

CYPRESS

BLUETOOTH® MESH

Industry's First Bluetooth
SIG-Qualified Mesh Solution

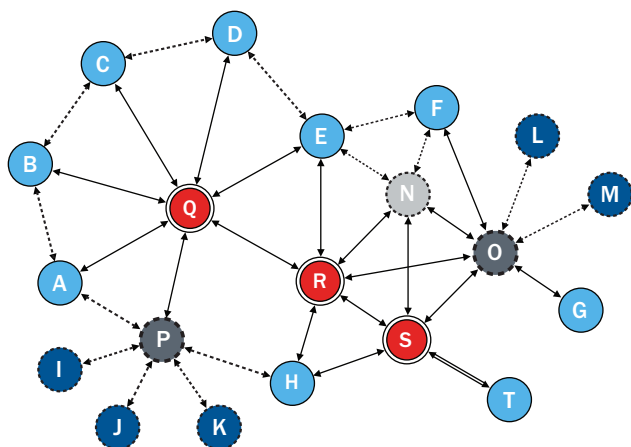
**BLUETOOTH MESH SOLUTION**

Bluetooth mesh is a low-power, wireless network that enables many-to-many (m:m) device communication for large-scale device networks. Bluetooth mesh also increases the range achievable by Bluetooth devices by hopping messages from one device to another until it reaches its destination. Applications range from building automation in an industrial environment, to consumer applications, such as home automation. Bluetooth communication is supported natively on iOS, Android, and Windows devices, which allows your smartphone to directly manage your mesh network, removing the need for external hub solutions.

To facilitate interoperability and accelerate time-to-market, the Bluetooth SIG has created a Bluetooth Mesh specification. Cypress' Bluetooth Mesh solution is the first SIG-compliant Bluetooth Mesh solution in the market.

BLUETOOTH MESH FEATURES

- m:m connectivity without the need for an external hub
- All nodes perform peer-to-peer communication via messages
- Communication is delivered through managed flood messaging
- Built-in encryption and authentication for security
- Supports up to 32,000 nodes

**BLUETOOTH MESH NODE TYPES**

Relay Node

Low Power Node

Friend Node

Proxy Node

CYPRESS MESH 1.0 SUPPORTS

- Mesh profile v1.0
- Mesh model v1.0
- Mesh device properties v1.0
- Mesh provisioning
- Mesh core layers
- Bluetooth 5.0 mesh certified
- All node types: Relay, proxy, friend, low power node (LPN)

MESH CLIENT CONTROL APPLICATIONS**TARGET APPLICATIONS**

- Sensor networks
- Building automation
- Home automation
- Industrial lighting

CYPRESS BLUETOOTH MESH SILICON DEVICES

Device family	CPU Core	BLE/BR/EDR	Flash (KB)	RAM (KB)	Tx Power	Temperature (degree C)	Software
CYW20819	96-MHz CM4	BLE/BR/EDR	256	176	4 dBm	-30 to +85, -40 to +105	ModusToolbox™
CYW20820	96-MHz CM4	BLE/BR/EDR	256	176	10 dBm	-30 to +85, -40 to +105	ModusToolbox
CYW20719	96-MHz CM4	BLE/BR/EDR	1024	512	4 dBm	-30 to +85	WICED® Studio
CYW20735	96-MHz CM4	BLE/BR	-	384	10 dBm	-30 to +85	WICED Studio
CYW20706	96-MHz CM3	BLE/BR/EDR	-	352	10 dBm	-30 to +85, -40 to +105	WICED Studio

CERTIFIED (FCC, ISED, MIC, CE) MESH MODULES

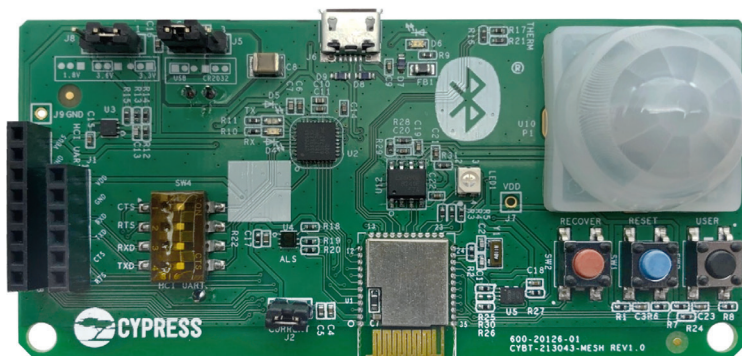
Module Type	Module MPN	Silicon device family	Module dimensions (mm x mm x mm)	Flash (KB)	Temperature (degree C)
Cost optimized	CYBT-213043-02	CYW20819	12 x 16.6 x 1.7	256	-30 to +85
	CYBT-413034-02	CYW20719	12 x 16.3 x 1.70	1024	-30 to +85
	CYBT-343026-01	CYW20706	12 x 15.5 x 1.95	512	-30 to +85
Size optimized	CYBT-423028-02	CYW20719	11 x 11 x 1.70	1024	-30 to +85
	CYBT-353027-02	CYW20706	9 x 9 x 1.75	512	-30 to +85
Extended range (XR) (1km)	CYBT-483039-02	CYW20719	12.75 x 18.59 x 1.80	1024	-30 to +85
XR and extended temperature (XT) (400m)	CYBT-343151-02	CYW20706	12 x 15.5 x 1.95	512	-40 to +105

MESH EVALUATION KIT – CYBT-213043-MESH

Four Evaluation Boards Featuring:

- Bluetooth 5.0-qualified and regulatory certified module (CYBT-213043-02) based on CYW20819
- Sensors: Thermistor, ambient light sensor, PIR motion sensor
- RGB LED and user switch
- 1MB external serial flash

ALL FOR \$119.99!



GETTING STARTED WITH BLE MESH

- Buy the CYBT-213043-MESH mesh evaluation kit
- Register on the Cypress Developer community at <https://community.cypress.com>
- Download and install ModusToolbox™ Software IDE from www.cypress.com/modustoolbox
- Download the “Getting Started with BLE Mesh Application Note” available at www.cypress.com/ble-mesh to understand the mesh architecture and how to create and test your own mesh application



GET STARTED NOW

For additional information: www.cypress.com/ble-mesh

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