

# Support Note

Trimble Geospatial

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## TRIMBLE GNSS PERFORMANCE ISSUES WITH THIRD PARTY RTK NETWORKS & BASE STATIONS USING RTCM 3.1

### Description and cause of the issue

Trimble has determined that a change introduced in firmware version 6.13 to give preference to the GPS L2C civil signal is causing users to experience rover performance issues with RTK networks and third party base stations using RTCM 3.1. This RTCM message format only provides GPS and GLONASS corrections, but RTCM 3.1 Mountpoints are still provided by some RTK Networks. Whenever possible, at least RTCM 3.2 (MSM) providing full GNSS support should be selected.

RTCM 3.1 correction messages from RTK networks or third party base stations usually do not enable the GPS L2C signal (note that RTCM 3.1 does support L2C, and Trimble non-network base stations do enable L2C by default). In these cases, the network correction stream will replace L2C with a proprietary L2 signal, for example L2E, obtained from tracking the L2 P(Y) signal. Firmware version 6.13 will only use this L2E signal from the correction stream if the rover is also tracking L2E. However, by default, L2E is disabled and L2C enabled at the rover when L2C is available to give preference to the civil signal.

### Potential workarounds

There are several straightforward methods users can employ to work around this issue until the next firmware release:

1. Preferred - Use a modern corrections format which includes GPS L2C, such as CMRx or RTCM 3.2 (MSM)
2. If it is not possible to choose a correction stream which includes the GPS L2C signal, disable GPS L2C tracking under *Rover options* in Trimble Access. This will enable L2E tracking on all GPS signals at the rover.

<https://geospatial.trimble.com>

**GNSS Signal Tracking**

GPS	<input checked="" type="checkbox"/>	Use L2e	Yes
GPS L2C	<input type="checkbox"/>	L5	<input checked="" type="checkbox"/>
GLONASS	<input checked="" type="checkbox"/>	Galileo	<input checked="" type="checkbox"/>
QZSS	<input type="checkbox"/>	BeiDou	<input checked="" type="checkbox"/>

3. If not using Trimble Access, disable GPS L2C tracking **or** set GPS L2E tracking to “L2C and L2E” in the rover WebUI to continue using corrections which do not contain the GPS L2C signal

**Tracking ?**

Elevation Mask °

Everest™  ▾

Clock Steering  ▾

Type	Signal	Enable	Options
GPS	L1 - C/A	<input checked="" type="checkbox"/>	
GPS	L1C	<input checked="" type="checkbox"/>	
GPS	L2E	<input checked="" type="checkbox"/>	
GPS	L2C	<input type="checkbox"/>	
GPS	L5	<input checked="" type="checkbox"/>	I + Q ▾

**Tracking ?**

Elevation Mask °

Everest™  ▾

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Type	Signal	Enable	Options
GPS	L1 - C/A	<input checked="" type="checkbox"/>	
GPS	L1C	<input checked="" type="checkbox"/>	
GPS	L2E	<input checked="" type="checkbox"/>	L2C and L2E ▾
GPS	L2C	<input checked="" type="checkbox"/>	CM + CL ▾
GPS	L5	<input checked="" type="checkbox"/>	I + Q ▾

4. Downgrade firmware from v6.13 to v6.10.

## For more information

For more information, please contact your local Trimble distributor.