General Description

1. **Following is information about how the fixed worst case XY and Z axis 95% confidence levels were determined.**

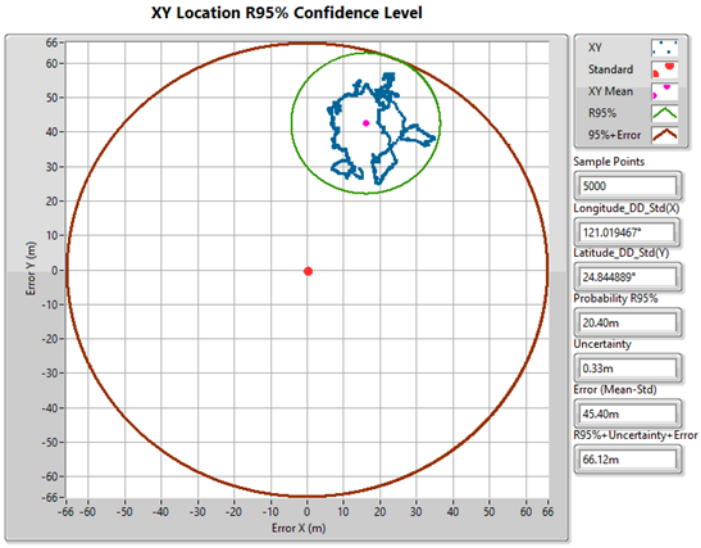
These values have been independently obtained from a 3rd party FCC certified test laboratory (Sporton).

Vantiva_BGW620_GPS data.7z

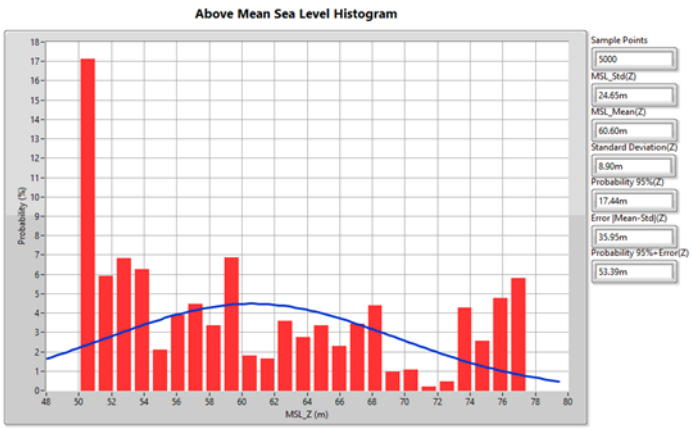
Geolocation Accuracy Test Report_F2450601.pdf

The test laboratory tested two product samples at three different known good locations. Each test consisted of 5000 samples. See above "Geolocation Accuracy Test Report" for test details.

The following figure represents one such XY location test set (one product at one location).



The following figure represents one such Z location test set (one product at one location).



The test laboratory determined the worst case XY axis 95% confidence level and the worst case Z axis 95% confidence level for each test. The summary of the tests are shown in the following table.

	XY(m)	Z(m)
A4 Sample	59.46	34.59
	43.66	52.36
	66.12	53.39
A7 Sample	36.19	56.56
	44.39	47.32
	47.29	49.39

2. Attestation confirming the location uncertainty with a 95% confidence level

The worst case XY axis 95% confidence level and the worst-case Z axis 95% confidence levels from the tests (shown in yellow shading) are selected as the fixed worst case XY and Z axis 95% confidence levels used in the product.

3. Following is the data flow when an AFC request is needed

1) The Product Firmware collects latitude, longitude, height values from the Airoha GPS IC. GPS satellites are utilized for determining this information.

2) Fixed worst case XY and Z axis 95% confidence levels are additionally included. These values have been obtained from test data.

3) The Product Firmware issues an AFC request to the AFC Client Firmware.

a. The AFC request includes latitude and longitude from the Airoha GPS IC to the AFC client firmware for use in the Ellipse object values within an AFC request per Table 10 of the Wi-Fi Alliance AFC System to AFC Device Interface Specification v1.5. The ellipse centre is the reported latitude and longitude location. The ellipse major Axis and minor Axis are the fixed worst case XY axis 95% confidence level in meters. The orientation is major Axis field in decimal degrees, measured clockwise from True North.

b. The AFC request includes height level from the Airoha GPS IC to the AFC client firmware for use in the Elevation object values within an AFC request per Table 13 of the Wi-Fi Alliance AFC System to AFC Device Interface Specification v1.5. The height is the elevation in meters, the heightType is “AMSL”, and the vertical uncertainty is the fixed worst case Z axis 95% confidence level in meters.

4) The AFC Client Firmware issues an AFC request to the AFC Server.

5) The AFC Client Firmware receives an AFC response from the AFC Server.

6) The Product Firmware receives an AFC response from the AFC Client Firmware.

7) The Product Firmware updates the 6GHz Radio Driver Firmware.