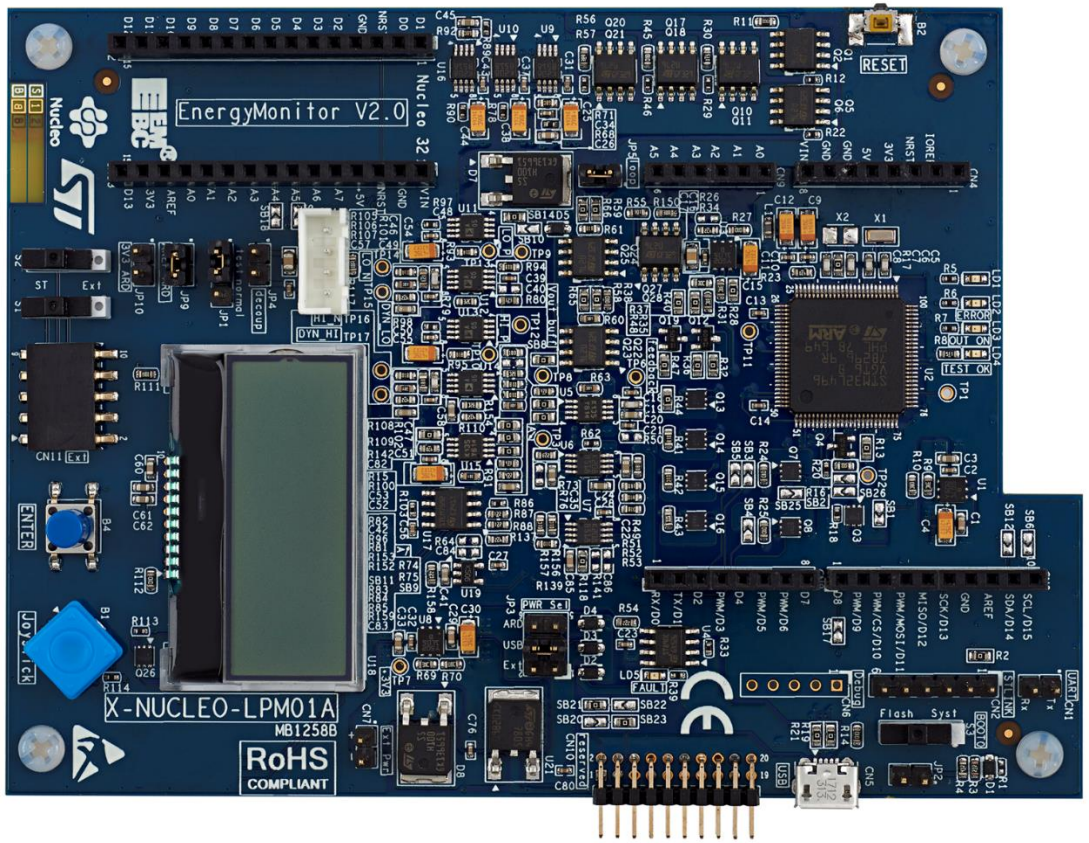

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STM32 development boards

Helping you accelerate your design

STM32

STM32 hardware evaluation tools

Easy prototyping, accurate evaluation and board design references

STM32 Nucleo boards

www.st.com/stm32nucleo

Flexible prototyping

70 references

Discovery kits

www.st.com/stm32discovery

Key feature prototyping

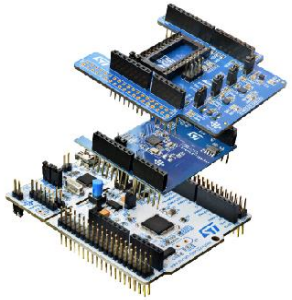
40 references

Evaluation boards

www.st.com/stm32evaltools

Full feature evaluation

25 references



Expansion boards

www.st.com/x-nucleo

Accessories

Add-on functionalities

100+ references

Move Actuate

Connect

Power Drive

Sense

Partner boards

From full evaluation to open hardware

20+ references

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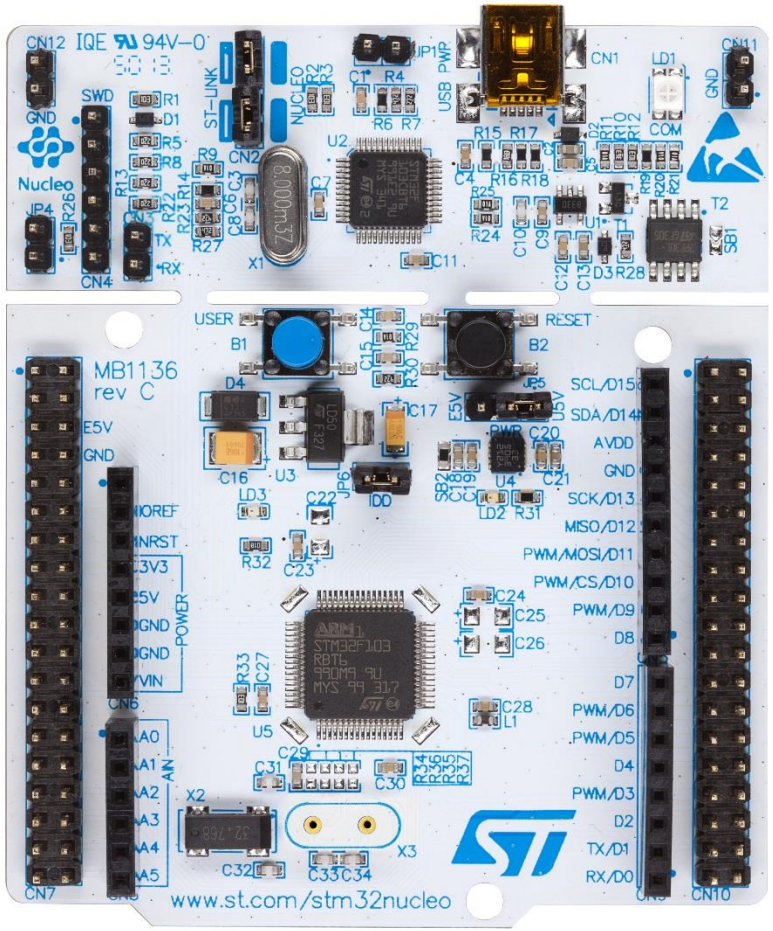
STM32 Nucleo key assets



Flexible prototyping

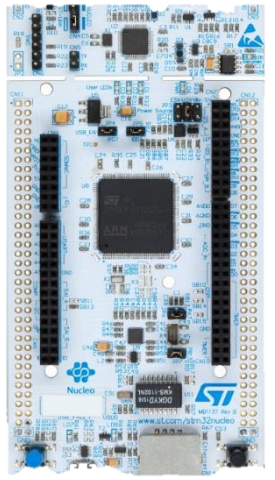
Unlimited expansion capabilities

Simply show the whole STM32 portfolio to the communities

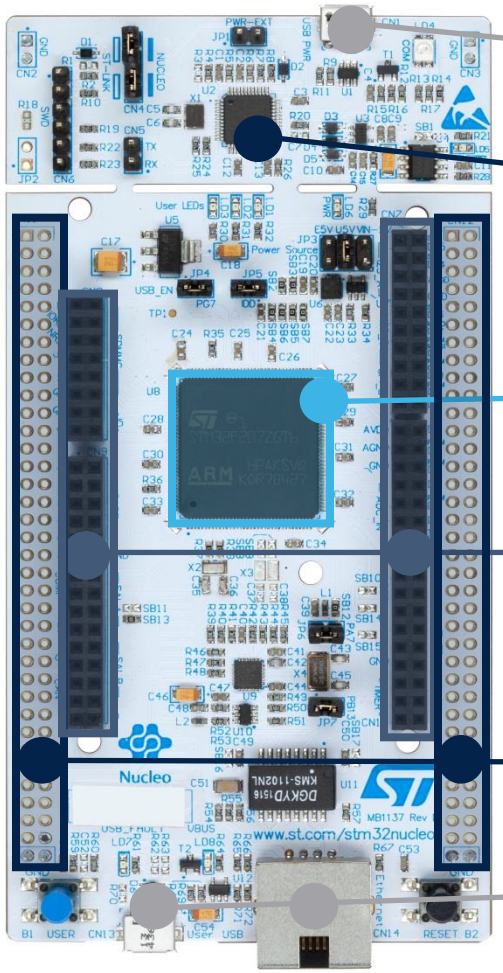
ARDUINO

STM32 Nucleo form-factors available

	Nucleo-32 32-pin MCU	Nucleo-64 64-pin MCU	Nucleo-144 144-pin MCU
Ethernet			***
USB			***
ST Zio (Uno extended)			***
Arduino Uno ST morpho		**	**
Arduino Nano	*		



STM32 Nucleo-144 overview



Flexible board power supply:
through USB or external source

Integrated STLink:
drag & drop device Flash programming

One STM32 MCU flavor with 144 pins

Arduino Uno & ST Zio connectors:
easy access to add-ons

ST morpho extension pins:
direct access to all MCU I/Os

Ethernet & USB OTG (optional)

Expanding design possibilities with a broad offer

STM32L4 Nucleo-32
NUCLEO-L412KB

Lower power
STM32L412
ULPMark-CP 447
ULPMark-PP 167

STM32H7 Nucleo-144
NUCLEO-H745ZI-Q

High performance
STM32H745 dual-core
CoreMark 3223

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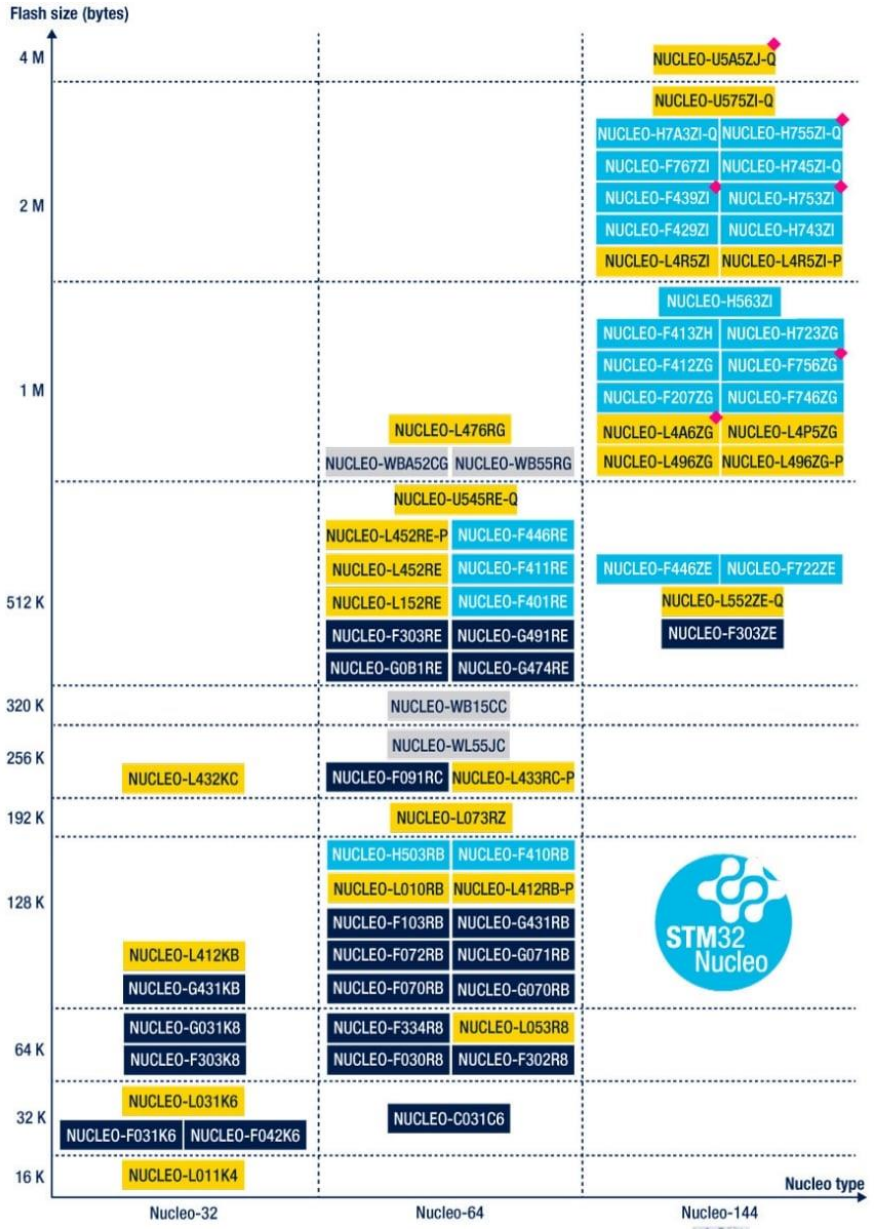
STM32 Nucleo portfolio



A broad range of

- Performance
- Peripherals
- Power
- Price

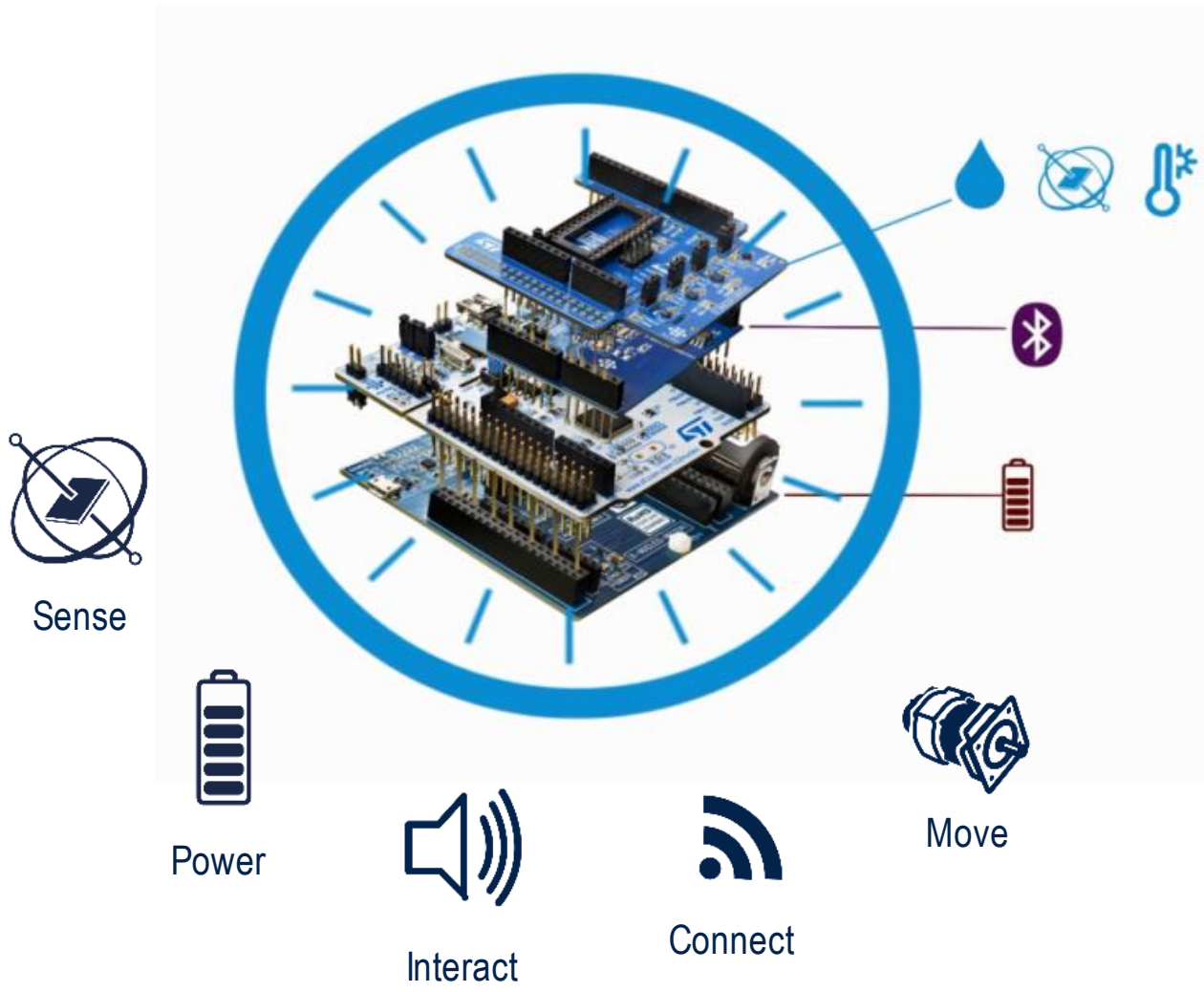
www.st.com/stm32nucleo

Legend: Mainstream Ultra-low-power High-performance Wireless

-P Corresponding to External SMPS version -Q Corresponding to Internal SMPS version

◆ HW crypto/Hash version available

Association with shields



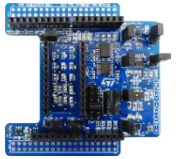
Specialized functionality add-on

Smooth integration with STM32Cube software library

Multiple IDEs (STM32CubeIDE, IAR, Arm®…)

Nucleo expansion boards from ST

Sensors and analog



X-NUCLEO-IKS02A1
MOTION AND ENVIRONMENTAL SENSORS

X-NUCLEO-IKS01A3
MOTION AND ENVIRONMENTAL SENSORS

X-Nucleo-53L8A1
PROXIMITY SENSOR

X-NUCLEO-CCA02M2
DIGITAL MICROPHONE

X-NUCLEO-AMICAM1
ANALOG MICROCHONE

Communication

X-NUCLEO-NFC07A1
DYNAMIC NFC TAG

X-NUCLEO-NFC08A1
NFC CARD READER

X-NUCLEO-PLM01A1
POWER LINE COMMUNICATION

X-NUCLEO-GNSS2A1
ASSISTED GNSS

X-NUCLEO-DRP1M1
USB TYPE-C

X-NUCLEO-SAFEA1
SECURE ELEMENT

Motor drive

X-NUCLEO-IHM15A1
DUAL BRUSH DC MOTOR DRIVER

X-NUCLEO-IHM13A1
LOW VOLTAGE BRUSHED DC MOTOR DRIVER

X-NUCLEO-IHM16M1
THREE-PHASE BRUSHLESS MOTOR DRIVER

X-NUCLEO-IHM07M1
THREE-PHASE BRUSHLESS DC MOTOR DRIVER

X-NUCLEO-IHM17M1
LOW VOLTAGE THREE-PHASE BRUSHLESS DC MOTOR DRIVER

X-NUCLEO-IHM05A1
BIPOLAR STEPPER MOTOR DRIVER

X-NUCLEO-IHM06A1
LOW VOLTAGE STEPPER MOTOR DRIVER

X-NUCLEO-IHM02A1
TWO AXIS STEPPER MOTOR DRIVER

X-NUCLEO-IHM03A1
HIGH POWER STEPPER MOTOR DRIVER

More references at:
www.st.com/x-nucleo

Translate

X-NUCLEO-IKA01A1
MULTIFUNCTIONAL EXPANSION BASED ON OPERATIONAL AMPLIFIERS

X-NUCLEO-CCA01M1
SOUND TERMINAL

X-NUCLEO-LED61A1
LED DRIVER

X-NUCLEO-GFX01M2
GRAPHICAL DISPLAY

X-NUCLEO-LPM01A
POWER PROFILER

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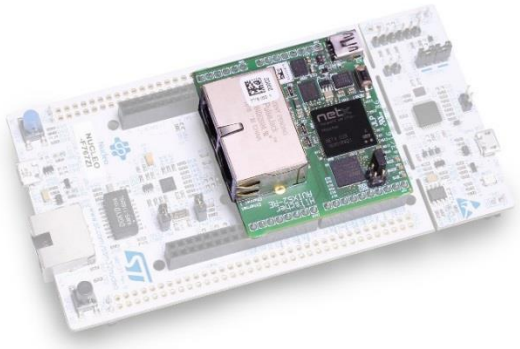
Nucleo expansion boards from 3rd parties

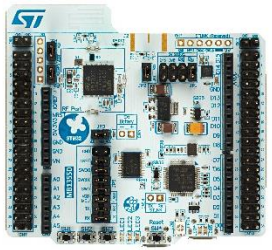


I-NUCLEO-NETX
By Hilscher

Industrial Ethernet protocols
PROFINET®, Ethernet/IP™, EtherCAT, POWERLINK, Sercos®, and Modbus®

More information at:
www.st.com/stm32evaltools

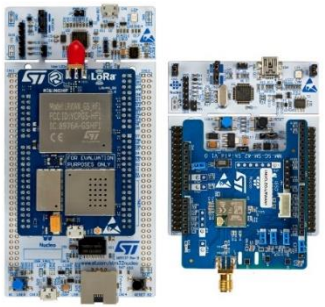
Nucleo boards for wireless communication



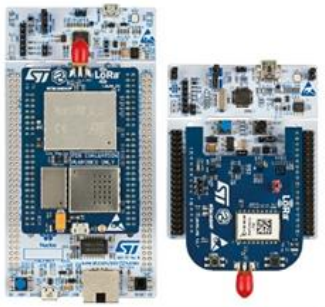
NUCLEO-WB55RG
By ST

Multiprotocol RF transceiver
Bluetooth™ 5.3 and IEEE 802.15.4-2011 compliant

LoRaWAN node & gateway
LRWAN2 frequency > 800 MHz,
LRWAN3 frequency < 500 MHz,
LoRaWAN-compliant protocol stack



P-NUCLEO-LRWAN2
By ST and USI



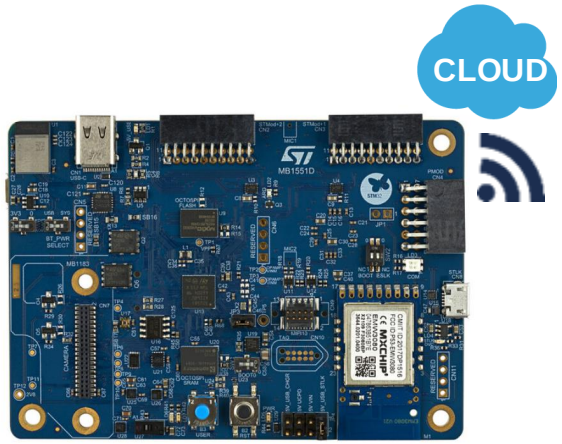
P-NUCLEO-LRWAN3
By ST and RisingHF

NUCLEO-WL55JC
By ST

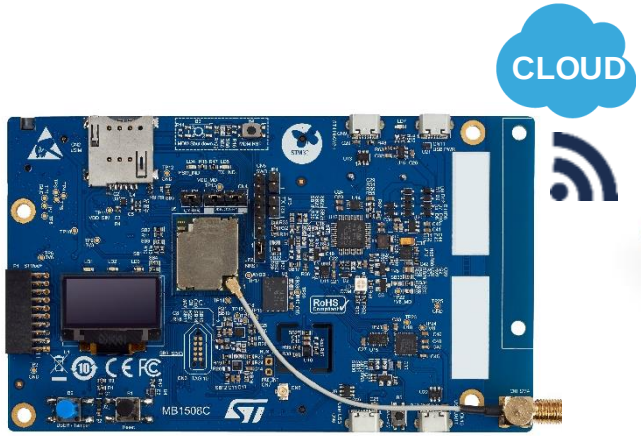
Long Range wireless node
Frequency range 150-960 MHz
LoRa, (G)FSK, (G)MSK, BPSK modulations
LoRaWAN, Sigfox-compliant protocol stack

Latest discovery kits

STM32WB5MM-DK



B-U585I-IOT02A

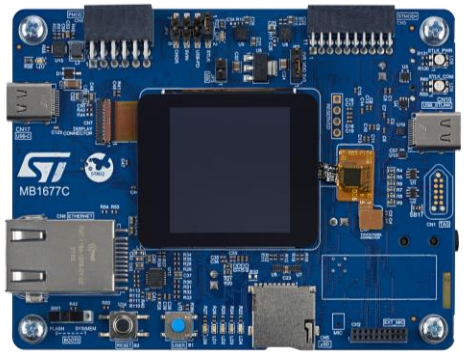


B-L462E-CELL1

B-L072Z-LRWAN1

STM32C0316-DK

B-G474E-DPOW1



STM32H573I-DK

STM32H735G-DK

STM32MP157F-DK2

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Discovery kit portfolio 1/5

	Part number	MCU	USB	Audio	Display	Connectivity	Expansion	STLink
STM32F0	STM32F0DISCOVERY	STM32F051					Proprietary	V2
	32F072BDISCOVERY	STM32F072	x				Proprietary	V2
STM32F1	STM32VLDISCOVERY	STM32F100					Proprietary	V2
STM32F3	STM32F3DISCOVERY	STM32F303	x				Proprietary	V2
	32F3348DISCOVERY	STM32F334					Proprietary	V2-1
STM32G0	STM32G0316-DISCO	STM32G031						V2-1
	STM32G071B-DISCO	STM32G071	Type-C		OLED 128x64		Proprietary	V2-1
STM32G4	B-G431B-ESC1	STM32G431						V2-1
	B-G474E-DPOW1	STM32G474	Type-C	x			Proprietary	V2-1

More information at:
www.st.com/stm32discovery

Discovery kit portfolio 2/5

	Part number	MCU	USB	Audio	Display	Connectivity	Expansion	STLink
STM32L0	32L0538DISCOVERY	STM32L053	x		E-paper 172x72		Proprietary	V2-1
STM32L1	32L152CDISCOVERY	STM32L152			LCD		Proprietary	V2
	B-L475E-IOT01A	STM32L475	OTG	Digital mics		BLE, sub-GHz, NFC, WiFi	Arduino Uno, Pmod	V2-1
STM32L4	32L496GDISCOVERY	STM32L496	OTG	x	Color LCD 240x240	Add-on (optional)	Arduino Uno, Pmod, STmod+, MikroBus, Grove	V2-1
	B-L462E-CELL1	STM32L462	x	x	OLED 128x64	LTE Cat M, NB-IoT	Proprietary, Micro-SIM, SMA antenna, STMod+, MikroBus, Grove	V2-1
STM32L4+	STM32L4P5G-DK	STM32L4P5	OTG	x	Color LCD 240x240	Add-on (optional)	Arduino Uno, STmod+, MikroBus, Grove	V3
	32L4R9IDISCOVERY	STM32L4R9	OTG	x	Color AMOLED 390x390	Add-on (optional)	Arduino Uno, Pmod, STmod+, MikroBus, Grove	V2-1
	B-L4S5I-IOT01A	STM32L4S5	OTG	Digital mics		BLE, NFC, WiFi	Arduino Uno, Pmod	V2-1
STM32L5	STM32L562E-DK	STM32L562	Type-C	x	Color LCD 240x240	BLE	Arduino Uno, Pmod, STmod+, MikroBus, Grove	V3
STM32U5	B-U585-IOT02A	STM32U585	Type-C	x		BLE, WiFi	Arduino Uno, Pmod, STmod+, MikroBus, Grove	V3
	STM32U5A9J-DK	STM32U5A9	Type-C		DSI Round LCD 2.47"			V3

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More information at:
www.st.com/stm32discovery

Discovery kit portfolio 3/5

	Part number	MCU	USB	Audio	Display	Connectivity	Expansion	STLINK
STM32F4	STM32F4DISCOVERY	STM32F407	OTG	x			Proprietary	V2
	32F411EDISCOVERY	STM32F411	OTG	x			Proprietary	V2
	32F412GDISCOVERY	STM32F412	OTG	x	Color LCD 240x240	Add-on (optional)	Arduino Uno	V2-1
	32F413HDISCOVERY	STM32F413	OTG	x	Color LCD 240x240	Wi-Fi	Arduino Uno	V2-1
	32F429IDISCOVERY	STM32F429	OTG		Color LCD QVGA	Add-on (optional)	Arduino Uno	V2
	32F469IDISCOVERY	STM32F469	OTG	x	Color LCD 800x480	Add-on (optional)	Arduino Uno	V2-1
STM32F7	32F723EDISCOVERY	STM32F723	OTG HS	x	Color LCD 240x240	Add-on (optional)	Arduino Uno, Pmod, STMod+, MikroBus, Grove	V2-1
	32F746GDISCOVERY	STM32F746	OTG HS	x	Color LCD 480x272	Ethernet	Arduino Uno	V2-1
	STM32F7508-DK	STM32F750	OTG HS	x	Color LCD 480x272	Ethernet	Arduino Uno	V2-1
	32F769IDISCOVERY	STM32F769	OTG HS	x	Color LCD 800x480	Ethernet	Arduino Uno	V2-1

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More information at:
www.st.com/stm32discovery

Discovery kit portfolio 4/5

	Part number	MCU	USB	Audio	Display	Connectivity	Expansion	STLINK
STM32H7	STM32H7B3I-DK	STM32H7B3	OTG	x	Color LCD 480x272	Add-on (optional)	Arduino Uno, STMod+, Mikrobus, Grove	V3
	STM32H735G-DK	STM32H735	OTG	x	Color LCD 480x272	Ethernet	Arduino Uno, Pmod, STMod+, Mikrobus, Grove	V3
	STM32H745I-DISCO	STM32H745	OTG	x	Color LCD 480x272	Ethernet	Arduino Uno, STMod+, Mikrobus, Grove	V3
	STM32H747I-DISCO	STM32H747	OTG HS	x	Color LCD 800x480	Ethernet	Arduino Uno, Pmod, STMod+, Mikrobus, Grove	V3
	STM32H750B-DK	STM32H750	OTG	x	Color LCD 480x272	Ethernet	Arduino Uno, STMod+, Mikrobus, Grove	V3
	STM32H573I-DK	STM32H573	Type-C	x	TFT LCD 1.54"	Ethernet	Arduino Uno, STMod+, Pmod™	V3
STM32Wx	STM32WB5MM-DK	STM32WB5MM	OTG	x	OLED 128x64	BLE v5.2, Zigbee, Thread	Arduino Uno, STMod+, Mikrobus, Grove	V2-1

Discovery kit portfolio 5/5

Part number	MCU	Description	Key features	Expansion	STLink
B-L072Z-LRWAN1	STM32L072	All-in-one low-power wireless node	LoRa, Sigfox, WMbus AAA-battery operation	Arduino Uno, ST morpho	V2-1
B-L4S5I-IOT01A	STM32L4S5	All-in-one IoT node with low-power connectivity & multiway sensing	BLE, NFC, Wi-Fi, Sensors (digital microphone, 9-axis navigation, pressure, humidity, temperature, proximity / gesture detection)	Arduino Uno, Pmod	V2-1
B-U585I-IOT02A	STM32U585	All-in-one IoT node with low-power connectivity & multiway sensing	BLE, Wi-Fi, Sensors (digital microphone, 9-axis navigation, pressure, humidity, temperature, proximity/gesture detection)	Arduino Uno, Pmod, STmod+, MikroBus, Grove	V3
B-L462E-CELL1	STM32L462	Worldwide Cellular IoT node LTE catM / NB-IoT	eSIM and MicroSIM, 3-month dataplan included	STmod+, MikroBus, Grove	V2-1

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More information at:
www.st.com/stm32app-discovery

STM32U5 discovery IoT node…

Multi-link communication, multiway sensing

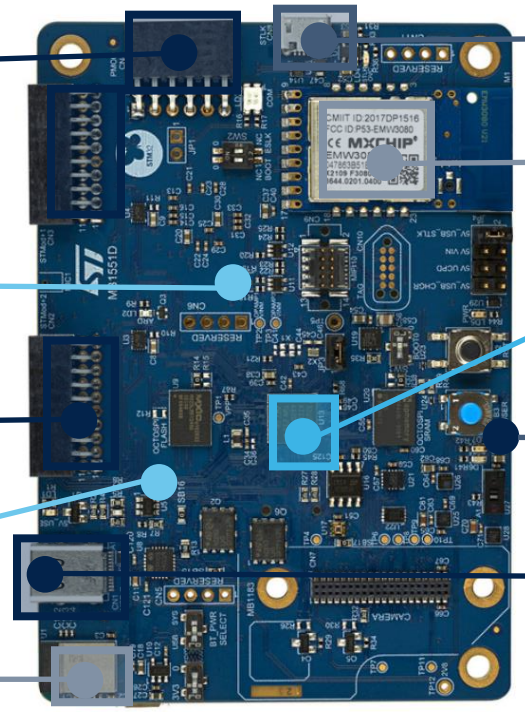
PMOD extension connector

Gyro/Accelero/Magnetometer, Proximity, Pressure, Humidity, Temperature sensors

STMOD+ extension connector

Audio mics

BLE module (WB5MM)



Integrated STLink: drag & drop Flash programming

Wi-Fi module

STM32U585 MCU

Arduino Uno extension connectors

USB Type-C connector

B-U585I-IOT02A

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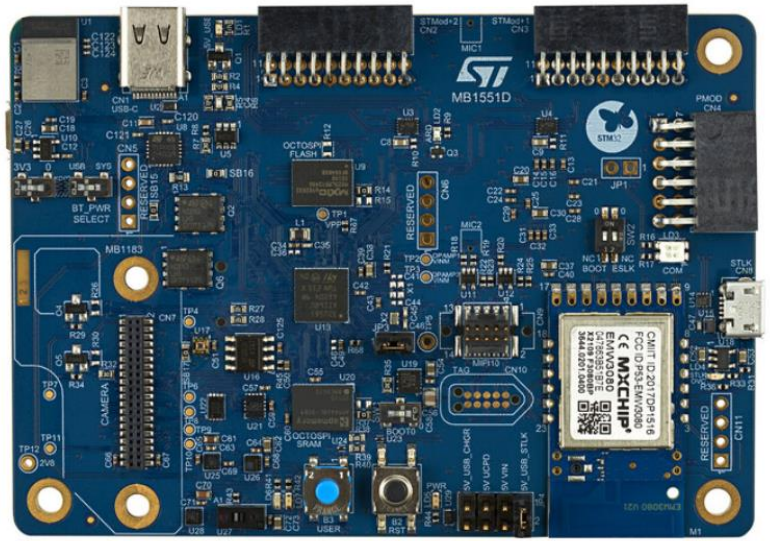
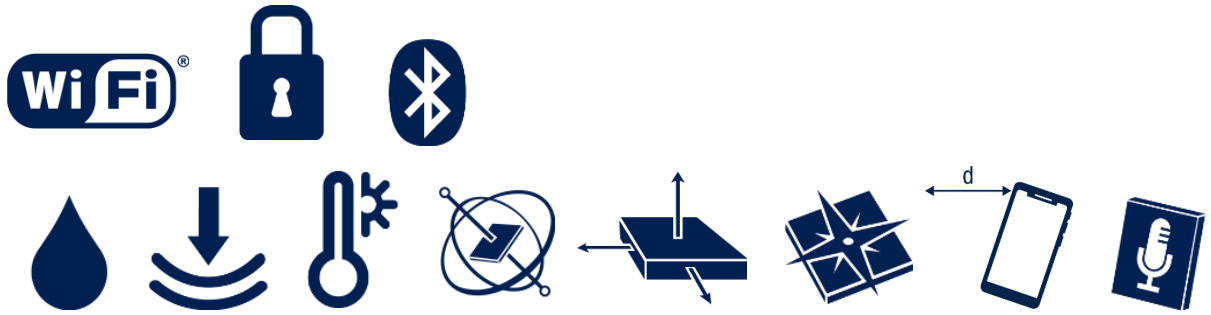
…Delivers user-friendly cloud access

- Direct connection to cloud services
- Low-power communication
- Environmental awareness: humidity, pressure, temp
- Detection hub: motion, proximity, audio
- Direct support of communities



aws

Azure

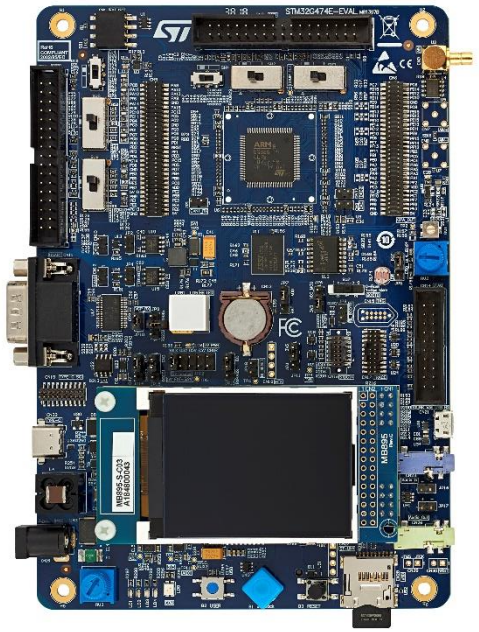


CLOUD

Cloud STM32Cube Expansion Packages

Latest evaluation boards

STM32G081B-EVAL



STM32G474E-EVAL

STM32H757I-EVAL

STM32U575I-EV

Evaluation board portfolio

Mainstream	Ultra-low-power	High-performance

Part number	MCU	Part number	MCU	Part number	MCU
STM32072B-EVAL	STM32F072	STM32L073Z-EVAL	STM32L073	STM3220G-EVAL	STM32F207
STM3210E-EVAL	STM32F103	STM32L476G-EVAL	STM32L476	STM32429I-EVAL	STM32F429
STM32303E-EVAL	STM32F303	STM32L4R9I-EVAL	STM32L4R9	STM32F769I-EVAL	STM32F769
STM32373C-EVAL	STM32F373	STM32L552E-EV	STM32L552	STM32H7B3I-EVAL	STM32H7B3
STM32G081B-EVAL	STM32G081	STM32U575I-EV	STM32U575	STM32H743I-EVAL	STM32H743
STM32G0C1E-EV	STM32G0C1			STM32H757I-EVAL	STM32H757
STM32G474E-EVAL	STM32G474				

More information at:
www.st.com/stm32evaltools

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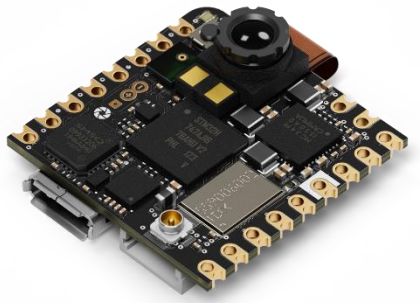
STM32 boards contribute to communities

ARDUINO

59
Boards
(full list here)
(libraries)

30
Expansion
Boards
(libraries)

Portenta H7



Nicla Vision

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Our technology starts with You

Find out more at www.st.com/stm32

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