Product Introduction,
REB-1315LP

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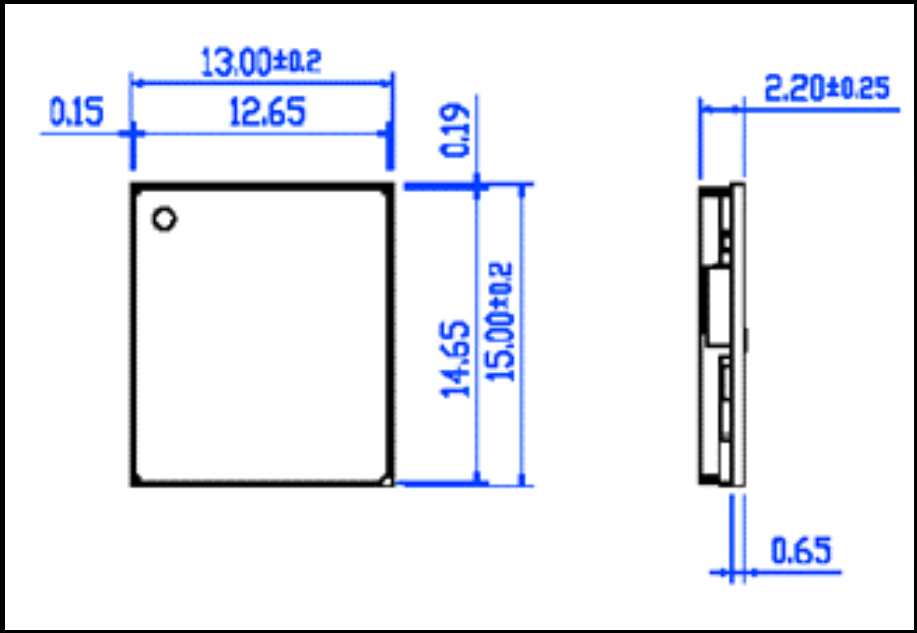
Topics

- **REB-1315LP Introduction**
  - Images & Dimension
  - Features
  - General Specification
  - Design Appendix

REB-1315LP Images & Dimension

Front View



Dimension

REB-1315LP Features

- 20 Parallel Channels
- Extreme Fast TTFF at Low Signal Level
- SMT Type with Stamp Holes
- TCXO Design
- 0.1 Second Reacquisition Time
- Small Form Factor with Embedded SiRFstarIII Solution.
- NMEA-0183 Compliant Protocol or Customize Protocol.
- Enhanced Algorithm for Navigation Stability
- Excellent Sensitivity for Urban Canyon and Foliage Environments.
- Auto Recovery while RTC Crashes
- Build-in LNA and SAW Filter

REB-1315LP General Specification (1)

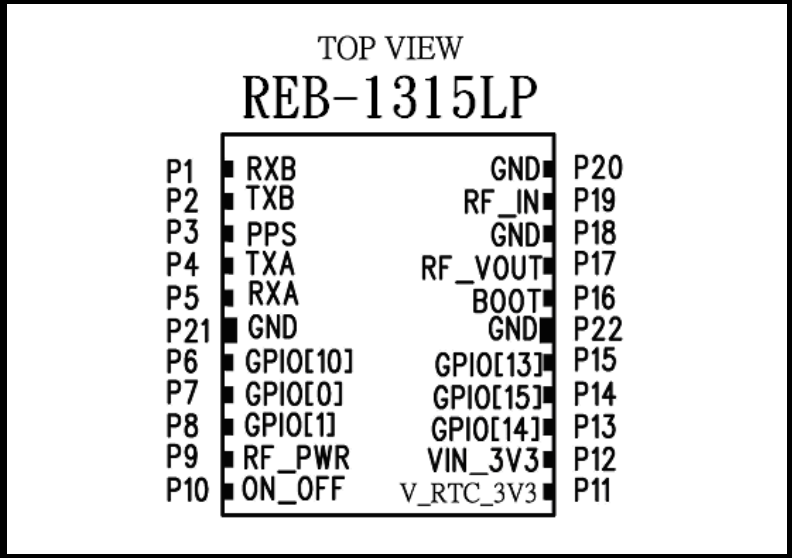
GPS Receiver General Specification	
Chipset	SiRFstarIII LP
Frequency	L1 1575.42MHz.
Code	C.A. Code.
Channels	20 Parallel Channels
Chipset Sensitivity	-159dBm
Chipset cold start	35 sec @ open sky (Average)
Chipset warm start	35 sec @ open sky (Average)
Chipset hot start	1 sec @ open sky (Average)
Reacquisition	0.1sec typical
Position accuracy	10meters at 2D RMS.
Maximum altitude	18,000 m
Maximum velocity	514 m/s
Update rate	1Hz

REB-1315LP General Specification (2)

Interface	
I/O Pin	22pin
Mechanical requirements	
Dimension	13*15*2.2 (±0.2) mm
Weight	≦ 3.5 grams
Power consumption	
Vcc	DC 3.3 ±5%
Current	< 48mA@3.3V Typical. (Tracking mode) < 45mA@3.3V Typical. (Acquisition mode)
Environment	
Temperature	Operating temperature： -40 ~ +85℃ Storage temperature： -40 ~ +85℃
Humidity	≦95%

REB-1315LP Design Appendix (1)

PIN Definition



Pin #	Signal Name	I/O	Description	Characteristics
1	RXB	I	Serial port B	$3.15 \geq V_{IH} \geq 1.995V$, $-0.3V \leq V_{IL} \leq 0.885V$,
2	TXB	O	Serial port B	$2.85V \geq V_{OH} \geq 2.375V$, $V_{OL} \leq 0.715V$
3	PPS	O	One pulse per second	$2.85V \geq V_{OH} \geq 2.375V$, $V_{OL} \leq 0.715V$
4	TXA	O	Serial port A	$2.85V \geq V_{OH} \geq 2.375V$, $V_{OL} \leq 0.715V$
5	RXA	I	Serial port A	$3.15 \geq V_{IH} \geq 1.995V$, $-0.3V \leq V_{IL} \leq 0.885V$,

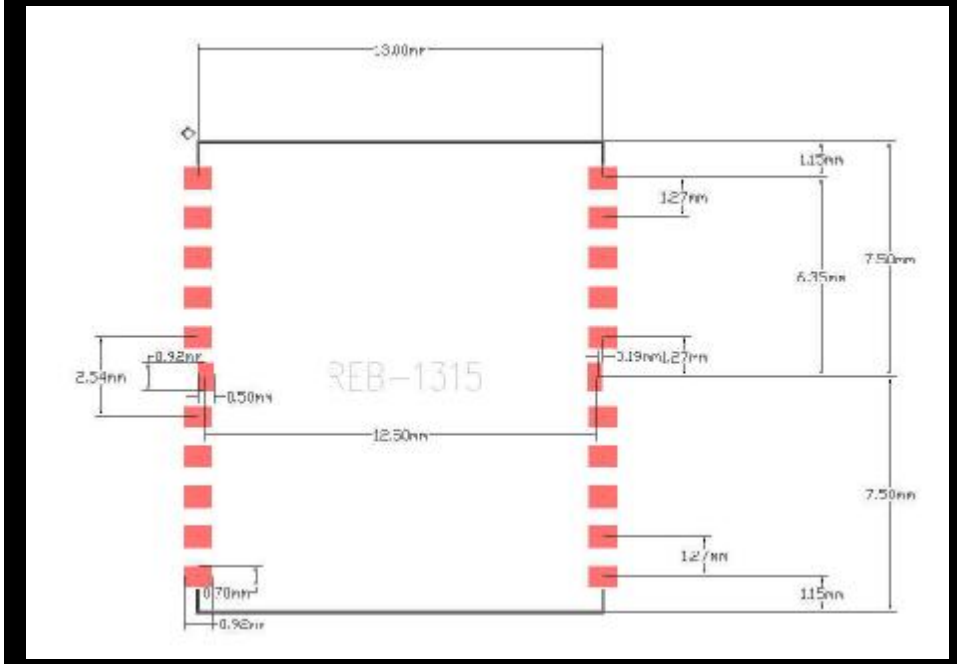
REB-1315LP Design Appendix (2)

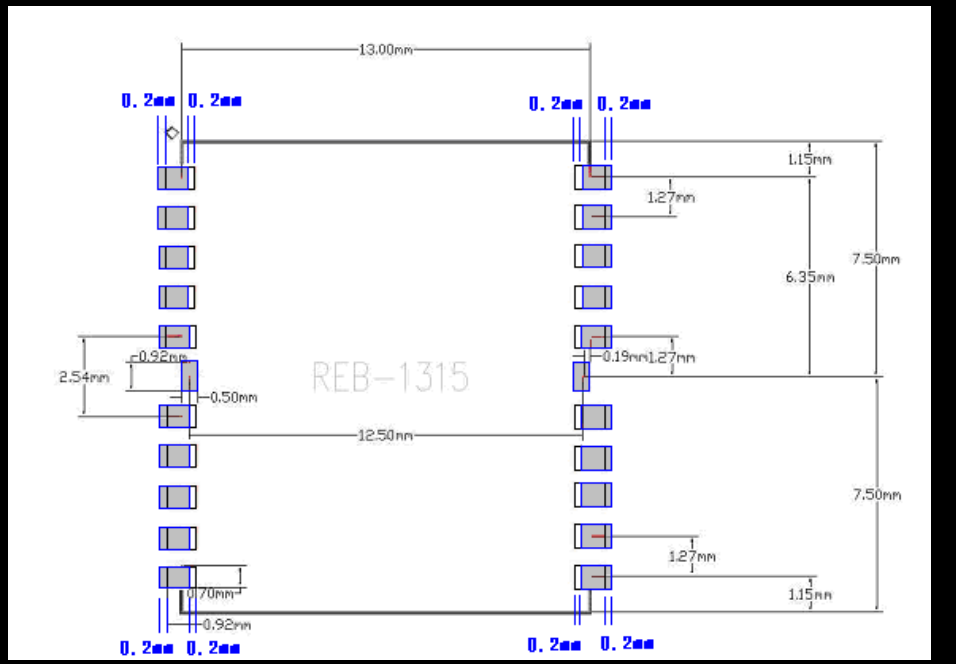
Pin #	Signal Name	I/O	Description	Characteristics
6	GPIO[10]	I/O	General purpose I/O	3.15 ≥ V_{IH}≥1.995V, -0.3V ≤ V_{IL} ≤0.885V, 2.85V≥V_{OH}≥2.375V, V_{OL}≤0.715V
7	GPIO[0]	I/O	General purpose I/O	3.15 ≥ V_{IH}≥1.995V, -0.3V ≤ V_{IL} ≤0.885V, 2.85V≥V_{OH}≥2.375V, V_{OL}≤0.715V
8	GPIO[1]	I/O	General purpose I/O	3.15 ≥ V_{IH}≥1.995V, -0.3V ≤ V_{IL} ≤0.885V, 2.85V≥V_{OH}≥2.375V, V_{OL}≤0.715V
9	RF_PWR	O	Indicates Status of RF Power	V_{OH} = 2.85V, V_{OL} = 0V
10	ON_OFF	I	Edge Triggered Soft ON/OFF Request	Reserve Function. (Let It N.C.)
11	V_RTC_3V3	I	Backup voltage supply	DC +2.5V~ 3.6V Current ≤ 10uA
12	VIN_3V3	I	DC Supply Voltage input	DC 3.3V±5%
13	GPIO[14]	I/O	General purpose I/O	3.15 ≥ V_{IH}≥1.995V, -0.3V ≤ V_{IL} ≤0.885V, 2.85V≥V_{OH}≥2.375V, V_{OL}≤0.715V
14	GPIO[15]	I/O	General purpose I/O	3.15 ≥ V_{IH}≥1.995V, -0.3V ≤ V_{IL} ≤0.885V, 2.85V≥V_{OH}≥2.375V, V_{OL}≤0.715V

REB-1315LP Design Appendix (3)

Pin #	Signal Name	I/O	Description	Characteristics
15	GPIO[14] 3	I/O	General purpose I/O	$3.15 \geq V_{IH} \geq 1.995V$, $-0.3V \leq V_{IL} \leq 0.885V$, $2.85V \geq V_{OH} \geq 2.375V$, $V_{OL} \leq 0.715V$
16	Boot	I	Boot Mode	$3.15 \geq V_{IH} \geq 1.995V$, $-0.3V \leq V_{IL} \leq 0.885V$,
17	RF_VOUT	O	Supply Antenna Bias Voltage	V_O = 2.85V ±5%, Current ~ 30mA
18	GND	G	Ground	Reference Ground
19	RF_IN	I	GPS Signal Input	50Ω @ 1.57542GHz
20	GND	G	Ground	Reference Ground
21	GND	G	Ground	Reference Ground
22	GND	G	Ground	Reference Ground

REB-1315LP Design Appendix (4)



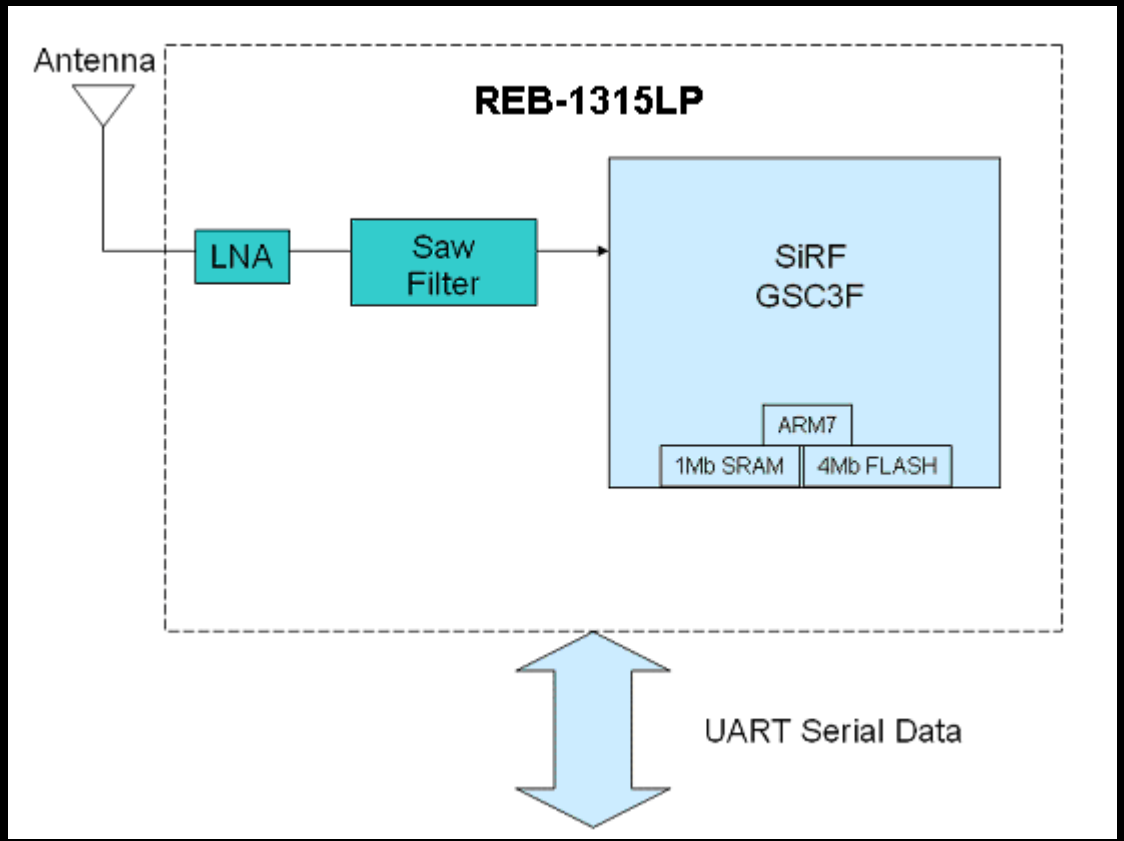


Recommend PAD Layout

Recommend PAD for Paste Mask

REB-1315LP Design Appendix (5)

REB-1315 Block Diagram



REB-1315LP Design Appendix (6)

Reference of Application Circuit