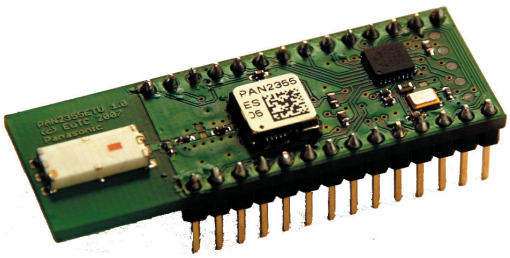
Panasonic
ideas for life

Cut the Cable™

ISM Transceiver PAN2355

ETU - Version



OUTLINE

The PAN2355 **E**asy**T**o**U**se version is the easiest way to make the first step into the world of wireless modules. The platform is designed to work on a normal perf- or stripboard. No special design or layout is needed to get this module working. Atmel`s popular microcontroller ATmega88V is integrated on the platform. With the demo software enclosed it is easily possible to implement own applications.
The module itself is an extremely compact and high-functionality module which is mainly intended for the ISM (Industrial, Scientific and Medical) frequency bands at 868 and 915 MHz. 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.

FEATURES

- Fits into normal 2,54mm / 0,1” pitch
- Integrated Atmel ATmega88V-10MU
- Antenna 868MHZ Cceramic
- 16 Mhz Quartz Crystal
- 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 -30 dBm to +10 dBm
- Low supply voltage (2.1 V to 3.6 V)
- Operating temperature range -40°C to +85°C
- Digital RSSI output

APPLICATIONS

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

MODULES Panasonic Electronic Devices Europe GmbH WIRELESS

Design and Specifications are subject to change without notice. Ask the factory for technical specifications before purchase and/or use. If there is any doubt regarding the safety of this product, kindly inform us immediately for technical consultation.

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Hardware Status:
Engineering Samples available

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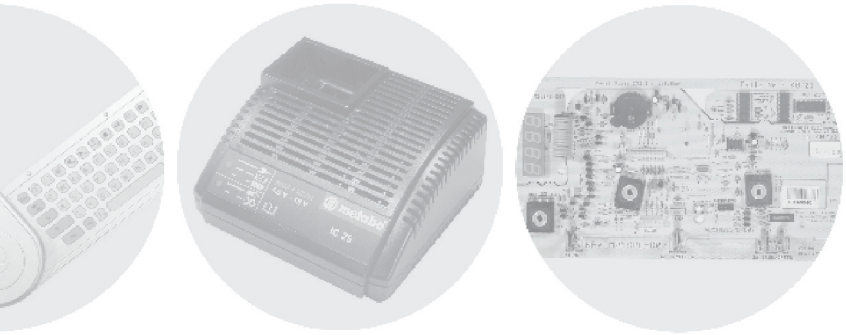

CONTACT

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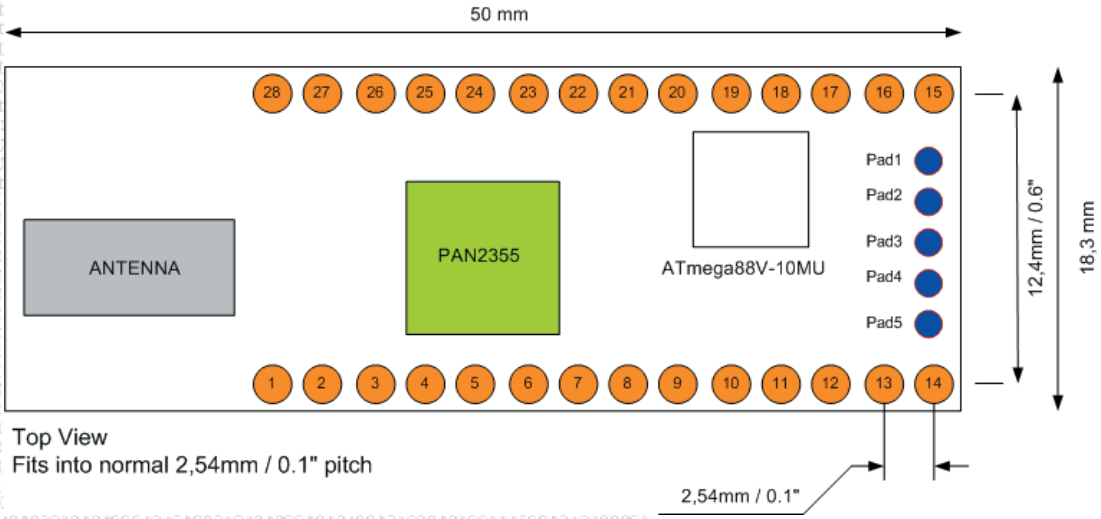
DIMENSIONS



Pin no.	Pin name
1	GND
2	SI
3	SCK
4	SO
5	CSN
6 - 10	PD3 to 7
11	PB0
12	AVCC
13	ADC6
14 - 15	GND
16	AREF
17	ADC7
18 - 19	PC0 to 1
20 - 21	PC4 to 5
22	RESET
23	RXD
24	TXD
25	INT0
26	GDO0
27	GDO2
28	VCC

Note:
The pin names of the module and the internal ATmega88V fit to each other.

TECHNICAL CHARACTERISTICS (PAN2355)

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	-30 to 10 dBm	Delivered to 50 Ω load. The output power is program-mable.
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 impro-ved sensitivity
Current Consumption transmit mode P=3mW (5dBm)	19.7 mA typ.	Delivered to 50 Ω load.

Pad no.	Pad name
1	VCC
2	PC3
3	PC2
4	PB1
5	GND

Note:
All parameters are vaild for V_{CC} = 3.0V, Tamb = 25°C and 868MHz
Maximum output power is 10dBm, please check data sheet hints to pass EN300220 requirements.
All other frequencies, e.g. 315MHz, 433MHz and 915MHz are also available on request.