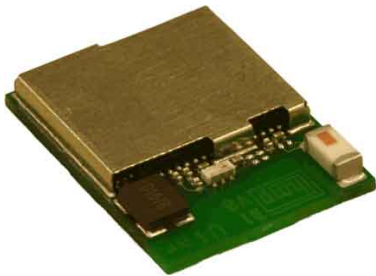


ZigBee™ ready -Modem PAN4555



[OUTLINES - ENWC9A08xxEF]

The PAN4555 module is a short range, low power, 2.4 GHz ISM band transceiver which includes a complete 802.15.4 physical layer (PHY) modem, designed for the IEEE 802.15.4 wireless standard and a appropriate microcontroller (MCU) with reference oscillator which provides a cost effective solution for short-range data links and networks.

The software is included and can be scaled to fit the application from simple point to point proprietary systems to ZigBee™ networking.

This module complies to EN300328, FCC CFR Part 15 and ARIB STD-T66

[FEATURES]

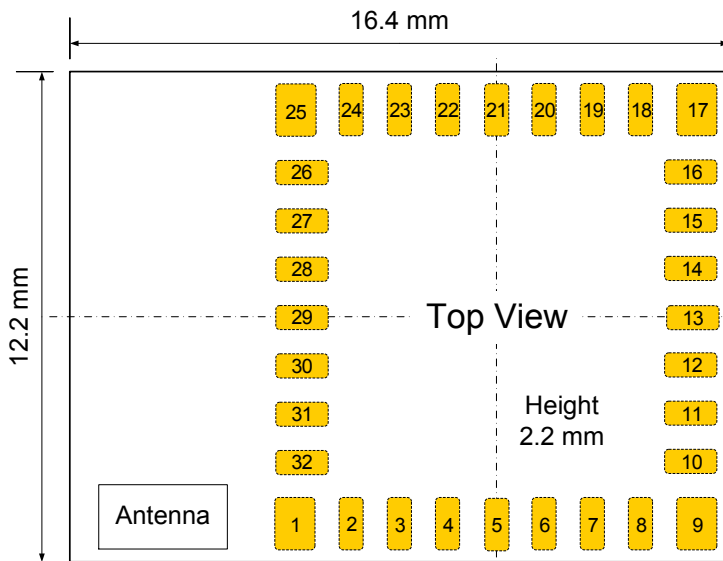
- Very small size (12.2mm x 16.4mm x 2.2mm)
- 2 antenna options: Single port 50Ω or ceramic antenna
- 16 selectable Channels with 250 kbps in the 2.4 GHz band
- Low power modes for increased battery life
- High sensitivity of -92 dBm typ. at 1% Packet Error Rate
- 0 dBm typ. output power programmable over a 30 dB range
- Low supply voltage (2.0 V to 3.4 V, 2.7 V typ.)
- Operating temperature range -40°C to +85°C
- Link Quality and Clear Channel Assessment capability
- 60k Flash and 4k RAM memory
- 4 channel A/D converter with 10 Bit for fast and easy conversion from analog inputs -such as temperature, pressure and fluid levels- to digital values.
- 3 channel 16 Bit timer/pulse width modulation (TPM) outputs
- BDM port for direct download programming
- In total 20 digital I/O lines with programmable pull-ups and few with high-current driver.

[APPLICATIONS]

- Remote control and wire replacement in industrial systems such as wireless sensor networks
- Factory / home automation and motor / lighting control
- Inventory management and RF ID tagging and AMR
- Monitoring (environmental, patient or fitness)

MODULOS
WIRELESS

DIMENSIONS



Pin no.	Pin name	Pin no.	Pin name
1, 9, 17, 25, 31	GND	18	PTC5
		19	PTC3
2 to 4	PTB0 to 2	20	PTC2
5	PTB7	21 to 22	PTE0 to 1
6	VREFH	23	VDDA
7	PTA7	24	Vcc
8	PTA5	26	Vcc
10	PTA6	27	RESET
11	PTG0/BKGD	28	PTD6
12 to 13	PTG1 to 2	29	PTD4
14	CLKO	30	PTD2
15 to 16	PTC0 to 1	32	EXTANT

Note:
The pin names of the module and the internal MC1321x fit to each other.

TECHNICAL CHARACTERISTICS

Parameter	Value	Condition / Note
Receiver Sensitivity	-92 dBm typ.	for 1% packet error rate
Output Power	0 dBm	maximal
Power Supply	2.0 V to 3.4 V	single supply, 2.7 V typ.
Power Control Range	30 dB	
Maximum Data Rate	250kbps	over the air
Current Consumption receive mode transmit mode idle mode doze mode hibernate mode off mode	37 mA typ. 30 mA typ. 500 µA typ. 35 µA typ. 1 µA typ. <1 µA	output power nominal value no CLKO
Operating Temperature Range	-40°C to +85°C	

Notes:

All parameters are valid for $V_{DD} = 2.7V$ and $T_{amb} = 25^{\circ}C$.
 Freescale's MC13213 is included in the module, SMAC, MAC or ZigBee Bee-Stack from freescale could be used.
 There is no additional license fee per module by using the Bee-Stack from freescale.
 Mode Definitions and Transition Times for saving battery life can be seen in the data sheet MC1321x.
 Also the derivative MC13212 and MC13211 are available on request.