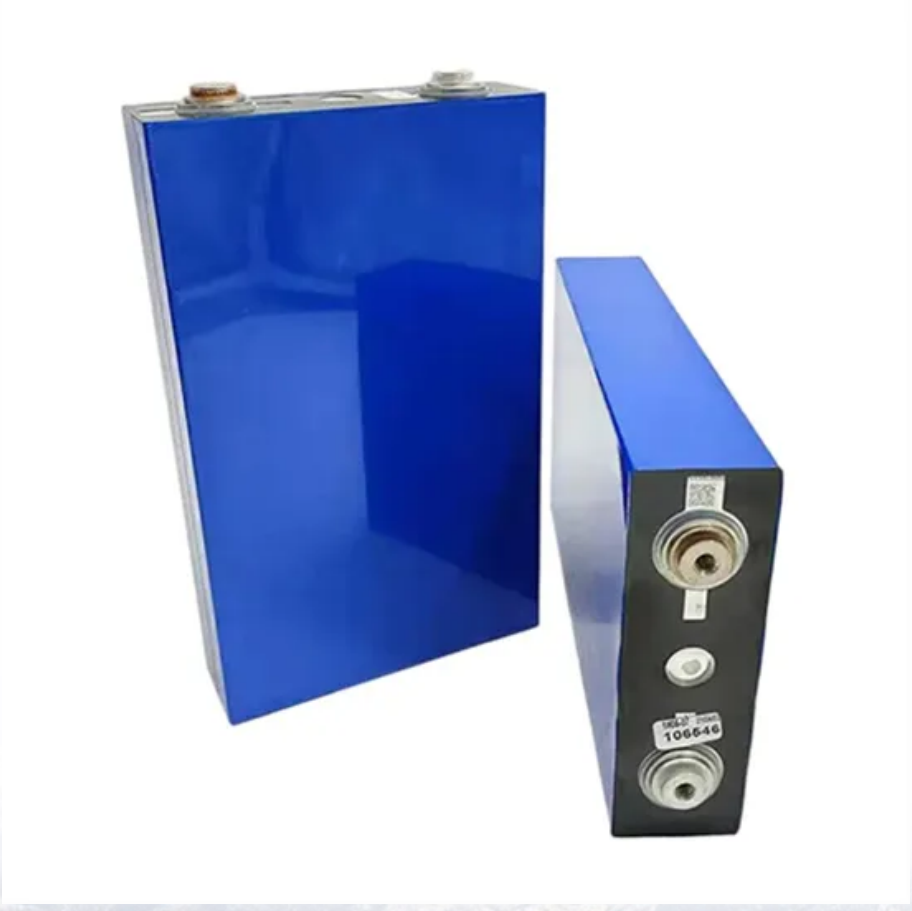
SolarInnovate Energy Solutions

Causes of interference from base stations to communication equipment



Overview

What is cross-link interference?

One of them is so-called cross-link interference, which occurs when one base station is transmitting, while another is receiving in the same frequency band. Base stations usually transmit at higher power and have better propagation conditions between them, i.e., lower path loss compared to the link between base station and user equipment.

What are the types of interference among frequency-sharing systems?

There are several types of mutual interference among frequency-sharing systems: (1) interference among terrestrial stations; (2) interference between satellite–earth links; and (3) interference between terrestrial stations and earth stations.

How does cross-link interference affect user throughput?

This interference from another base station that is transmitting is significantly larger than the received uplink from a user to another base station, resulting in a decrease in user throughput. One way to avoid cross-link interference is to ensure that all base stations are either transmitting simultaneously or receiving simultaneously.

Is there interference between non-cellular and non-satellite stations?

As for interference among terrestrial stations (noncellular, non-PCs, and nonsatellite), in the lower part of the frequency spectrum (<200 MHz), most of the terrestrial services do not suffer from interference problems. Mutual interference that could exist has been limited to acceptable levels by good frequency planning.

Why do TDD networks have cross-link interference?

It’s here that TDD networks experience so-called cross-link interference, where the base stations interfere with each other as they transmit and receive

in the same frequency band. End users constantly require improved coverage, capacity and throughput.

Does Ofcom provide interference-free spectrum?

Spectrum users may experience interference from time to time. While Ofcom does not guarantee interference-free spectrum, this page explains how you can: report interference to us. Interference is normally caused by: a fault or deficiency in the affected station or apparatus.

Causes of interference from base stations to communication equipn

Cross-link interference in TDD networks and how to tackle it

Jun 10, 2020 · One of them is so-called cross-link interference, which occurs when one base station is transmitting, while another is receiving in the same frequency band. Base stations ...

On the usefulness of flying base stations in 5G and beyond ...

Aug 31, 2023 · Considering that one of the goals of the future network generations is to provide ubiquitous communication in the most diverse scenarios to achieve high connection coverage, ...

Interference issues at co-located base stations and an ...

Sep 10, 2010 · Wireless communication service providers are having to co-locate base stations on common sites, since little space is available to build new ones. Base station receivers have to ...

Co and Adjacent Channel Interference Evaluation in GSM ...

May 12, 2018 · Abstract: Interference is the major limiting factor when evaluating the performance of cellular radio systems. Sources of interference could be another mobile at the same cell, a ...

Co-channel Interference Between Satellite and 5G System in ...

Jan 24, 2021 · Moreover, the interference factors of the 5G system to the FSS mainly include angle between the main axis of the FSS earth station antenna and the direction of the base ...

Simulation and Classification of Mobile Communication Base ...

Dec 16, 2020 · In recent years, with the rapid deployment of fifth-generation base stations, mobile communication signals are becoming more and more complex. How to identify and classify ...

Interference of 5G with aircraft radio altimeters: How to ...

Dec 1, 2024 · A variety of different frequencies can be used for the operations of 5 G networks, but these have different transmission rates. When it comes to potential interference with radio ...

Contact Us

For catalog requests, pricing, or partnerships, please visit: https://institut3i.fr