Wireless Connectivity Product Leaflet

Panasonic

Engineered with design simplicity in mind, Panasonic's RF Modules provide a superior developer experience and shortens time to market due to the quick implementation of Bluetooth® communication . Panasonic's new Bluetooth® Modules deliver best-in-class power efficiency end enable any application requiring long battery life.

	Bluetooth® Classic & Bluetooth® Low Energy		Bluetooth® Low Energy			
						
Series	**PAN1316C/PAN1326C**	**PAN1026A**	**PAN1760A**	**PAN1761**	**PAN1720 / PAN1721**	**PAN1740**
Status	Mass Production	Mass Production	Mass Production	Mass Production	Mass Production	Mass Production
Part Number	ENW89823x4KF*	ENW89837A5KF	ENW89847A3KF	ENW89848A1KF	ENW898xxxxKF*	ENW89846A1KF
RF Category	*Bluetooth*® Dual Mode *Bluetooth*® v4.2 class 1.5	*Bluetooth*® Dual Mode *Bluetooth*® v4.2 class 2	*Bluetooth*® Low Energy v4.2	*Bluetooth*® Low Energy v4.1 + NFC Tag Type 3	*Bluetooth*® Low Energy v4.0	Bluetooth® Low Energy v4.2
Software / Profile	HCI	SPP and GATT	Embedded Profiles / AT-Command Mode	Embedded Profiles	nBlue™ by BlueRadios Inc. / TI SW stack	Embedded Profiles
Used ICs	CC2564C	TC35661-551	TC35678	TC35670-006	CC2540 / CC2541	DA14580
Size [mm]	9.0 x 9.5 x 1.8	15.6 x 8.7 x 1.8	15.6 x 8.7 x 1.9	15.6 x 8.7 x 1.8	15.6 x 8.7 x 1.8	9.0 x 9.5 x 1.8
Rx Sensitivity [dBm]	-93	-89	-93	-90	-94	-93
Tx Power (max.) [dBm]	+10	+4	+0	+0	+4 / 0	+0
Power Supply [V]	1.8 to 4.8	2.8 to 3.6	1.8 to 3.6	1.8 to 3.6	2.0 to 3.6	2.35 to 3.3
Current Consumption (max.)	Tx, EDR: 40mA Sleep Mode: 135µA	ACL, DH1: 46mA Sleep Mode: <2mA	Tx 3.3mA Rx: 3.3mA Deep Sleep Mode: 50nA	Tx: 5.5mA Rx: 5.5mA Sleep Mode: <0.1µA	Tx: 23mA @ -6dBm Rx: 18mA Sleep Mode: <1µA	Tx: 4.9mA Rx: 4.9mA Sleep Mode: <1µA
Interfaces	GPIO, PCM, UART	GPIO, UART	GPIO, UART, SPI, I²C, ADC	GPIO, UART, I²C, NFC Wake-Up, etc.	GPIO, UART, USB only PAN17x0* Series	GPIO, UART, SPI, I²C, 3-axis QD, ADC
Microcontroller and Memory		ARM 7	Cortex M0, 192KB on-chip RAM, 256KB Flash	ARM 7, 32KB on-chip RAM, 64KB EEPROM, 1.5KB EEPROM NFC memory	8051 µC, 8KB RAM, 256KB Flash	ARM Cortex M0, 32KB OTP, 42KB SRAM / external non-volatile memory
Operating Temp. [°C]	-40 to +85	-40 to +85	-40 to +85	-30 to +85	-40 to +85	-40 to +85
Evaluation Kit	EVAL_PAN1323 (EMK)	ENW89837AUKF (KIT) ENW89837AWKF (EMK)	ENW89847AWKF (KIT)	ENW89848AVKF (EMK)	ENW898xxAY2F* (BR KIT) ENW898xxAY1F* (TI KIT)	ENW89846AYKF (KIT) ENW89846AVKF (EMK)

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- 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.
- Non antenna version for some modules available.

* x is a parameter to be defined.

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Long life, reliability and excellent performance - Panasonic's Place & Play IoT Wi-Fi® Modules come with an optional integrated webserver , certificate based security and simultaneous access point and infrastructure modes.

	Wi-Fi®		Bluetooth® & Wi-Fi®	
				
Series	**PAN9420**	**PAN9010/PAN9020**	**PAN9026**	**PAN9045/PAN9055**
Status	Mass Production	Mass Production	Mass Production	Pre-Production
Part Number	ENW49C02A3KF (CE) ENW49C01A3KF (FCC)	ENW49801x1JF* (USB) ENW49802x1JF* (SDIO)	ENWF9201A1EF* (SDIO)	ENWF9101x1JF* (commercial grade) ENWF9101x1EF* (extended grade)
RF Category	Wi-Fi Embedded 802.11 b/g/n	Wi-Fi Radio 802.11 b/g/n	Combo Radio Wi-Fi 802.11 a/b/g/n (2.4 GHz & 5.0 GHz) + *Bluetooth*® Dual Mode BLE v4.2 class 1	Combo Radio Wi-Fi 802.11 b/g/n (2.4 GHz) (MIMO 2x2) + *Bluetooth*® Dual Mode BLE v4.0 class 1
Software / Profile	Full Embedded	Linux / Android Driver	Linux / Android Driver	Linux / Android Driver
Used ICs	88MW300	88W8782	88W8977	88W8797
Size [mm]	29.0 x 13.5 x 2.66	22.75 x 13.5 x 2.42	17.5 x 10.0 x 2.6	26.0 x 13.5 x 2.4
Rx Sensitivity [dBm]	-97 @ DSSS 1 Mbps	-98 @ 1M-DSSS	-98 @ 1M-DSSS	-98 @ 1M-DSSS
Tx Power (max.) [dBm]	+16 @ 11b	+18 @ 11b	+17 @ 11b	+18 @ 11b
Power Supply [V]	3.0 to 3.6	3.0 to 3.6	1.8 to 3.3	3.0 to 3.6
Current Consumption (max.)	Tx: 310mA Rx: 75mA Power Down: < 1 mA	Tx: 400mA @ 11Mbps Rx: 105mA @ 11Mbps Power Down: 200µA	Tx: 490mA @ 11Mbps Rx: 70mA @ 11Mbps Power Down: tbd	Tx: 580mA @ 300Mbps Rx: 310mA @ 300Mbps Sleep Mode: tbd
Interfaces	2 x UART	USB 2.0 or SDIO	SDIO 3.0, HS UART	USB 2.0, SDIO 3.0, HS UART
Microcontroller and Memory	Cortex M4F, 4 MB Flash			
Operating Temp. [°C]	-40 to +85	0 to +70	-30 to +85	0 to +70 (commercial grade) -30 to +85 (extended grade)
Evaluation Kit	ENW49C01AZKF (ETU) ENW49C01AYKF (EMK)	ENW49802AYJF (KIT)	ENWF9201AZEF (ETU) ENWF9201AYEF (KIT)	ENWF9101AYEF (KIT)

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