

Qualcomm 3D Building Elevation PIA General Description

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Revision history

Revision	Date	Description
AA	November 2023	Initial release
AB	February 2024	Removed PIA# from title & Introduction Removed Tables & Figures (no content)
AC	February 2024	Updated title

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1 Introduction

Qualcomm Technologies, Inc. (QTI) is a Wi-Fi chipset manufacturer for both access points (AP) and client equipment that operates in the 6 GHz band.

As required by FCC KDB 987594 D01, this is a public facing general description in support of a FCC Persistent Inquiry Approval (PIA) for the use of a Building Database Based Elevation Determination solution service, hosted by Qualcomm, for use in determining device elevation as an input into an Automated Frequency Coordination (AFC) system inquiry.

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2 Geolocation general description

The Building Database Based Elevation Determination Service uses building footprint data that includes a variety of features, such as building shape, height, and elevation for around 125 million buildings in the United States. This data is generated using a variety of methods, such as light detection and ranging (LiDAR), synthetic aperture radar (SAR), manual input, and artificial intelligence (AI).

This service is provided by QTI. The standard power (SP) device sends a request with its horizontal location area to Qualcomm cloud service. This service determines the height of the highest building within the provided area. This height represents the possible z-axis range for the SP device.

Since the SP device can be at any height in the determined range (highest building), the service returns the midpoint of the tallest building's height and an equal vertical uncertainty. Hence, it is ensured that all possible locations for the SP in provided location are covered. If there are no buildings within the provided area, the SP device is assumed to be at a maximum AGL height of 8 meters.