



AMT FÜR TIEFBAU UND GEOINFORMATION
FÜRSTENTUM LIECHTENSTEIN

Geodetic reference point

A reference point, positioned with absolute precision, has been placed at a public and easily accessible location at the centre of Vaduz. This reference point can be used to check the accuracy of GNSS/GPS receivers. For this purpose, the GNSS receiver is placed on the corresponding marking of the reference point and the measured coordinates are compared with the defined coordinates of the reference point. Coordinates are provided using WGS84 as well as LV95 parameters.



Image 1 Geodetic reference point

Coordinates of the geodetic reference point in Vaduz:

Geographic coordinates	In decimal degrees (EPSG:4326)
In WGS84	9.52242309° east 47.13845114° north
	In degrees (°), minutes (′) and seconds (″)
	9°31′20.7231″ east 48° 8′ 18.4241″ north
Three-dimensional Cartesian coordinates	X/Y/Z [m]
in ETRS89	428668.19 719100.50 4652619.58
UTM coordinates	[m] (EPSG:25832)
Zone 32N (WGS84)	539614.76 east 5220682.26 north
National coordinates LV95 (CH1903+)	[m] (EPSG:2056)
	2758058.67 east 1222928.79 north
Altitude	506.33 metres above sea-level Ellipsoid (GRS80-Ellipsoid)
	458.58 metres above sea-level Standard elevation (LN02 Repère Pierre du Niton)

Precision

The degree of precision of simple receivers for pedestrian or vehicle navigation is normally less than 15 metres. To obtain a better estimate of the precision of the geographic coordinates displayed by such receivers, the deviation from set coordinates may be estimated as follows:

Difference between reading on the device and the target values:

Minutes (′)	0.01′	≈	15 m
	0.001′	≈	1.5 m
	0.0001′	≈	0.2 m
Seconds (″)	1″	≈	25 m
	0.1″	≈	2.5 m
	0.01″	≈	0.3 m

@ The location of the geodetic reference point is not ideal. The castle cliffs and the surrounding buildings obstruct a significant proportion of the sky. This limits the direct reception of satellite signals and tends to undermine the precision of GNSS/GPS receivers.

Contact:

Office of Civil Engineering and Geoinformation
Department of Surveying and Geoinformation
Städtle 38
9490 Vaduz
Phone: +423 236 69 90
E-Mail: info.abi@llv.li oder vermessung@llv.li