Panasonic
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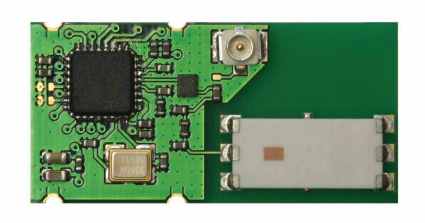
Cut the Cable ™

Z-Wave™ - Modem PAN8550



OUTLINES - ENW99A01xxx

The PAN8550 module is a short range, low power, 868 MHz and 908 MHz ISM band transceiver which includes a complete Z-Wave compliant transceiver and an 8051-compatible microcontroller with reference oscillator which provides a cost effective solution for short-range data links and networks, especially for remote switching and sensing applications.
The software is included and can be scaled to fit the application from simple point to point connections to automatically managed full scale mesh networks.
This module complies to EN300220 and the US version gets the FCC modular approval (FCC ID: T7VPAN8550).

FEATURES

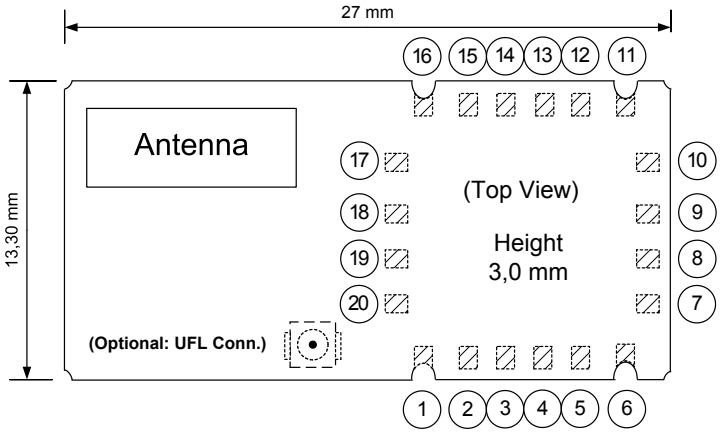
- 2 RF output options: UFL Plug or ceramic antenna
- data transfer with 9.6 kbps on 868.42 MHz (EU) or 908.42 MHZ (US)
- Low power modes for increased battery life
- High sensitivity of -104 dBm typ.
- -3 dBm max. output power, programmable over 23 dB range
- Low supply voltage (2.1 V to 3.6 V, 3.3 V typ.)
- Small size (13.0mm x 27.0 mm x 3.0mm)
- Std. temperature range -20°C to +70°C (on request -40°C to +85°C)
- On-chip battery monitor
- 32k Flash and 2k RAM memory
- 4 channel A/D converter with 12 Bit for fast and easy conversion from analog inputs -such as temperature, pressure and fluid levels- to digital values.
- In total 10 digital I/O lines with programmable pull-ups and high current drivers at 6mA
- Integrated Triac controller for effortless power switching

APPLICATIONS

- Remote control and wire replacement in home and 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)

Hardware Status:
Engineering Samples available

DIMENSIONS



Pin no.	Pin name	Pin no.	Pin name
1	GND	9	P1.2/MISO
2	RESET	10	P1.1/RXD
3	P1.7/INT1	12	VDD
4	P1.6/INT0	13	P1.0/TXD
5	P1.5/EECS	14	P0.1/ADC1
6, 11, 16	GND	15	P0.0/ADC0
		17 to 20	NC (3)
7	P1.4/SCK		
8	P1.3/MOSI		

Note:
The pin names of the module reflect the pin names on the ZW0201 chip

TECHNICAL CHARACTERISTICS

Parameter	Value	Condition / Note
Receiver Sensitivity	-104 dBm typ.	for 1% packet error rate
Output Power	-3 dBm	maximum
Power Supply	2.1 V to 3.6 V	single supply, 3.3 V typ.
Power Control Range	23 dB	
Maximum Data Rate	9.6 kbps	over the air
Current Consumption receive mode transmit mode idle mode sleep mode	 21 mA typ. 23 mA typ. 5 mA typ. 2.5 µA typ.	 see note (1) @ -5 dBm rf output power (1) rf transceiver idle, µC running rf transceiver and µC in sleep mode (2)
Operating Temperature Range	-20°C to +70°C (4)	

Notes:
All parameters are valid for V_{DD} = 3.3 V and Tamb = 25°C.
(1) ADC deactivated, no load on I/Os
(2) wakeup via external reset, brownout, external interrupt or periodically by WUT
(3) These pins are dedicated for RF connection on the upcoming version without antenna and used for compatibility reasons.
(4) For wider ranges for operating temperature, please ask your sales representative.

ORDERING CODE

- 908MHz with Antenna, without Plug Connector ENW99A01A3D
- 908MHz without Antenna, with Plug Connector ENW99A01N2D
- 868MHz with Antenna, without Plug Connector ENW99A01A3C
- 868MHz without Antenna, with Plug Connector ENW99A01N2C

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