



# WIRELESS MODULES

Line Card and Selection Guide



## Fast, Reliable Wi-Fi and Bluetooth Modules for Connected Devices, Vehicles and Equipment

From agricultural machinery and medical devices, to the pumps, motors and other equipment that bring automation to the factory floor and make the Industrial Internet of Things possible – TTI stocks a broad range of Wi-Fi and Bluetooth components that form the backbone of the connected world.



*The RF module lines offered by our suppliers are expanding rapidly to meet technology advancements and market trends. Contact a TTI Specialist for the latest assortment of available wireless components.*

Reach your local sales team at 1.800.CALL.TTI

# Combo RF Modules

MFG	Part #	Order #	Chipset	MCU	WLAN	Bluetooth	Host I/F	Size	Certified	2.4GHz/5GHz	Antenna
Murata	Type 1MW	LBEE5HY1MW	Cypress CYW43455	No	802.11a/b/g/n/ac	5.0 BR/EDR/LE	SDIO	7.9 x 7.3 x 1.1mm	Yes	2.4GHz/5GHz	External
Murata	Type 1LV	LBEE59B1LV	Cypress CYW43012	No	802.11a/b/g/n	5.0 BR/EDR/LE 2MPHY	SDIO	10.0 x 7.2 x 1.4mm	No	2.4GHz/5GHz	External
Panasonic	PAN9026	ENW-F9201A1EF	Marvell 88W8977	Marvell SoC	802.11a/b/g/n	5.0 BR/EDR/LE	SDIO	17.5 x 10.0 x 2.6mm	Yes(US)	2.4GHz/5GHz	Chip or External
Panasonic	PAN9026	ENW-F9202A1EF	Marvell 88W8977	Marvell SoC	802.11a/b/g/n	5.0 BR/EDR/LE	SDIO	17.5 x 10.0 x 2.6mm	Yes(EU)	2.4GHz/5GHz	Chip or External
Panasonic	PAN9026	ENW-F9203A1EF	Marvell 88W8977	Marvell SoC	802.11a/b/g/n	5.0 BR/EDR/LE	SDIO	17.5 x 10.0 x 2.6mm	Yes(CA)	2.4GHz/5GHz	Chip or External
Panasonic	PAN9026	ENW-F9208A1EF	Marvell 88W8977	Marvell SoC	802.11a/b/g/n	5.0 BR/EDR/LE	SDIO	17.5 x 10.0 x 2.6mm	Yes(US, CA, EU)	2.4GHz/5GHz	Chip or External
Murata	Type 1LD	LBEE5PA1LD	Cypress CYW43438	STM32 ARM Cortex-M4F	802.11b/g/n	4.2 BR/EDR/LE		8.9 x 7.8 x 1.2 mm	Yes	2.4GHz	External
Murata	Type 1DX	LBEE5KL1DX	Cypress CYW4343W	No	802.11b/g/n	4.2 BR/EDR/LE	SDIO	6.95 x 5.15 x 1.1 mm	Yes	2.4GHz	External
Murata	Type 1MD-imp004m	LBEE5ZZ1MD	Cypress CYW43438	STM32 ARM Cortex-M4	802.11b/g/n	4.1 LE		21.0 x 17.5 x 2.3mm	Yes	2.4GHz	PCB
Murata	Type 1PJ*	LBEE5ZZ1PJ	Qualcomm QCA9377-3	No	802.11a/b/g/n/ac	5.0 BR/EDR/LE	SDIO	7.2 x 7.4 x 1.25mm	Yes	2.4GHz/5GHz	External
Murata	Type 1CQ*	LBEE5U91CQ	Qualcomm QCA6174A	No	802.11a/b/g/n/ac 2x2 MIMO	4.2 BR/EDR/LE	PCIe	11.0 x 8.8 x 1.15mm	No	2.4GHz/5GHz	Dual External
Murata	Type WT*	LBEP5CLWTC-631	TI WiLink8 WL1831	No	802.11b/g/n	4.1 BR/EDR/LE	SDIO	9.9 x 8.8 x 1.3mm	No	2.4GHz	External
Murata	Type WM*	LBE5CLWMC-633	TI WiLink8 WL1833	No	802.11a/b/g/n	4.1 BR/EDR/LE	SDIO	9.9 x 8.8 x 1.3mm	No	2.4GHz/5GHz	External

# 900MHz/2400MHz Modules

MFG	Part #	Frequency	Freq Hopping Spread Spectrum	Modulation	Number of RF Channels	Host I/F	Antenna	Module Package
Murata	DNT90C/CA	900MHz	Yes	FSK	25, 26 or 52	SPI	Chip	SMT
Murata	DNT90P/PA	900MHz	Yes	FSK	25, 26 or 52	SPI	Chip	Thru-hole
Murata	DNT24C/CA	2400MHz	Yes	FSK	15 or 24	SPI	Chip	SMT
Murata	DNT24P/PA	2400MHz	Yes	FSK	15 or 24	SPI	Chip	Thru-hole

# LoRaWAN RF Modules

MFG	Part #	Order #	Chipset	MCU	Peripheral I/F	Host I/F	Size	Frequency	Antenna
Murata	Type ABZ*	CMWX1ZZABZ-078/091/093	Semtech SX1276	STM32 ARM Cortex-M0	UART/SPI/I2C/GPIOs/ADC	UART/I2C/I2C	12.5 x 11.6 x 1.76mm	868/915 MHz	External

# Bluetooth RF Modules

MFG	Part #	Order #	Chipset	MCU	Bluetooth	Host I/F	Size	Certified	Antenna
Panasonic	PAN1780	ENW-89854A1KF	Nordic nRF52840	ARM Cortex-M4F	5.0 LE 2M LD	UART/SPI	15.6 x 8.7 x 2.1mm	Yes	Chip
Panasonic	PAN1762	ENW-89853A1KF	Toshiba TX35680	ARM Cortex-M0	5.0 LE 2 LD	UART/SPI	15.6 x 8.7 x 1.9mm	Yes	Chip
Murata	MBN52832	WSM-BL241-ADA-008	Nordic nRF52832	ARM Cortex-M4	5.0 LE		7.4 x 7.0 x 0.9mm	Yes	Chip or External
Murata	Type 1BX*	LBMA15Q1BX	Qualcomm CSR8811	No	4.2 BR/EDR/LE	UART	5.0 x 4.5 x 1.0mm	No	External
Panasonic	PAN1326C2	ENW-89823A5KF	TI CC256x	No	4.2 BR/LE	UART	9.5 x 9.0 x 1.8mm	Yes	Chip
Murata	Type ZY	LBCA2HNZYZ	Dialog DA14580	ARM Cortex-M0	4.2 LE		7.4 x 7.0 x 1.0mm	Yes	PCB
Panasonic	PAN4620	ENW-C9B01A1EF	NXP KW41Z	ARM Cortex-M0	4.2 LE	UART/SPI	15.6 x 8.7 x 1.9mm	Yes	Chip
Panasonic	PAN1760A	ENW-89847A3KF	Toshiba TC35678	ARM Cortex-M0	4.2 LE	UART/SPI	15.6 x 8.7 x 1.8mm	Yes	Chip
Murata	Type ZF	LBCA2BZZFZ	Dialog DA14580	ARM Cortex-M0	4.1 LE		5.4 x 4.4 x 1.0mm	Yes	External
Murata	Type 1GR*	LBCA1CW1GR	Cypress CYW20736	ARM Cortex-M3	4.1 LE		9.0 x 7.0 x 1.2mm	Yes	PCB

# Wi-Fi Modules

MFG	Part #	Order #	Chipset	MCU	WLAN	Host I/F	Size	Certified	2.4GHz/5GHz	Antenna
Murata	Type 1GC	LBWA1UZ1GC	Cypress CYW43907	ARM Cortex-R4	802.11a/b/g/n		10 x 10 x 1.2mm	Yes	2.4GHz/5GHz	External
Murata	Type 1GC-imp005	LBWA1UZ1GC-901	Cypress CYW43907	ARM Cortex-R4	802.11a/b/g/n		10.0 x 10.0 x 1.2 mm	Yes	2.4GHz/5GHz	External
Murata	Type 1FX	LBWA1KL1FX	Cypress CYW43364	No	802.11b/g/n	SDIO	6.95 x 5.15 x 1.1mm	Yes	2.4GHz	External
Panasonic	PAN9420	ENW-49C01A3KF	Marvell 88MW300	Marvell SoC	802.11b/g/n		29.0 x 13.5 x 2.66mm	Yes	2.4GHz	Chip or External
Murata	Type 1CD-imp003	LBWA1ZV1CD	Cypress CYW43362	STM32 ARM Cortex-M4F	802.11b/g/n		10.0 x 7.9 x 1.25mm	Yes	2.4GHz	External
Murata	Type 1JQ*	LBWA1ZZ1JQ	TI (CC3200)	ARM Cortex-M4	802.11b/g/n		13.2 x 21.45 x 2.45mm	Yes	2.4GHz	PCB
Murata	Type 1HD*	LBWA1ZZ1HD	Cypress CYW43438	STM32 ARM Cortex-M4F	802.11b/g/n		21.0 x 17.5 x 2.3 mm	Yes	2.4GHz	PCB
Murata	Type 1JP*	LBWA1ZZ1JP	TI (CC3100)	No	802.11b/g/n	UART/SPI	13.2 x 21.45 x 2.45 mm	Yes	2.4GHz	PCB
Murata	Type XR*	LBEP5CLXRC	TI (WL1801)	No	802.11b/g/n	SDIO	8.8 x 9.9 x 1.3 mm	No	2.4GHz	External

\* Custom - Special conditions required to pursue Note: Some suppliers require a customer NDA for technical documents



# Why Buy from the Specialist in Electronic Component Distribution?

Founded in 1971, TTI has steadily grown to become the world's leading interconnect, passive, electromechanical and discrete component distributor in the industry. The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialization, customer-driven service, and proprietary supply chain solutions.



## Knowledgeable Product Experts

Specialization allows TTI product managers to provide much better product insight to support your manufacturing from design through production. TTI Specialists' commitment to our customers is key to our continued success.



## Broader and Deeper Inventories

TTI maintains extensive component inventories, stocking more than 500,000 part numbers in North America and over 850,000 globally – that's more interconnect, passive, electromechanical and discrete inventory available than from any other source.



## AIM - Advanced Inventory Management Platform

TTI's proprietary supply chain system is specifically designed for managing IP&E products and partnerships with premier manufacturers. This allows us to provide the BOM coverage necessary to deploy comprehensive solutions that reduce total cost of ownership and mitigate line down risk.

## Quality and Reliability

TTI is the first distributor to have all global warehouse locations ISO registered and currently are certified to ISO 9001 with AS9100C and ISO 14001 in North America, ISO 9001, EN 9100, ISO 14001 and EN 9120 in TTI Europe and ISO 9001 in TTI Asia.

**Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – call your local TTI Specialists at 1.800.CALL.TTI and discover why.**



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