1 Overview

1.0.1 Outdoor Use

Outdoor use regulations vary between jurisdictions and can be confusing. This article breaks down outdoor use regulations for each jurisdiction and discusses the regulatory factors affecting each. Guidance is given for CUWB System usage while maintaining regulatory compliance.

- Regulations and interpretations of regulations change over time.
- It is the responsibility of the user to understand and follow the UWB regulations for the jurisdiction in which they operate.

The guidance provided here is not legal advice and users should consult with their own legal and regulatory advisors. In no case shall Ciholas be liable for misuse of CUWB Systems. See License and Terms of Service.

1.0.1 Indoor Use

CUWB systems can be used indoors in every jurisdiction. Available UWB channel settings will vary based on jurisdiction. For information on CUWB System channel availability and configuration see Feature Reference - RF Agility and CUWB Manager - RF Settings.

1.1 Definition of “Outdoors”

In most cases, it is obvious whether an UWB installation is “outdoors.” There are cases where the structure of a building might be considered indoors and yet have open walls, ceilings, or overhangs. Users need to determine whether their installation is considered indoor or outdoor in their jurisdiction. Regulations in some jurisdictions are specific, while others leave “outdoors” undefined.

2 FCC

FCC regulations apply in the USA and other countries that recognize FCC approved devices.

CUWB Tags are approved under *47 CFR 15.519* “handheld” rules which allow for use indoors and outdoors. All CUWB tags can be used outdoors.

Anchors, using **Channel 5**, are approved under *47 CFR 15.250* which states, “use of a fixed outdoor infrastructure is prohibited”. The FCC further clarified this as follows:

> The underlying purpose of *Section 15.250(c)* is “to prevent the establishment of wide area communications systems” in the 5925-7250 MHz frequency band.

The rule was put in place to prevent cellular type communications systems from using UWB. The methodology used to prevent this was a prohibition on fixed outdoor infrastructure.

CUWB location systems are not “wide area communication systems,” and an array of Anchors is not “infrastructure” in the sense of providing a utility to multiple entities. UWB users have built systems outdoors with large anchor arrays and feel they are in compliance with the FCC regulations.

Some companies have elected to seek a waiver from the FCC to allow their outdoor systems, one such example is iRobot. The FCC decision on granting that waiver is here: Federal Communications Commission - *DA 15-915*

The above quoted text comes from the *DA 15-915* decision and appears in other documents as well.

Anchors, using **Channel 9**, are approved under *47 CFR 15.517* indoor. The regulations state that Anchors operating with **Channel 9** can only be used indoors but leave “indoors” undefined.

On August 17, 2026, the FCC issued a KDB (393764 D01 UWB v03) which included new guidance on 15.517:

> UWB devices intended for certification as indoor UWB systems are authorized under § 15.517 and must operate only in the 3.1–10.6 GHz band. These devices are restricted to indoor usage and must be limited as such by the nature of their design (e.g. needing to be operated with fixed indoor infrastructure such as a connection to AC power lines). Devices designed for use in confined campus areas such as stadiums, warehouses, logistic depots, airports, and other demarcated areas under single management control may be considered as indoor use for the purpose of UWB device certification. Further, emissions from indoor UWB devices are not permitted to be intentionally directed outside a building to perform an outside function (e.g.,detecting people approaching the building) and antennas mounted outdoors are prohibited.

And additional guidance for 15.519:

> A. An operational description detailing how the device design limits operation to primarily hand held devices including the requirement that antennas may be mounted only on the UWB device itself and that devices do not use fixed infrastructure; 1. Where it is not practical for the device to be held in a person’s hand during operation, it is sufficient to show that the operator can exercise control over the device, or the object to which the device is affixed, while the device is operating.

3 CE

CE regulations apply in Europe and other countries that recognize CE compliant devices.

CUWB Tags are compliant with *ETSI EN 302 065* which allows for indoor and outdoor operation as long as the Tags are not operated “at a fixed outdoor location”. Since tags can move, even if rarely, this requirement is satisfied.

CUWB Anchors are also compliant with *ETSI EN 302 065*, which seems to prohibit anchors at fixed outdoor locations. However recently, the EU handed down a decision to allow outdoor use of Anchors in location tracking systems. The full text of that decision can be found here: EC Decision *2024/1467*

In this decision, outdoor use of Anchors on both **Channel 5** and **Channel 9** is allowed for location tracking.

4 ISED

ISED regulations apply in Canada and other countries that recognize ISED approved devices.

CUWB Tags are approved under *RSS-220* “handheld” regulations (section 5.3) which allow use outdoors.

CUWB Anchors are approved under *RSS-200* “indoor” regulations (section 5.2) which allow use indoors only. Canada is more specific, defining “indoors” as “locations completely enclosed by walls and a ceiling”.

5 MIC

MIC regulations apply in Japan and other countries that recognize MIC approved devices.

CUWB Tags and Anchors are approved under *MIC ARIB STD-T91 volume 1*.

At the time of this writing, MIC regulations prohibit outdoor use of UWB for all devices.

6 Multi-Jurisdiction

If a Tag or Anchor is provisioned with the ability to operate in more than one jurisdiction, the limitations of the local jurisdiction apply.

For example, a Tag that is approved for both FCC and CE, operating on **Channel 9**, would have to be indoors in areas governed by the FCC regulations, but outdoor use would be allowed in areas governed by CE regulations.