



GPS Modules & Receivers

-With ultra-high sensitivity and fast acquisition solution

I2R Labs

“Ideas In To Reality”

www.i2rlabs.com



General Features

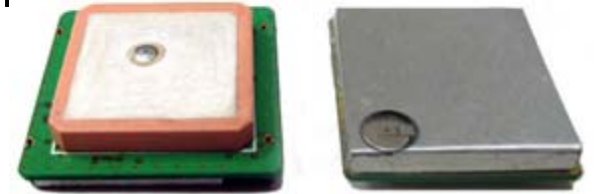
- 65 Channel GPS L1 C/A Code
- Perform 8 million time-frequency hypothesis testing per second
- Open sky hot start 1 sec, cold start 29 sec
- Signal detection better than -161dBm
- Multipath detection and suppression
- Accuracy 2.5m CEP
- Maximum update rate 10Hz
- Tracking current ~23-40 mA

GPS Receiver Module Comparison

	SiRF starIII (KET GWG 8000LP)	ublox5 (NEO5Q)	I2R Labs (Skytraq V6 chipset)	MTK3318 (ftech FGPMOSL3)
Channels	20	50	65	32
Search Engine	200K Correlator	1 Million Correlator	8 Million Time-Frequency Hypothesis Testing Per	N.A.
AGPS	InstantFix	AssistNow-Offline	PrompFi	N.A.
Ephemeris Prediction	7 days	7 day	7 day	N.A.
AGPS TTFF @ -130dBm	~10 sec	~5 sec	~4 sec av.	N.A.
Hot Start TTFF @ -130dBm	< 1 sec	< 1sec	< 1 sec	< 1sec
Warm Start TTFF @ -130dBm	< 38 sec av.	29 sec av.	28 sec av.	36 sec av.
Cold Start TTFF @ -130dBm	< 42 sec av.	29 sec av.	29 sec av.	37 sec av.
Cold Start Sensitivity	-142dBm	-144dBm	-147 ~ -148dBm	-146dBm
Re-acquire Sensitivity	-157dBm	-160dBm	-157 ~ -158dBm	-156dBm
Tracking Sensitivity	-159dBm	-160dBm	-160 ~ -161dBm	-158dBm
Acquisition Current	~75mA	~100mA	~50mA	~55mA
Tracking Current @ 1Hz Update	~40mA	~44mA	~23mA	~30mA
Max Update Rate	1Hz	4Hz	10Hz	5Hz
Position Accuracy (Autonomous, -130dBm)	2.5m	2.5m	2.5m	3m

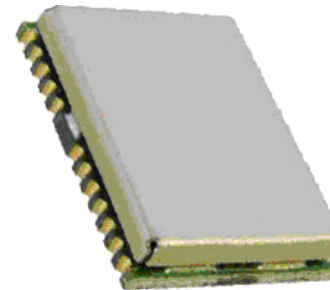
Smart GPS antenna modules

- RASTA-P-634R/RASTA-634F
 - RS232 serial port with 6 pins wafer connector
 - Dimension : 33.9 * 33.9 mm
- RASTA-P-625F
 - RS232 serial port with 6 pins wafer connector
 - Dimension : 25 * 25 mm
- RASTA-P-634U
 - USB port with Mini DIM USB interface
 - Dimension : 33.9 * 33.9 mm



SMD GPS modules

- RASTA-SMD-1513R
 - Dimension : 15*13 mm
- RASTA-SMD-1612R
 - Dimension : 16*12 mm
- RASTA-SMD-1618R
 - Dimension : 16*18 mm
- RASTA-SMD-1722R
 - Dimension : 17*22 mm
- RASTA-SMD-2525R
 - Dimension : 25*25 mm



GPS Engine board module

- RASTA-MMCX-610F
 - MMCX RF connector
 - 10 pins male head connector
 - Flash version
 - 3.3V-5.0V
 - Dimension : 43L x 31W x 6H (mm)



SMD Type of GPS Modules

MODEL	RASTA-SMD-1513R	RASTA-SMD-1612R	RASTA-SMD-1618R	RASTA-SMD-1722R
Frequency	1575.42 MHz	1575.42 MHz	1575.42 MHz	1575.42 MHz
Dimension (mm)	15(L)x13(W)x2.2(H)	42(L)x14(W)x9.2(H)	24(L)x14(W)x13(H)	22.4(L)x17(W)x2.9(H)
Weight	<3 grams	<3 grams	<6 grams	< 6 grams
Sensitivity	-161dbm			
Receiver architecture	65 parallel channels			
Start-up time	Hot start: 1 sec / Warm start: 32 sec / Cold start: 32sec			
Position accuracy	Autonomous: 3.0 m			
Update Rate	1 Hz			
Power Supply	3.3V +- 5%			
Current Consumption	Acquisition: 60mA Tracking 23 mA	Acquisition: 58mA Tracking 23 mA	Acquisition: 53mA Tracking 25 mA	Acquisition: 53mA Tracking 28 mA
Baud Rate	9600 bps (default) & 4800/9600/38400/57600/115200 bps are adjustable			
Output Sentences	Standard: GGA, RMC, GSV, GSA, VTG Option: GLL, ZDA			
Operating Temperature	-30° C~ +85° C			

Compatible SMD GPS Modules

RASTA-SMD-	1513R	1612R	1618R	1722R	2525R
Compatible Models	<i>SANSUNG</i> 1315	<i>uBlox</i> NEO-5	<i>ORCAM</i> GPS-3X	<i>uBlox</i> LEA-5	<i>uBlox</i> TIM-5 <i>Falcom</i> JP13-LP



Warranty & RMA issues

- Warranty : 1 years
- RMA (Returned Material Assurance)
 - Within the warranty period
 - Not broken by purposes or incorrect operations
 - Shipping fee will be equally shared by both of the parties



Contact us

- **Sales Contact : sales@i2rlabs.com**
- **Marketing Information : info@i2rlabs.com**
- **Technical Support : support@i2rlabs.com**
- **Direct Call : +919740848961**
- **www.i2rlabs.com**