

NEW! PAN4561L Mesh Networking RF Modules

Designed For Standard Range Applications up to 100 Feet

Panasonic, a worldwide leader in Wireless Products introduces the NEW PAN4561L Series of Mesh Networking RF Modules. These cost engineered modules are designed for applications of up to 100 feet in range where low power consumption is a requirement. PAN4561L modules are short range alternatives to Panasonic's original extended range PAN4561 Series devices.

The PAN4561L Series can be transformed from simple point-to-point proprietary devices to complex mesh networks by choosing from an array of simple firmware options. Fully featured with 39 I/O lines, sharing a common 62-pin footprint and software, each model hosts the FreeScale MC13213 Software-on-a-chip (SOC), using the same eight-bit GT60 processor as Panasonic's popular PAN4555 and making the product family application-compatible. Optional Synapse SNAP® firmware provides a highly flexible, industry-leading solution for mesh networking with a complete network development environment. Multiple antenna options are available. The Series has FCC, IC, and ETSI certifications.



Product Performance:

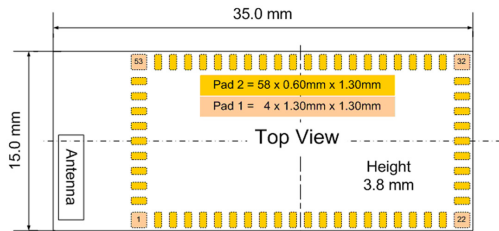
- Small Size: 35mm x 15mm x 3.5mm
- 3 Antenna Options: Single Port 50Ω, Ceramic Antenna or SMD Output
- Low Power Modes for Increased Battery Life
- 16 Selectable Channels w/ 250 Kbps (2.4 GHz)
- High Sensitivity: -92 dBm Typical at 1% Packet Error Rate
- Low Supply Voltage: 2.7 V to 3.3 V (3.0 V Typ.)
- Operating Temperature Range: -40°C to +85°C
- Link Quality & Clear Channel Assessment Capability
- 60k Flash and 4k RAM Memory
- Two UARTs and One I²C Bus
- 8 Channel A/D Converter with 10 Bit for Fast and Easy Analog Input Conversion (Temperature, Pressure and Fluid Levels) to Digital Values
- 5 Channel 16-Bit Timer/Pulse Width Modulation (Tpm) Outputs
- BDM Port for Direct Download Programming
- 39 Digital I/O Lines with Programmable Pull-Ups and Several with High-Current Driver

PAN4561L Part Numbers:

Part Numbers	Description (all parts 802.15.4)	Part Numbers	Description (all parts 802.15.4)
ENW-C9A21A1EF	Antenna-w/o-Firmware	ENW-C9A21A4EF	Antenna-SNAP-Firmware
ENW-C9A21B1EF	U.F.L Connector-w/o-Firmware	ENW-C9A21B4EF	U.F.L Connector-SNAP-Firmware
ENW-C9A21C1EF	50ohm-Pad-w/o-Firmware	ENW-C9A21C4EF	50 ohm-Pad-SNAP-Firmware
EVAL_PAN4561	Evaluation Kit for the PAN4561	ENW-C9A30A4EF	Eval Module w/ Ceramic Antenna, SNAP-FW
ENW-C9A30B4EF	Eval Module w/ UFL Connector, SNAP-FW	ENW-C9A30D4EF	Eval Module with SMD RF Out, SNAP-FW

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Dimensions & Pin Layout:



Applications:

- Factory Automation and Control
- Home Gateways/Home Automation and Control
- Motor/Lighting Control
- Inventory and Logistics Management
- HID (Human Interface Devices)
- Toys
- Remote Control and Wire Replacement for Industrial Systems (Wireless Sensor Networks)
- RFID Tagging
- Automated Meter Reading
- Monitoring (Environmental, Patient, Fitness)
- Proprietary Networking Solutions Using IEEE802.15.4

Pin No.	Pin
1, 22, 32, 53~54, 56~62	GND
2	PTD4 / TPM2CH1
3	PTD5 / TPM2CH2
4	PTD6 / TPM2CH3
5	PTD7 / TPM2CH4
6	PTD2 / TPM1CH2
7, 51~52	NC
8	PTC0 / TXD2
9	PTC1 / RXD2
10	PTC2 / SDA1
11	PTC3 / SCL1
12 - 19	PTB(0~7) / AD1P(0~7)
20	VREFH
21	VREFL
23-24	Vcc

Pin No.	Pin
25	PTG1 / XTAL
26	PTG2 / EXTAL
27	RESET
28	CLKO
29	GPIO2
30	PTG0 / BKGND / MS
31	GPIO1
33	VDDA
34 - 41	PTA(7~0) / KBI1P(7~0)
42	PTC7 / GPIO
43	PTC6 / GPIO
44	PTC5 / GPIO
45	PTC4 / GPIO
46	PTE0 / TXD1
47	PTE1 / RXD1
48-50	GPIO(5~7)
55	EXANT

Technical Specifications for PAN4561L:

Parameter	Value	Condition / Notes
Receiver Sensitivity	-92 dBm typ.	For 1% Packet Error Rate
Transmitter Output Power	0 dBm	
Power Supply	2.7 V ~ 3.3 V	Single Supply, 3.0 V Typ.
Power Control Range	30 dB	
Maximum Data Rate	250 kbps	Over The Air
Current Consumption		
Receive Mode	45 mA typ.	
Transmit Mode	43 mA typ.	At 0 dBm
Idle Mode	1.6 mA typ.	
Doze Mode	36.3 μ A typ.	No CLKO
Hibernate Mode	2.2 μ A typ.	
Off Mode	0.5 μ A typ.	
Operating Temperature Range	-40°C to +85°C	

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