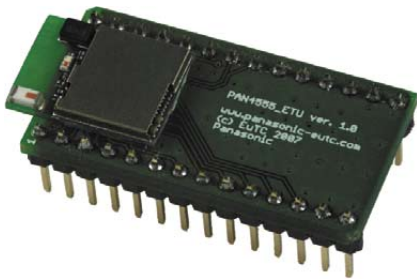


# ZigBee™ ready -Modem PAN4555

## ETU - Version



### [OUTLINES]

The PAN4555 **EasyToUse**-Version is the easiest way to make the first step into the ZigBee™ ready-World. Very simple testing and prototyping with a normal perf- or stripboard, so no special design is needed to get this module working.

The 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 an 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

### [FEATURES]

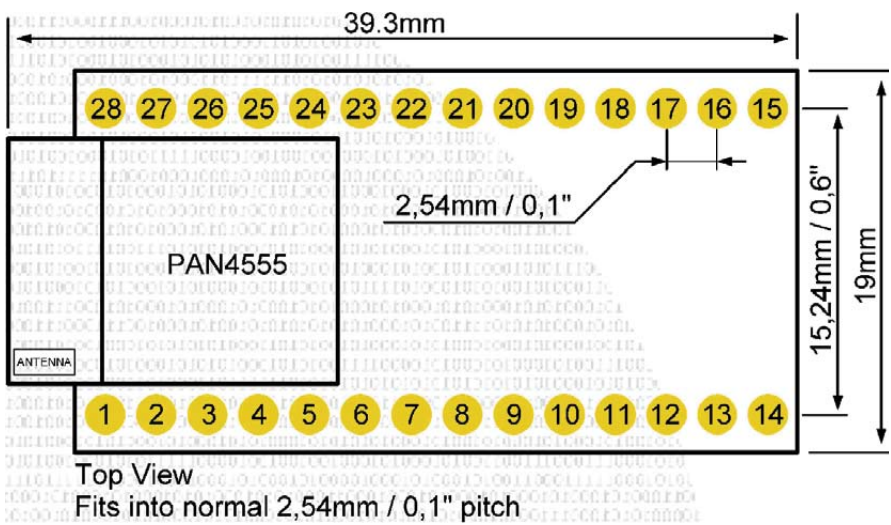
- Fits into normal 2,54mm / 0,1" pitch
- 16 selectable Channels with 250 kbps in the 2.4 GHz band
- Low power modes for increased battery life
- High sensitivity of -92 dBm typ. at 1% Packet Error Rate
- 0 dBm typ. output power programmable over a 30 dB range
- Low supply voltage (2.0 V to 3.4 V, 2.7 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)

MODULS  
WIRELESS

**[ DIMENSIONS ]**



Pin no.	Pin name	Pin no.	Pin name
1 to 3	PTB0 to 2	17	PTD4
4	PTB7	18	PTD6
5	VREFH	19	RESET
6	PTA7	20	PTC5
7	PTA5	21 to 22	PTC0 to 1
8	PTA6	23	PTC3
9	PTG0/BKGD	24	PTC2
10 to 11	PTG1 to 2	25 to 26	PTE0 to 1
12	CLKO	27	VDDA
13 to 15	GND	28	Vcc
16	PTD2		

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<sub>DD</sub> = 2.7V and T<sub>amb</sub> = 25°C.  
Freescale's MC13214 incl. ZigBee Z-Stack (or ZigBee Bee-Stack as successor) is included.  
Mode Definitions and Transition Times for saving battery life can be seen in the data sheet MC1321x.