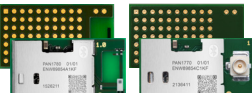
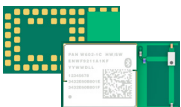
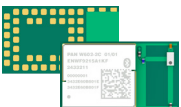
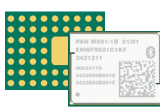
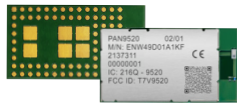


Wireless Connectivity | Product Leaflet

SERIES	Bluetooth® LE & IEEE® 802.15.4					Bluetooth® Dual Mode	Bluetooth® Low Energy
							
	PAN B611-1	PAN1783(A)	PAN1780 / PAN1770	PAN1782	PAN1781	PAN13x6C/2	PAN1740A
	Bluetooth® 6.0, IEEE® 802.15.4	Bluetooth® 5.4, IEEE® 802.15.4 & NFC-A	Bluetooth® 5.3, IEEE® 802.15.4 & NFC-A	Bluetooth® 5.3, IEEE® 802.15.4 & NFC-A	Bluetooth® 5.3, IEEE® 802.15.4	Bluetooth® 5.1 Dual Mode (BR, EDR, Bluetooth® LE)	Bluetooth® 5.0
	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Nordic nRF54L15	Nordic nRF5340	Nordic nRF52840	Nordic nRF52833	Nordic nRF52820	TI CC2564C	Renesas DA14585
	ARM® Cortex®-M33 1.5MB Flash, 256kB RAM Opt: add 4MB Flash memory	Dual ARM® Cortex®-M33 App: 1MB Flash, 512kB RAM, Network: 256kB Flash, 64kB RAM	ARM® Cortex®-M4F 1MB Flash, 256kB RAM	ARM® Cortex®-M4 512kB Flash, 128kB RAM	ARM® Cortex®-M4 256kB Flash, 32kB RAM	-	ARM® Cortex®-M0 64kB OTP, 96kB SRAM
	nRF Connect SDK	nRF Connect SDK	nRF Connect SDK / AT: nBlue™	nRF Connect SDK	nRF Connect SDK	HCI	SmartSnippets™ Studio
	B611-1C: Integrated chip B611-1B: Terminal & FPC (via Bottom Pad)	PAN1783: Integrated chip PAN1783A: Terminal (via Bottom Pad)	PAN1780: Integrated chip PAN1770: Terminal (via U.FL)	Integrated chip	Integrated chip	Integrated chip	Integrated chip
	CE RED, FCC, ISCED, MIC*	CE RED, FCC, ISCED	CERED, FCC, ISCED, MIC, KCC, RCM, SRRC PAN1770/80AT: CE RED, FCC, ISCED	CE RED, FCC, ISCED	CE RED, FCC, ISCED, MIC, KCC, RCM, SRRC	CE RED, FCC, ISCED	CE RED, FCC, ISCED
RF CATEGORY							
FREQUENCY [GHz]							
INTEGRATED CIRCUIT							
MICROCONTROLLERS AND MEMORY							
SOFTWARE & DRIVERS							
CERTIFIED ANTENNA							
REGULATORY CERTIFICATIONS							
SIZE [mm]							
Rx SENSITIVITY [dBm]							
Tx POWER (MAX.) [dBm]							
POWER SUPPLY [V]							
CURRENT CONSUMPTION							
SLEEP MODE CURRENT							
INTERFACES							
OPERATING TEMP. [°C]							
PART NUMBER							
EVALUATION KIT							
STATUS							

*Planned

Wireless Connectivity | Product Leaflet

	Wi-Fi® & Bluetooth® LE					Wi-Fi®
						
SERIES	PAN9028	PAN W602-1	PAN W602-2	PAN9019(A)	PAN W601-1	PAN9520
RF CATEGORY	Wi-Fi® 5 (802.11 a/b/g/n/ac) & Bluetooth® 5.2 (BR, EDR, LE)	Wi-Fi® 6 (802.11 (a)/b/g/n/ax) & Bluetooth® 5.4 (LE)	Wi-Fi® 6 (802.11 (a)/b/g/n/ax) & Bluetooth® 5.4 (LE)	Wi-Fi® 6 (802.11 a/b/g/n/ac/ax) & Bluetooth® 5.4 (BR, EDR, LE) (& IEEE® 802.15.4)	Wi-Fi® 6E (802.11 a/b/g/n/ac/ax) & Bluetooth® 5.4 (BR, EDR, LE)	Wi-Fi® 4 (802.11 b/g/n)
FREQUENCY [GHz]	2.4 & 5	2.4	2.4 & 5 (20 MHz bandwidth)	2.4 & 5 (80 MHz bandwidth)	2.4, 5 & 6	2.4
INTEGRATED CIRCUIT	NXP 88W8987	TI CC3301	TI CC3351	NXP IW611 (PAN9019) / IW612 (PAN9019A)	Synaptics SYN43711	Espressif ESP32-S2
HOST MODE	Hosted	Hosted	Hosted	Hosted	Hosted	Hosted or Embedded
MICROCONTROLLERS AND MEMORY	-	-	-	-	-	Xtensa® 32-bit LX7 320 kB SRAM, 128 kB ROM Opt: QSPI Flash and PSRAM
SOFTWARE & DRIVERS	Linux / Android / i.MX RT Support	Linux / FreeRTOS for selected MCUs	Linux / FreeRTOS for selected MCUs	Linux / Android / i.MX RT Support*	Linux / Android / selected MCUs	ESP-IDF by Espressif Arduino IDE
CERTIFIED ANTENNA	Integrated chip / Terminal (via bottom pad)	W602-1C: Integrated chip W602-1B: Bottom Pad	W602-2C: Integrated chip W602-2B: Bottom Pad	Via bottom pad: chip / (Flex)PCB / Terminal	Bottom Pad	Integrated chip
REGULATORY CERTIFICATIONS	CE RED, FCC, ISED	CE RED, FCC, ISED, MIC, RCM*	CE RED, FCC, ISED, MIC, RCM*	CE RED, FCC, ISED, MIC, RCM	CE RED, FCC, ISED, RCM, MIC*	CE RED, FCC, ISED
SIZE [mm]	24.0 x 12.0 x 2.8	W602-1C: 15.3 x 8.8 x 1.8 W602-1B: 10.0 x 8.8 x 1.8	W602-2C: 15.3 x 8.8 x 1.8 W602-2B: 10.0 x 8.8 x 1.8	15.3 x 12.0 x 2.5	14.0 x 9.8	24.0 x 13.0 x 3.1
RX SENSITIVITY [dBm]	-98 @ 1M-DSSS	-99	-99	-98 @ 1M 802.11b	-	-97 @ IEEE 802.11b
TX POWER (MAX.) [dBm]	+16 @ IEEE 802.11b	+20	+20	+17 @ IEEE 802.11ax	+20	+19.8 @ IEEE 802.11b
POWER SUPPLY [V]	3.3 with PMIC (88PG823) 1.1, 1.8, 2.2, 3.3 without PMIC	3.3 and 1.8	3.3 and 1.8	1.8 and 3.3	1.8 and 3.3 - 5	3.0 - 3.6
CURRENT CONSUMPTION	Tx: 320mA @ 11Mb/s Rx: 60mA @ 11Mb/s	Tx: 92mA @ 802.11ax 2.4GHz Rx: 62mA @ 802.11ax 2.4GHz	Tx: 92mA @ 802.11ax 2.4GHz Rx: 62mA @ 802.11ax 2.4GHz	Tx: 192mA @ 802.11ax, 5GHz Rx: 180mA @ 802.11ax, 5GHz	Tx: 370mA @ 802.11ax 6GHz Rx: 59mA @ 802.11ax 6GHz	Tx: 190mA, 3.3V @ 19.5 dBm Rx: 63mA, 3.3V @ 1 Mb/s
SLEEP MODE CURRENT	Power Down Mode: 150µA	Power Down Mode: 12uA	Power Down Mode: 12uA	Power Down Mode: 190uA	Power Down Mode: 100uA	Deep sleep mode <100 µA
INTERFACES	GPIO, SDIO 3.0, HS UART, PCM	SDIO, SPI, UART	SDIO, SPI, UART	SDIO 3.0, HS UART, SPI, I²S/PCM	PCIe2, UART, I2S, SDIO3	GPIO, UART, SPI, I2C, I2S, RMT, PWM, USB, LCD, ADC & DAC
OPERATING TEMP. [°C]	-30 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85
PART NUMBER	ENWF9408A1EF (with PMIC) ENWF9408A2EF (without PMIC)	ENWF9211A1KF (PAN W602-1C) ENWF9211C1KF (PAN W602-1B)	ENWF9215A1KF (PAN W602-2C) ENWF9215C1KF (PAN W602-2B)	ENWF9501C1KF ENWF9511C1KF (incl. IEEE® 802.15.4)	ENWF9521C1KF (Bottom Pad)	ENW49D01A1KF (4MB Flash / 2MB RAM) ENW49D02A1KF (1MB Flash)
EVALUATION KIT	ENWF9408AVEF (mSD Dongle) ENWF9408AMEF (M.2 EVB)	ENWF9215AMKF (W602-2C M2) ENWF9215CMKF (W602-2B M2)	ENWF9215AMKF (W602-2C M2) ENWF9215CMKF (W602-2B M2)	ENWF9501CMKF (PAN9019 M2E EVD) ENWF9511CMKF (PAN9019A M2E EVD)	ENWF9521CMKF (W601-1B M2)	ENW49D01AZKF (EVB 4 MB Flash, 2 MB RAM)
STATUS	Mass Production	In Development	In Development	Mass Production	Announcement	Mass Production

*Planned

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