



GPS L5 Tracking

1 Introduction

The first GPS satellite with the L5 safety-of-life signal was launched in March 2009, and the signal is now available for tracking. In OEMV-3 firmware version 3.700, NovAtel is introducing L5 support, specifically L1-assisted L5 tracking. This means that before L5 can be tracked, the receiver must already be tracking L1. If L1 is lost, however, the receiver will continue to track L5.

2 Tracking and Logging L5

You can track L5 signals using the following OEMV-3 models:

OEMV-3 Model	Channels
OEMV-3-L1L5	0 to 13 GPS L1 14 to 19 GPS L5 20 to 21 SBAS
OEMV-3-L1L2L5	0 to 13 GPS L1/L2 14 to 19 GPS L5 20 to 21 SBAS

Use the ASSIGN command to turn on L5 tracking, as shown in the following example:

```
ASSIGN 14 1
```

In this example, channel 14 will track the L5 channel on PRN 1. Once you are tracking L5, you can output the information to the appropriate log, for instance, TRACKSTAT or RANGE, as shown in the following examples, in which the logs for the L5 signal are shown in red:

```
#RANGE, COM1, 0, 63.5, FINESTEERING, 1533, 460334.000, 00000000, 5103, 4349;  
25,  
1, 0, 21617023.671, 0.038, -113598256.712967, 0.009, 2248.891, 49.6, 6014.310, 98109c04,  
1, 0, 21617020.520, 0.068, -88518125.596773, 0.009, 1752.379, 44.4, 5995.180, 91309c0b,  
29, 0, 24516209.518, 0.066, -128833561.168401, 0.013, 3184.453, 44.7, 1452.680, 08109c24,  
29, 0, 24516207.924, 0.173, -100389778.735033, 0.015, 2481.391, 36.4, 1258.660, 01309c2b,  
.  
.  
2, 0, 20361456.804, 0.031, -107000210.464072, 0.004, 638.387, 51.4, 9991.760, 18109d84,  
2, 0, 20361451.928, 0.051, -83376765.562276, 0.005, 497.441, 47.0, 9933.380, 11309d8b,  
1, 0, 21617223.824, 0.016, -84830632.714179, 0.013, 1679.238, 43.8, 1359.720, 89c03dc4  
*da29b559
```

```
#TRACKSTAT, COM1, 0, 63.5, FINESTEERING, 1533, 460334.000, 00000000, 457c, 4349; SOL_COMPUTED,  
SINGLE, 0.0, 36,  
1, 0, 98109c04, 21617023.671, 2248.891, 49.575, 6014.310, 0.000, BADHEALTH, 0.000,  
1, 0, 91309c0b, 21617020.520, 1752.379, 44.399, 5995.180, 0.000, OBSL2, 0.000,  
29, 0, 08109c24, 24516209.518, 3184.453, 44.712, 1452.680, 0.217, GOOD, 0.240,
```

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```
29,0,01309c2b,24516207.924,2481.391,36.397,1258.660,0.000,OBSL2,0.000,  
.  
.  
2,0,18109d84,20361456.804,638.387,51.360,9991.760,-0.257,GOOD,0.249,  
2,0,11309d8b,20361451.928,497.441,47.000,9933.380,0.000,OBSL2,0.000,  
0,0,080081a0,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,012081a8,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
1,0,89c03dc4,21617223.824,1679.238,43.827,1359.720,0.000,UNKNOWN,0.000,  
0,0,89c021e0,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,89c02200,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,89c02220,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,89c02240,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,89c02260,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,0c022280,0.000,0.000,0.000,0.000,0.000,NA,0.000,  
0,0,0c0222a0,0.000,0.000,0.000,0.000,0.000,NA,0.000*117d7417
```

To cancel L5 tracking in our example, you must issue one of the following command:

```
ASSIGN 14 idle
```

Note: The ASSIGN "auto" option is not available for GPS L5.

3 Customer Service Contact Information

If you require any further information regarding the topics covered within this application, please contact:

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