



GTS-4E GPS Module Product Summary

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Revision History

Version	Date	Remarks
V1.0.0	2011-01-14	Initial Release

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GTS-4E GPS Module

Overview

The GTS-4E designed by FIBOCOM basing on the SIRF-IV is a new generation of GPS receiving modules, and also in price competitive advantage. It's a new 48-channel ultra-high sensitive GPS receiving module. Based on new highly integrated SIRF-IV chips and meticulously integration key parts of FIBOCOM, casting a brand-new GTS - 4E products, in the same chip specifications, product has faster GPS signals ability to capture, lower power consumption, more strong anti-jamming performance and more wide working voltage range.

GTS - 4E module designed with industrial requirements, using stamps package, can adapt to wet high temperature, electromagnetic interference etc odiously working environment. It is widely used in monitoring, positioning, mapping, navigation, security applications such as the ideal platform.

FIBOCOM provide the a free SiRFLive tool, to provide you with convenient module learning, evaluation, commissioning, diagnostic platform, simple multifarious development work of engineers, greatly accelerated the development cycle.

Highlights

- 48-channel SIRF-IV engine
- <1 second Time To First Fix for Hot and Aided Starts(for GTS-4E-2x)
- Tracking sensitivity -160dBm
- Up to three serial interfaces: 1 UART, 1 DDC (I2C compliant), 1 SPI (where available)
- 1 Hz position update rate
- High sensitivity Indoor GPS with best-in-class acquisition and tracking sensitivity
- Supports AssistNow Online A-GPS service; OMA SUPL compliant (for GTS-4E-2x)
- SBAS engine(for GTS-4E-2x)
- Support Active and Passive Antenna
- Support external Reset in and ON_OFF
- Supprt I2C(master) for external Accelerometer and EEPROM
- Voltage Range :2.7~5.5V
- RoHS compliant

Naming rule of Part Number

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Serials number: 000:Base use(No DGPS and AGPS) 001:With DGPS and AGPS Other reserved			Reserve	Reserve	0: NO EEPROM 1: EEPROM ON	0: NO ESD 1: ESD ON	0:UART 1:SPI

Part Number in common use:

	UART	SPI	ESD	EEPROM	AGPS	DGPS	Lowpower
GTS-4E-00	•						•
GTS-4E-01		•					•
GTS-4E-02	•		•				•
GTS-4E-03		•	•				•
GTS-4E-20	•				•	•	•
GTS-4E-21		•			•	•	•
GTS-4E-22	•		•		•	•	•
GTS-4E-23		•	•		•	•	•
GTS-4E-24	•			•	•	•	•
GTS-4E-26	•		•	•	•	•	•

Mechanical Data

13	GND	GND	12
14	MOSI	RF_IN	11
15	MISO	GND	10
16	SCK	UCC_RF	9
17	RESERVE	RESERVE	8
18	SDA	RESERVE	7
19	SCL	TSYNC	6
20	TXD	ECLK	5
21	RXD	EXTINT0	4
22	U_BACK	1PPS	3
23	UCC	SS_N	2
24	GND	RESERVE	1

Dimensions 16.0mm x 12.2mm
Weight 1.6 g

Interfaces

Serial Interfaces 1 UART
 1 SPI
 1 I2C (Master)

Digital I/O Configurable time pulse
 1 EXTINT input
 1 Reset

Serial and I/O Voltages 2.7 to 3.6 V

Protocols NMEA, OSP

Electrical Data

Power Supply	2.7 to 5.5 V
Power Consumption	99 mW Continuous tracking 13 mW TricklePower: 1 Hz(200:1)
Backup Power	1.8 to 5.5 V, (< 600μA, when Sleep by cut main power; <190μA, when Sleep by power off)
Antenna Type	Active and Passive
Antenna Power	External or Internal VCC_RF

Receiver Performance Data

Receiver Type	48-channel SIRF-IV High sensitivity navigation engine GPS L1 C/A code SBAS: WAAS(for GTS-4E-2x only)	
Max. Update Rate	1 Hz	
Accuracy	Position	2.5 m CEP (All SV @ -130 dBm)
	SBAS	2.0 m CEP (All SV @ -130 dBm)
Acquisition	Cold starts	< 35S
	Warm starts	< 35S
	Aided starts	< 4.7S (Dependent on aiding data connection speed and latency)
	Hot starts	< 1S
Sensitivity	Tracking	-163 dBm
	Navigation	-160 dBm
	Reacquisition	-160 dBm
	Cold starts	-148 dBm
	Time Pulse	1 Hz(for next version)
	A-GPS	Supports AssistNow Online and AssistNow Offline, OMA SUPL compliant(GTS-4E-2x only and for next version)
	Velocity Limits	515 m/s (1000 knots)
	Operating Temp.	-40°C to 85°C
	Storage Temp.	-40°C to 85°C

Support Products

GTS-4E/GTS-4E Evaluation Kits

Ordering Information

GTS-4E-0x
GTS-4E-2x
Available as samples and tape on reel(250 pieces)