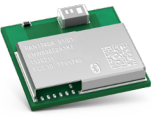
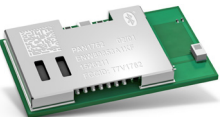
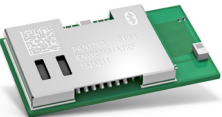



WIRELESS CONNECTIVITY

Product Leaflet

	Bluetooth® Low Energy		Bluetooth® LE & IEEE® 802.15.4	
				
SERIES	PAN1740A	PAN1762	PAN1780	PAN4620
STATUS	Mass Production	Mass Production	Pre-Production	Mass Production
PART NUMBER	ENW89852A1KF	ENW89853A1KF	Orderable January 2020	ENWC9B01A1EF
RF CATEGORY	Bluetooth® 5.0	Bluetooth® 5.0	Bluetooth® 5.0, IEEE® 802.15.4 & NFC-A	Bluetooth® Low Energy 4.2 & IEEE® 802.15.4
SOFTWARE & DRIVER	SDK by Dialog	SDK by Toshiba	SDK by Nordic	SDK by NXP
INTEGRATED CIRCUIT	DA14585	TC35680	nRF52840	KW41Z
SIZE [mm]	9.0 x 9.5 x 1.8	15.6 x 8.7 x 1.9	15.6 x 8.7 x 2.1	15.6 x 8.7 x 1.9
RX SENSITIVITY [dBm]	-93	-95 @ 1Mb/s -105 @ 125kb/s	-95 @ 1Mb/s -103 @ 125kb/s	Bluetooth® LE: -95 @ 1Mb/s 802.15.4: -100 @ 250kb/s
TX POWER (MAX.) [dBm]	+0	+8	+8	+3.5
POWER SUPPLY [V]	2.2 to 3.3	1.9 to 3.6	1.7 to 5.5	1.8 to 4.2
CURRENT CONSUMPTION	Tx: 4.9mA @0dBm Rx: 4.9mA	Tx: 5.2mA @0dBm Rx: 5.1mA	Tx: 4.8mA @0dBm Rx: 4.6mA	Tx: 7.6mA Rx: 8.4mA
SLEEP MODE CURRENT	Sleep Mode: <1µA	Deep Sleep Mode: 50nA	Off Mode: 0.4µA Wake-on-RTC: 1.5µA	Low Power Mode: 182nA
INTERFACES	GPIO, UART, SPI+, I2C, ADC, 3-axis QD	GPIO, UART, SPI, I2C, ADC, PWM, Wake-Up Inputs	GPIO, UART, QSPI, I2C, ADC, PWM, NFC-A, USB2.0	UART, SPI, I2C, ADC & DAC, TSI
MICROCONTROLLER AND MEMORY	ARM® Cortex®-M0 96kB SRAM, 64kB OTP	ARM® Cortex®-M0 51kB RAM, 128kB Flash BT Stack in ROM	ARM® Cortex®-M4F 256kB RAM, 1MB Flash	ARM® Cortex®-M0+ 128kB SRAM, 512kB Flash
OPERATING TEMP. [°C]	-40 to +85	-40 to +85	-40 to +85	-40 to +85
EVALUATION KIT	ENW89852AXKF (Dongle) ENW89852AWKF (Dongle Kit)	ENW89853AXKF (Dongle) ENW89853AWKF (Dongle Kit)	ENW89854AXKF (Dongle) ENW89854AWKF (Dongle Kit)	ENWC9B01A0EF (Daughter Board)

Panasonic Wireless Connectivity solutions encompass a wide range of technologies, with a focus on helping design engineers increase their product's speed-to-market.

The product portfolio covers all of today's latest communication protocols with ready-to-use modules for Bluetooth® Low Energy and Classic. Panasonic offers Bluetooth® Low Energy in combination with all important short range RF technologies: Wi-Fi® (2.4GHz & 5GHz), IEEE® 802.15.4 and NFC-A.

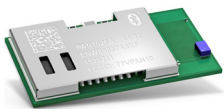



Engineered with design simplicity in mind, Panasonic's Wireless Solutions allow design engineers to quickly extend wireless communication into their feature set.

Status of engineering sample (ES) are expected as of the time of leaflet production. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth® SIG, Inc. and any use of such marks by Panasonic is under license. Other trademarks and trade names are those of their respective owners.

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<http://eu.industrial.panasonic.com>

WIRELESS CONNECTIVITY

Product Leaflet

	Bluetooth® Dual Mode		Wi-Fi® & Bluetooth® LE	Wi-Fi®
				
SERIES	PAN1026A	PAN1326C2	PAN9026	PAN9420
STATUS	Mass Production	Mass Production	Mass Production	Mass Production
PART NUMBER	ENW89837A5KF	ENW89823A5KF	ENWF9202A1EF (EU) ENWF9201A1EF (US) ENWF9203A1EF (CA) ENWF9208A1EF (Multi-region)	ENW49C02A6KF (EU) ENW49C01A6KF (US/CA)
RF CATEGORY	Bluetooth® 4.2 Dual Mode (BR, Bluetooth® LE)	Bluetooth® 4.2 Dual Mode (BR, EDR, Bluetooth® LE)	Wi-Fi® Radio 2.4 GHz & 5.0 GHz 802.11 a/b/g/n & Bluetooth® 5.0 (BR, EDR, LE)	Wi-Fi® Embedded 802.11 b/g/n
SOFTWARE & DRIVER	HCI (SPP & GATT) SDK by Toshiba	HCI Init Script by TI	HCI Linux Drivers by Marvell	AT Command by Panasonic
INTEGRATED CIRCUIT	TC35661-551	CC2564C	88W8977	88MW300
SIZE [mm]	15.6 x 8.7 x 1.9	9.0 x 9.5 x 1.8	17.5 x 10.0 x 2.6	29.0 x 13.5 x 2.66
RX SENSITIVITY [dBm]	-89	-90	-98 @ 1M-DSSS	-97 @ 1M-DSSS
TX POWER (MAX.) [dBm]	+4	+8	+17 @ IEEE 802.11b	+16 @ IEEE 802.11b
POWER SUPPLY [V]	2.8 to 3.6	1.7 to 4.8	1.8 to 3.3	3.0 to 3.6
CURRENT CONSUMPTION	ACL, DH1: 46mA	Tx: 40mA @ 8dBm Rx: 20mA	Tx: 400mA @ 11Mb/s Rx: 70mA @ 11Mb/s	Tx: 310mA @ 11Mb/s Rx: 75mA @ 11Mb/s
SLEEP MODE CURRENT	Sleep Mode: <2mA	Sleep Mode: 135 µA	Power Down Mode: 150µA	Power Down Mode: <1mA
INTERFACES	GPIO, UART	GPIO, UART, PCM	SDIO 3.0, HS UART, PCM	2x UART
MICROCONTROLLER AND MEMORY				2MB Flash for Web Content
OPERATING TEMP. [°C]	-40 to +85	-40 to +85	-30 to +85	-40 to +85
EVALUATION KIT	ENW89837AXKF (Dongle) ENW89837AUKF (Dongle Kit)	ENW89819AYKF (EMK)	ENWF9201AYEF (Dongle Kit) ENWF9201AXEF (i.MX)	ENW49C01AYKF (EMK) ENW49C01AXKF (Arduino Shield)

Applications



Design and specification are subject to change without notice.

- > Ask Panasonic for technical specification before purchase and/or use.
- > If there is any doubt regarding the safety of this product, kindly inform Panasonic immediately for technical consultation.
- > Qualification of all products: CE, FCC, IC, Bluetooth® QDID if applicable.
- > Different software/profile options available.

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