PCM-5S

u-blox 5 GPS module

locate, communicate, accelerate

Product description

The PCM-5S enables simple integration of GPS funtional-ity into MIDs, UMPCs, laptops and similar applications. The PCM-5S is a ready-to-use solution, composed of a GPS chipset incorporated into the PCI Express Half Mini Card platform. It features the high performance u-blox-5 positioning engine and includes a USB 2.0 interface.
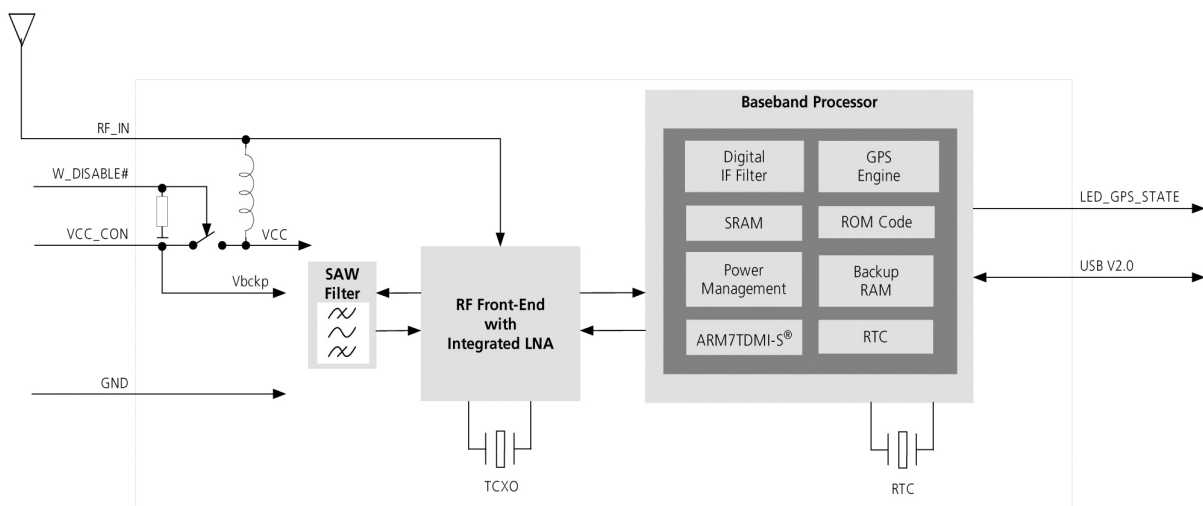
26.8 x 30 x 3.0 mm

Highlights

- 50-channel u-blox 5 engine with over 1 million effective correlators

- < 1 second Time-To-First-Fix for hot and aided starts

- –160 dBm SuperSense® indoor GPS acquisition and tracking sensitivity

- Accelerated startup at weak signals with KickStart feature

- A-GPS: AssistNow Online and AssistNow Offline; OMA SUPL compliant

- High immunity to jamming

- SBAS (WAAS, EGNOS, MSAS, GAGAN)

- 1 USB V2.0

- Mini PCI Card form factor

Block Diagram

PCI-5S and PCM-5S Hardware Block Schematic

Electrical data

Power supply	3.3 V supply rail: 2.7 to 3.6 V 1.5 V supply rail: Not used
Power consumption	123 mW @ 3.0 V Eco mode
Backup power	1.5 V to 3.6 V, typ. 5 µA
Antenna	Active and passive

Interfaces

Antenna Conn.	Hirose U.FL-R-SMT
Serial interfaces	1 USB V2.0 full speed 12 Mbit/s (Through PCI connector)
Digital I/O	LED_GPS_STATE Radio state indicator

Environmental data

Operating Temp.	–40° C to 85° C
Storage Temp.	–40° C to 85° C
	RoHS compliant (lead-free)

Receiver performance data

Receiver type	50-channel u-blox 5 engine GPS L1 C/A code SBAS: WAAS, EGNOS, MSAS, GAGAN	
Max. update rate	4 Hz	
Accuracy[1]	Position SBAS	2.5 m CEP 2.0 m CEP
Acquisition[1]	Cold start: Warm start: Aided starts[2]: Hot starts:	29 s 29 s < 1 s < 1 s
Sensitivity	Acquisition: Tracking: Cold starts[3]:	–160 dBm –160 dBm –144 dBm
Multipath suppression	Intelligent multipath detection and suppression	
GPS protocols	NMEA, UBX Binary	
A-GPS	Supports AssistNow Online and AssistNow Offline, OMA SUPL compliant	
Operational limits[4]	Velocity: 500 m/s (972 knots) Altitude: 50,000 m	

[1] All SV @ –130 dBm
[2] Dependent on aiding data connection speed and latency
[3] Demonstrated with a good active antenna

Support products

u-blox 5 Evaluation Kits

EVK-5H suitable for:	u-blox 5 Evaluation Kit PCM-5S

An easy-to-use kit to get familiar with the u-blox 5 positioning technology, and to evaluate functionality and to visualize GPS performance.

Ordering information

PCI-5S-1	ROM-based u-blox 5 PCI Express Half MiniCard

Available as samples and tape on reel (250 pieces)

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