



HD8020 SERIES CYNOSURE II GNSS CHIP

INTRODUCTION

The HD8020 series is a high-performance single chip GNSS solution targeting for the location awareness and logistic transportation markets. The newly designed CYNOSURE II architecture is optimized to offer a seamless experience in dense urban canyons. The HD8020 gives the shortest time to position fix and continues to work wherever they are.

The HD8020 is designed with intelligent power control mechanism in mind, which provides the most flexible power modes and performs the best-in-class power consumption. Micro power backup mode eliminates the need of turning off the system power completely, while enabling the ability to communicate with external device in deep sleep mode.

HIGHLIGHTS

- Concurrent GNSS reception
- Beidou system support readiness
- Jammer detection and suppression
- Configurable peripheral pin allocation
- Intelligent power control mechanism
- Single supply with wide voltage range

APPLICATIONS

- Wearable devices
- Cellular handsets
- Asset tracking terminals
- GNSS modules



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GENERAL SPECIFICATIONS

GNSS Engine

Cynosure II GNSS Engine
72 channels & DSP hardware acceleration
20Hz maximum navigation update rate

Satellite Reception

GPS/QZSS, Beidou, GLONASS, Galileo,
WAAS, EGNOS, MSAS, GAGAN, SDCM

Position Accuracy

GNSS 2.5m CEP
SBAS 2.0m CEP

Velocity & Time Accuracy

GNSS 0.1m/s CEP
SBAS 0.05m/s
1PPS 25ns

Time to First Fix(TTFF)

Cold start 28 secs
Hot start 1 sec

Sensitivity

Autonomous -148dBm
Navigation -165dBm

Operation Limit

Velocity 515 m/s
Altitude 18,000 m

Operation Condition

Main voltage 2.5 ~ 3.6V
Digital I/O voltage 2.5 ~ 3.6V
Backup voltage 1.6 ~ 3.6V
Operation power 25 mA
Standby power 7uA

Safety Supervision

Short circuit protection
Low voltage detection

Others

Oscillator Crystal or TCXO
RTC 32768Hz(optional)
Storage SQI flash(optional)

Serial Interface

USB (FS, 12Mbps)	1
UART	2
SPI (master/slave)	2
I2C (master/slave)	1
PWM	2
INCP	2
Ext. interrupt	8
Digital I/O	16

Synchronization

Time synchronization	1
Frequency synchronization	1

PACKAGE

Format	QFN40
Size	5.0mm x 5.0mm

ENVIRONMENT DATA

Operation temperature	-40 to +85°C
Storage temperature	-40 to +125°C
Certification	RoHS & REACH

ORDERING INFORMATION

HD8020	QFN40
HD8021	QFN40

CONTACT US

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