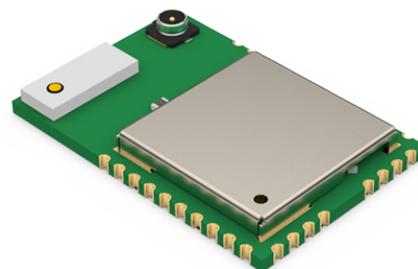


# Product Summary

## BE33

High performance, Ultra low power, Long range Bluetooth 5.2 engine

- Arm® Cortex® M4 with Bluetooth 5.2 for connectivity and performance oriented applications
- High performance
- Ultra Low power
- Long Range
- Based on Nordic NRF52 series



## Overview

BE33 is a high performance, super efficient BLE 5.2 module, targeted for applications where highly reliable wireless connection, ultra low power consumption and ease of integration are the key requirements.

BE33 modules are ideal for battery operated applications that require medium to long range connectivity. BE33 modules features a high performance integrated chip antenna with native USB 2.0 support.

## Key features

Protocol	v5.0 BLE, BLE Mesh, ANT+, Proprietary 2.4 GHz RF	Role	Broadcaster, Observer, Central and Peripheral
Processor	ARM Cortex-M4 @ 64 MHz with FPU	Form factor	21 mm x 14 mm x 2.2 mm
RAM	128 kB	Footprint	Castellations 34
ROM	512 kB	Firmware	Celium Connectivity / Open core
Crystals	32 MHz	Max. Range	80 to 400 meters (Line of sight)
Antenna	Ceramic chip, u.FL Connector		Basis PHY mode

## Applications

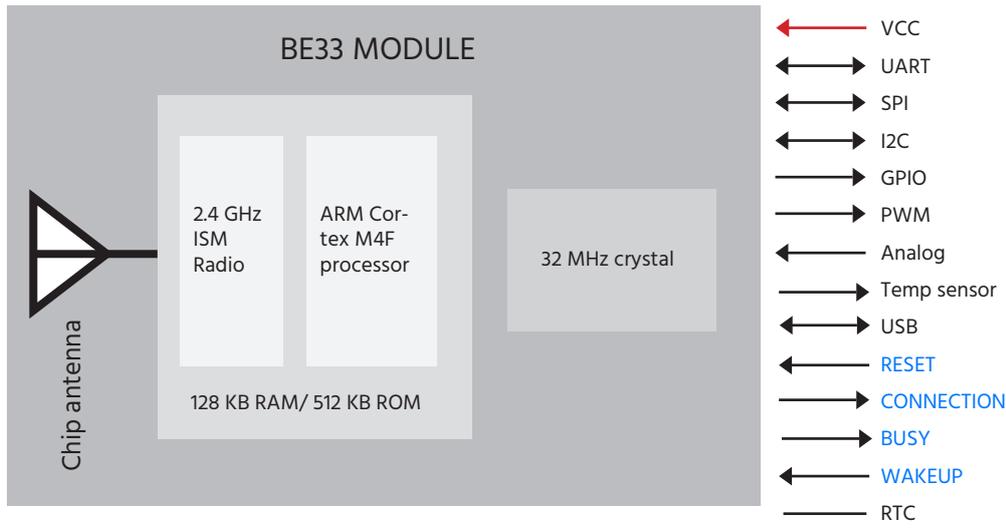
Lighting  
Low Power Sensor Networks  
Asset Tracking  
Access Control  
Beacons  
Personal Medical Devices

Climate Monitoring Systems  
Agriculture  
Gaming Control  
Smart Toys  
Sports & Fitness  
Industrial IoT



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# Block diagram



# Specifications

		<b>BE33 - X</b>	<b>BE33 - X/AT</b>
<b>INTERFACES</b>	UART (With Easy DMA)	2	•
	PWM (Channels)	4	-
	ADC (Channels)	4	-
	GPIO	18	-
	SPI (Master and Slave with Easy DMA)	3/3	-
	I2C (Master and slave)	2/2	-
	I2S	1	-
	PDM (Pulse Density Modulation)	1	-
<b>PERIPHERALS</b>	Temperature sensor	1	-
	RTC	2	-
	32 Bit timer with counter	3	-
<b>RADIO</b>	Bluetooth qualification	v5.2	v5.2
	Max transmission current @ 0 dBm (mA)	6	6
	Max receiver current @ 0 dBm (mA)	6	6
	Receiver sensitivity (dBm)	-103	-103
<b>DATARATES (OTA)</b>	125 Kbps, 250 Kbps	•	•
	1 Mbps ,2 Mbps	•	•
<b>MISC</b>	NFC A-Tag	-	-
	Max simultaneous connections	20	12
	Max range (meters)	80-400	80-400

### 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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