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Preliminary

G1000C
GNSS Receiver chip
(GPS L1/L2,Glonass,Beidou,Galileo, SBAS - WAAS,MSAS,SDCM,Beidou SBAS)

High Performance GNSS Navigation

- Adaptive operation for high sensitivity and dynamics
- Adaptive/modifiable tracking loop and filter techniques against multipath environments
- Patented fast acquisition architecture
- 40 tracking channel support at the same time

Multiple GNSS Support

- Support GPS L1/L2, GLONASS, Beidou, Galileo, SBAS L1 frequency (WAAS, MSAS, SDCM, BEIDOU SBAS)
- Support GPS L2C frequency

Multiple Environments Support

- Stationary, land vehicle, high dynamic airborne, LEO, meteorological and military area

Multiple Protocols Support

- Support for NMEA, TGb(Telace GPS Binary Protocol), customer dependent protocol

GNSS-INS integration ready

- Support for navigation with integrated GNSS and INS

AGPS Support

- Fast position fix with aiding information

High Accuracy

- Support SBAS correction, RTCM, dual frequency ionospheric correction, carrier smoothing

Flexible Interface

- Support UART, SPI, GPIO, HSDLC interface

System on Chip

- Low power single chip including RF, baseband, CPU, and memory

Automotive Interface

- Support automotive direction, speed interface

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PERFORMANCE

Channels	40
Signal Tracking	
· GPS	L1 C/A,L2C
· GLONASS	L1
· Beidou	B1
· Galileo	E1
· SBAS	L1 C/A
Position Accuracy(1)	
· Single Position	2m
· Dual Position(L1/L2)	TBD
· SBAS	1m
· DGNSS	1m
Velocity Accuracy(1)	0.5 m/s
Acceleration(2)	10g
Sensitivity	
· Acquisition	-145 dBm
· Tracking	-162 dBm
PPS Accuracy	50 ns
TTFF	
· Hot Start	2s
· Warm Start	12s
· Cold Start	30s
Update Rate(3)	10Hz

Features

Differential GPS positioning with SBAS
Differential GPS positioning with RTCM
Assist GPS for Fast First Fix
Fast Error Detection and Exclusion
INS integrated navigation ready
Carrier smoothing
Dual-frequency Ionospheric Correction

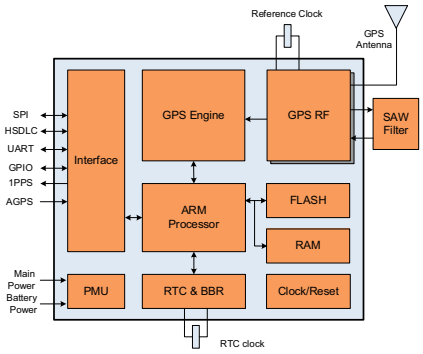
INTERFACES

Communication Port	UART	2
	SPI	2
	HSDLC	1
	GPIO	4
PPS		1 Hz Configurable Rate
Protocols		
NMEA 0183		
TGb		TelAce GPS Binary Protocol
RTCM		For DGNSS
OEM		Customer Dependent

ELECTRICAL AND PHYSICAL

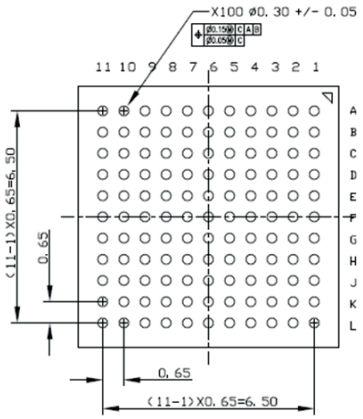
Dimensions	8mm x 8mm x 0.84mm
Weight	
Supply voltage(BB)	1.65V ~ 3.6V
Supply voltage(RF)	2.7V ~ 3.3V
Power consumption	T.B.D.
Temperature	-40 °C~85 °C
Memory	On Chip FLASH
RF	On Chip and External RF

BLOCK DIAGRAM



PACKAGE

G1000C Type : FBGA
Ball : 121 ball
Size : 8mm X 8mm X 0.84mm
Pitch : 0.65mm



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(1) It can vary depending on the environment conditions
(2) It depends on platform mode configuration
(3) There may be a limit to the number of channels