

# ISM Transceiver PAN2355



(Module without shielding)

## OUTLINES - ENW59611N3AC

This extremely compact and high-functionality module is mainly intended for the ISM (Industrial, Scientific and Medical) frequency bands at 868 and 915 MHz. Other frequency bands are possible on request. It provide a wireless radio transceiver and can be linked to a wide range of devices including home appliances, keyless entry and many other applications through SPI or UART.

Programming of the vast functionalities of the transceiver are done via SPI. The PAN2355 is made for all applications where a wide band bidirectional data transfer with high speed is needed.

It is focussed on small size with a 8x8.2mm footprint and very low power consumption for battery driven applications.

## FEATURES

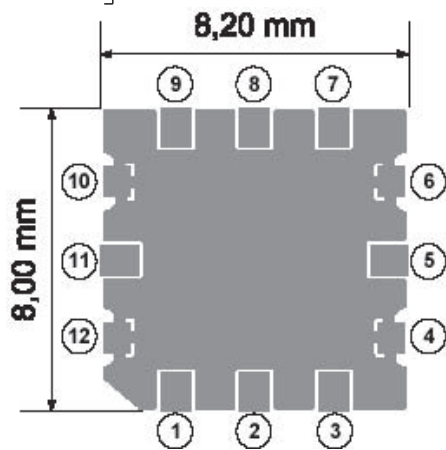
- Programmable datarate up to 500 kBaud (NRZ mode)
- Very low current consumption
- Frequency range 300 - 1000 MHz
- High sensitivity (typ. -100 dBm at 2.4 kBaud, Manchester)
- Programmable output power -52 dBm to +6 dBm
- Low supply voltage (2.1 V to 3.6 V)
- Operating temperature range -40°C to +85°C
- Small size (8.0mm x 8.2mm x 1.9mm) incl. shielding
- Digital RSSI output
- Single port 50  $\Omega$  antenna connection
- Programmable frequency in 400 Hz steps makes crystal temperature drift compensation possible

## APPLICATIONS

- RKE - Two-way Remote Keyless Entry
- Home Automation Systems
- AMR - Automatic Meter Reading
- Low Power Telemetry
- Toys
- Remote Control Systems

WIRELESS  
MODULES

**DIMENSIONS**



Pin no.	Pin name
4,6,10,12	GND
1	SPI SI
2	SPI SCLK
3	SPI SO
5	GDO 0
7	SPI CSN
8	Vcc
9	GDO 2
11	50 Ω RF

**TECHNICAL CHARACTERISTICS**

Parameter	Value	Condition / Note
Receiver Sensitivity, at 2.4 kbps, 2-FSK at 250 kbps, 2-FSK	-100 dBm -85 dBm	more details in datasheet
Output Power	-52 to 6 dBm	Delivered to 50 Ω load. The output power is programmable.
RSSI dynamic range	-136 to -8 dBm	
PLL lock time (Rx /Tx turn time)	10 μs	for 1x IF frequency step
PLL turn-on time, crystal oscillator on in power down mode	80 μs	Crystal oscillator running
Power Down Mode	900 nA typ.	Standby with WOR enabled
Current Consumption receive mode @2.4 kbps	14.2 mA typ.	Current is programmable and can be increased for improved sensitivity
Current Consumption transmit mode P=3mW (5dBm)	19.7 mA typ.	Delivered to 50 Ω load.

Note:

All parameters are valid for V<sub>DD</sub> = 3.0V, T<sub>amb</sub> = 25°C and 868MHz

Maximum output power is 10dBm but currently only 6 dBm is allowed to pass EN300220 requirements.