

GPS & GNSS MODULE OVERVIEW GUIDE

Linx strives to make every engineer a hero in record time™ by minimizing the risk, delays and technical challenges for design engineers to implement wireless functionality and connectivity to the Internet. Unlike other module producers, every aspect of our product and design experience is specifically crafted to achieve Wireless Made Simple®.

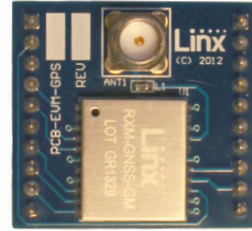
Linx GPS and GNSS Module Parameters

Series		R4	RM	F4	FM	GM	TM
Product Positioning		Low-cost ROM GPS receiver		Full featured GPS receiver		Full featured GNSS receiver	Small size GNSS receiver
Features		SiRFStarIV	MediaTek Low power	SiRFStarIV 5 user definable GPIOs 3 day ephemeris prediction	MediaTek 3 day ephemeris prediction Low power	MediaTek 3 day ephemeris prediction Uses all current global navigation satellite systems	MediaTek 3 day ephemeris prediction Uses all current global navigation satellite systems Small size Better sensitivity with on-board LNA
Size	Inches	0.51 x 0.59	0.51 x 0.59	0.51 x 0.59	0.51 x 0.59	0.51 x 0.59	0.40 x 0.38
	mm	15.0 x 13.0	15.0 x 13.0	15.0 x 13.0	15.0 x 13.0	15.0 x 13.0	10.1 x 9.7
Frequency		1575.42MHz	1575.42MHz	1575.42MHz	1575.42MHz	1575.42MHz, 1598.0625-1605.375MHz	1575.42MHz, 1598.0625-1605.375MHz
Chipset		SiRF Star IV, GSD4e ROM	MediaTek MT3337	SiRF Star IV, GSD4e-9411	MediaTek MT3339	MediaTek MT3333	MediaTek MT3333
Current Consumption	Peak (mA)	122	44	130	66	150	156
	Acquisition (mA)	56	14	46	14	24	28
	Tracking (mA)	33	12	27.5	12	16	20
	Sleep (µA)	430	135	20	150	365	365
Supply Voltage (VDC)	Min	3	3	1.71	3	3	3
	Max	3.6	4.3	1.89	4.3	4.3	4.3
RX Sensitivity (dBm)	Cold Start	-145	-143	-145	-143	-143	-147
	Tracking	-160	-161	-160	-161	-161	-164
Channels		48	66	48	66	99	99
Update Rate (Hz)		1	1 default, up to 10	1 default, up to 5	1 default, up to 10	1 default, up to 10	1 default, up to 10
Operating Temp Range		-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C
Acquisition Time (Seconds)	Hot Start Open Sky	<1	<1	<1	<1	<1	<1
	Hot Start Indoors	<15	<30	<15	<30	<30	<30
	Cold Start	<32	<32	<32	<32 (<15 wtih AGPS)	<32 (<15 wtih AGPS)	<32 (<15 wtih AGPS)
Altitude (m)		18,000	50,000	18,000	50,000	18,000	18,000
Velocity (m/s)		<515	<515	<515	<515	<515	<515
Position Accuracy (m)		2.5	2.5	2.5	2.5	2.5	2.5
1PPS Accuracy		N/A	±11ns	N/A	±11ns	±11ns	±11ns
Systems		GPS, QZSS	GPS, QZSS	GPS, QZSS	GPS, QZSS	GPS, GALILEO, QZSS, GLONASS	GPS, GALILEO, QZSS, GLONASS
Interface		UART	UART	UART	UART	UART	UART
Protocol Support		NMEA 0183 ver 3.0, SiRF Binary	NMEA 0183 ver 3.01	NMEA 0183 ver 3.0, SiRF Binary	NMEA 0183 ver 3.01	NMEA 0183 ver 4.10	NMEA 0183 ver 4.10

GPS and GNSS Module Part Numbering System

Our part numbers are structured as follows: product type, system and series.

TTT - FFF - SSS



EVM (Module on carrier board.)

RF Module Part Numbering System Descriptions

Product Type Options	System	Series
RXM (Receiver module)	GPS	R4, RM, F4, FM, GM, TM
EVM (Module on carrier board)	GNSS	

Master Development System

The development systems are not an afterthought to us at Linx. They are key to how we make Wireless Made Simple®. We do not consider a designer who purchases our kit to be a customer yet; they are potential customers who must be won over by our development experience and the support we provide. Linx kits are different in that they are:

1. Intuitive - We took inspiration from modern consumer products and usability best practices to design our kits to be extremely intuitive. Open the box and begin preliminary testing without reading the manual.
2. Everything you need - Contains everything a designer needs to make their product wireless including printed documentation, Antenna Factor™ antennas, spare modules and PC software to customize the module and troubleshoot the development.
3. Ergonomic to develop - Linx is unique in providing a hardware development area with easy to access lines and clips tied directly to the module's output. An integrated OLED display shows the module's output making it suitable for stand-alone testing.
4. Affordable - The goal of Linx is to make it as easy as possible to try out our products, not to make a profit on the kit. We price our master development systems at \$149 to \$199.



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