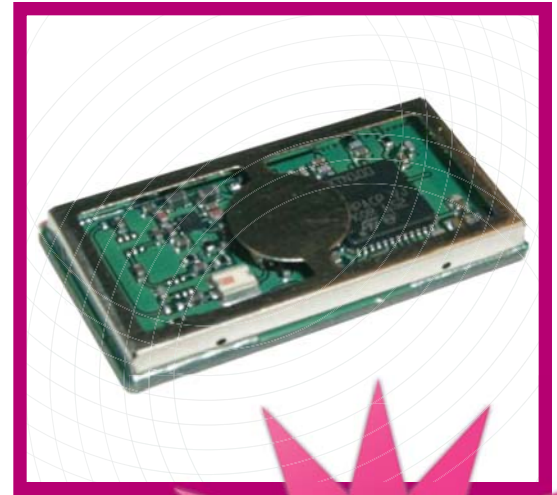


The PAN5375 module operates in the worldwide, license-free, ISM band at 2.4GHz and ensures reliable communication through its unique chirp transmission technology. nanoLOC offers on-chip point-to-point ranging accuracy of better than one to two meters while offering robust, reliable data communication with superior transmission range. With its unique ranging capability, nanoLOC can measure the link distance between two nodes. Thus, nanoLOC supports location awareness applications including location based services (LBS), enhanced RFID, and asset tracking (2D/3D RTLS). Ranging is performed during regular data communication and does not require additional infrastructure, power, and/or bandwidth. For more accurate ranging, a high precision mode is provided. This module complies with ETSI standards EN300328, EN301489 and EN60950.



NEW!

Product Performance:

- Built-in Distance Estimation Capability
- Modulation Technique: Chirp Spread Spectrum (CSS)
- FDMA Support: 7 channels, 3 non-overlapping
- Data Rates: 2.1 Mbps
- Adjustable Output Power: -33dBm ~ +20dBm
- Small Size: 29mm x 15mm x 4mm
- Operating Temperature Range: -40°C to +85°C
- Integrated Fast SPI Interface (32Mbps)
- Integrated MAC Controller With FEC, CRC Checking
- Automatic Retransmission And Acknowledgement

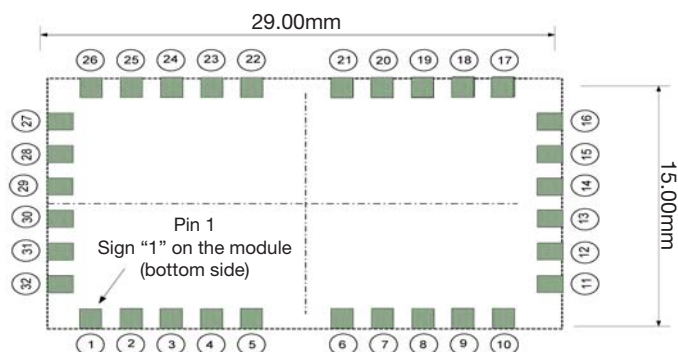
Applications:

- Location Awareness Applications
- Active RFID / Asset Tracking
- Enabling 2D/3D Real-Time Location Systems
- Security
- Industrial Monitoring And Control
- Medical Applications

Part Numbers:

Part Number	Description
ENW59616N3EF	PAN5375, nanoLOC
EVAL_PAN5375	Evaluation Kit For The PAN5375 Module

Dimensions & Pin Layout:



Pin No.	Pin Name	Pin No.	Pin Name
1,3,4, 14 - 20, 22,23,25, 27 - 29	GND	10	DIIO2
2	V _{CC}	11	DIIO1
5	SPICLK	12	DIIO0
6	μC V _{CC}	13	P_ON_Reset
7	SPITxD	21	V _{CC}
8	SPIRxD	24	Antenna
9	DIIO3	26	TX_/RX
		30	μC_IRQ
		31	μC_Reset
		32	SPISSN

Technical Specifications:

Parameter	Value	Condition / Notes
Receiver Sensitivity	-97 dBm	
Output Power	max. 20 dBm	
Power Control Range	-33 dBm ~ +20 dBm	
Maximum Data Rate	2 Mbps	
Power Supply	2.3 V to 2.7 V	
Current Consumption		
Receive Mode (2Mbps mode)	Starting at 33mA	@ 0 dBm
Transmit Mode (2Mbps mode)	30mA	
Standby Mode w/ Active RTC	1.2 μA	
Range		
Outdoor Maximum	300 m	@ 10 dBm
	1000 m	@ 20 dBm
Indoor Typical	40 m	@ 0 dBm
	Up to 60 m	@ 20 dBm
Operating Temperature Range	-40°C to +85°C	

Notes:

All parameters are valid for V_{CC} = 2.7V and T_{amb} = 25°C.

The nanoLOC TRX transceiver from Nanotron Technologies is used in this module.