

JP15/ JP15-S

High sensitivity 12 channel GPS receiver

First FALCOM GPS module based on SiRFstar IIx

High sensitivity with XTracX 2.2.0

Integrated TCXO

8 Mb FLASH memory

ARM 7 baseband CPU

Runs also from ROM with

4 configurations

Low power consumption

Available in 2 variants:

JP15: 25.5 x 25.5 mm

JP15-S: 25.5 x 16 mm

Starter-kit contains evaluation
and configuration tool



The FALCOM JP15

is an excellent device designed for a wide variety of system solutions and offers an easy integration in various ways on the user application platform. The JP15 family based on a 0.13 micron CMOS process of the SiRFstarIIx – GSC2x – architecture is a single-board solution. The SiRFstarIIx architecture is a suitable combination of small size, low power and cost-effectiveness, it consumes one third the power and is literally half the size of its predecessor, SiRFstarIIe/ LP GPS chipset.

The full power operation is also dramatically reduced from 220 mW on the JP7-T family (based on the SiRFstarIIe/ LP) to 100 mW on the JP15 family (based on the SiRFstarIIx) and TricklePower is reduced from 80 mW to 30 mW.

The internal software is highly flexible, allowing the use of a variety of configurations from blinking LEDs, varying baud rates and protocols.

The JP15 family concept builds a perfect basis for the design of high-sensitive, low-power, compact and cost efficient state-of-the-art GPS enabled system solutions.

Output configurations

	Configuration 1 Slow NMEA ROM based	Configuration 2 Fast NMEA ROM based	Configuration 3 SiRF Binary ROM based	Configuration 4 Adaptiv Trickle- Power ROM based	Configuration 5 XTracX2.2.0 ATP 300ms, 1s FLASH based	Configuration 6 SiRF FW 2.4.0 FLASH based
UART A	NMEA v2.2	NMEA v2.2	SiRF Binary	NMEA v2.2	NMEA v2.2	NMEA v2.2
UART B	RTCM in	RTCM in	NMEA v2.2	SiRF Binary	SiRF Binary	SiRF Binary
UART A Baud	4800 n,8,1	19200 n,8,1	57600 n,8,1	4800 n,8,1	38400 n,8,1	38400 n,8,1
UART B Baud	9600 n,8,1	9600 n,8,1	57600 n,8,1	38400 n,8,1	38400 n,8,1	38400 n,8,1
NMEA Messages	GGA, GSA, RMC, VTG, GSV@5s	GGA, GLL, GSA, GSV, RMC, VTG	GGA, GLL, GSA, GSV, RMC, VTG	GGA, GLL, GSA, GSV, RMC, VTG	GGA, GLL, GSA, GSV, RMC, VTG	GGA, GLL, GSA, GSV, RMC, VTG
GPIO 1 No Nav	On	On	On	On	1s On, 1s Off	1s On, 1s Off
GPIO 1 Nav	100ms On @ 1Hz	100ms On @ 1Hz	100ms On @ 1Hz	100ms On @ 1Hz	On	On
GPIO 2 No Nav	Off	Off	Off	Off	Off	Off
GPIO 2 Nav	On	On	On	On	Off	Off
GPIO 3 No Nav	Off	Off	Off	Off	Off	Off
GPIO 3 Nav	100ms On @ 1Hz	100ms On @ 1Hz	100ms On @ 1Hz	100ms On @ 1Hz	Off	Off
GPIO 13 No Nav	On	On	On	On	Off	Off
GPIO 13 Nav	1s On, 1s Off	1s On, 1s Off	1s On, 1s Off	1s On, 1s Off	Off	Off

Technical specification



Evaluation



General

Frequency	L1, 1575.42 MHz
C/A code	1.023 MHz chip rate
Channel	12
Max. update rate	1 Hz
GPS datum	WGS-84
Protocol support	NMEA v2.2, SiRF binary
Processor type	ARM7/TDMI
Processor speeds	6 MHz, 12.5 MHz, 25 MHz, 49 MHz
data bus	16 Bit
FLASH	8 Mb

Accuracy

Position	Autonomous: 10 m CEP without SA; SBAS: < 5 m
Velocity	0.1 m/s, without SA
Time	1 ms synchronized to GPS time

TTF (Time to First Fix)

		Sensitivity
Tracking	/	16 dbHz
Hot start	<8 sec average	23 dbHz
Warm start	<35 sec average	28 dbHz
Cold start	<45 sec average	32 dbHz

Dynamic Conditions

Altitude	<60.000 ft (18.000 m) max
Velocity	<1.000 knots (515 m/s) max

Electrical characteristics

Power supply	+ 3 V DC
Power consumption	100 mW (3 V) Full power
	30 mW (3 V) Trickle power (1 sec)

Physical characteristics

Dimensions	JP15: 25.5 x 25.5 x 3 mm; JP15-S: 25.5 x 16 x 3 mm
Weight	2,8 g
Temperatur range	-40 to +85 °C