



BUFFALO B1919

GNSS (GPS/GLONASS) RECEIVER MODULE

TECHNICAL HIGHLIGHTS

Supports GPS L1 signal frequency (1575.42 MHz), C/A code

Supports GLONASS L1 signal frequencies (1598 to 1606 MHz), C/A code

32 tracking channels

NMEA output & input: 2 serial ports

On-board low noise amplifier

Works with passive or active antennas; with active, maximum gain at the RF input is 25 dB.

Built-in antenna open/short circuit protection

SBAS (WAAS, EGNOS, QZSS) capable

aGPS capable

Update rate 1 Hz

PPS timing output

28 surface mount castellations

GENERAL OVERVIEW

Trimble's Buffalo B1919 GNSS receiver module delivers top performance and Trimble quality in a new generation of positioning products. Use the B1919 to bring innovative products to market.

The Buffalo B1919 GNSS receiver provides L1 Frequency GPS and GLONASS - using the NMEA protocol from two serial ports, and also a PPS timing output. Buffalo can acquire and track GPS and GLONASS separately or use a combined solution of GPS and GLONASS. Galileo support will be available through a firmware upgrade.

The B1919 has an onboard low noise amplifier (LNA) that is compatible with both active and passive antenna implementations. It includes an onboard RTC and TCXO. The B1919 also has built-in antenna detection for open and short circuit conditions.



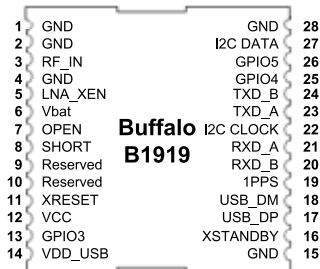
Buffalo B1919 (with shield removed)

The Buffalo B1919 receiver features powerful positioning performance in a 19.0 x 19.0 x 2.54 mm package. The module's 28 reflow-solderable surface-mount edge castellations provide an interface for your design without the need for costly I/O and RF connectors.

Choose the Buffalo B1919 for next generation GNSS performance, the best components and the highest production quality standards.

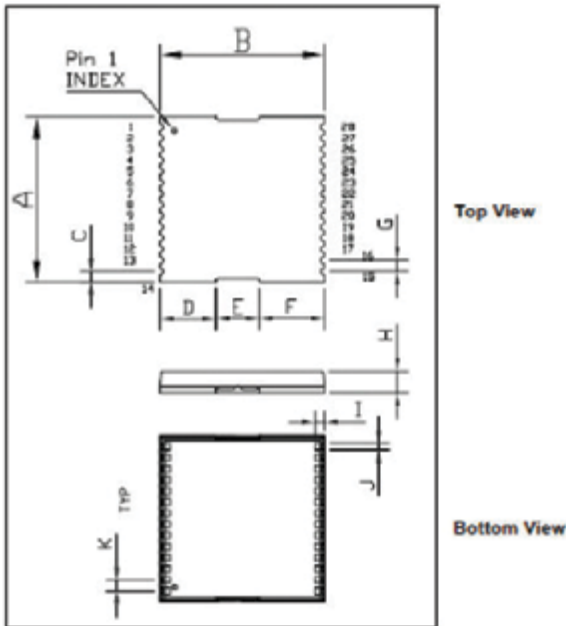
PIN OUT TABLE

PIN#	FUNCTION	I/O	DESCRIPTION
1-2	GND		Ground
3	RF_IN	Input	GPS/GLONASS signal input 50 Ω unbalanced (coaxial) RF input
4	GND		Ground
5	LNA_XEN	Output	
6	Vbat	Input	Optional backup power 2.0 V to V _{CC}
7	OPEN	Input	Antenna Open
8	SHORT	Input	Antenna Short
9	BOOT1	Input	
10	Reserved	Output	Do not connect
11	XRESET	Input	
12	VCC	Input	Main power supply 3.0 V to 3.6 V
13	GPIO3	Input/Output	Input (TBD)
14	VDD_USB	Input	USB supply
15	GND		Ground
16	XSTANDBY	Input	Selects Run or Standby mode; do not connect if not used
17	USB_DP	Input/Output	USB data plus
18	USB_DM	Input/Output	USB data minus
19	1PPS	Output	PPS Interface Time pulse
20	RXD_B	Input	Serial port Receive @ 2.8 V LVTTL
21	RXD_A	Input	Serial port Receive @ 2.8 V LVTTL
22	I2C CLOCK	Input	(TBD)
23	TXD_A	Output	Serial port Transmit @ 2.8 V LVTTL
24	TXD_B	Output	Serial port Transmit @ 2.8 V LVTTL
25	GPIO4	Input/Output	(TBD)
26	GPIO5	Input/Output	(TBD)
27	I2C DATA	Input/Output	(TBD)
28	GND		Ground



Pin Out Diagram

MECHANICAL OUTLINE DRAWING



Outline Dimensions (Inch ± 0.004 / mm ± 0.10)										
A	B	C	D	E	F	G	H	I	J	K
0.78	0.75	0.049	0.256	0.197	0.295	0.050	0.100	0.045	0.030	0.050
19.80	19.00	1.25	6.50	5.00	7.50	1.27	2.54	1.14	0.76	1.27

Mechanical

	B1919
Size	19 mm x 19 mm x 2.54 mm
Weight	TBD

Features

	B1919
32 Tracking channels	Yes
GPS support	Yes
GLONASS support	Yes
Antenna Open/Short detection	Yes
Passive Antenna Support	Yes
Built-in LNA	Yes
Assisted GPS	Yes

Interfaces

	B1919
Serial port	2 bidirectional NMEA, 2.8V LVTTTL level
USB2.0	TBD
I2C	TBD
Protocol	NMEA
Baud rates (default)	115200
Message output rate	1Hz
NMEA messages *	GGA5, GSA, GSV, RMC, GGA, GLL, VTG, ZDA

* Default output in **BOLD**

ORDERING INFORMATION

Model	Part #	Packaging			Carrier Board P/N	Starter Kit P/N
		20-pc tray	100-pc reel	500-pc reel		
B1919	99777-00	√		√		
B1919	99777-00-100		√			

SUPPORT INFORMATION

Get support information, including documentation and support software, at trimble.com:

<http://www.trimble.com/embeddedsystems/>

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