

# **Base station communication signal detection**





## Overview

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Why is BS a good G-Distance sensing system?

g-distance sensing: The power of BS is high, owning excellent performance in long-distance sensing. Mutual benefit between sensing and communication: The sensing function assists communication in beamforming and beam alignment. Communication assists sensing in providing the pr.

Can a fake base station avoid detection?

Similar to many other detection-based schemes, there can be a fake base station that can avoid detection, i.e., it is not detected as a faulty base station, but that would result in the attacker reducing its availability threat impact and releasing the connectivity setup.

What does a base station do?

The base station acts as a bridge gateway between the user equipment and the core network. The core network provides service connectivity to the user equipment by authentication management, identity management, and mobility management.

How far is a target antenna from a base station?

In the case of a 20M bandwidth communication signal and dual base station target detection, for a target within a cell communication range of the base station (2 km) and its cross-sectional area is relatively large, theoretically the distance from the target antenna to the receiving antenna is 0.45 km.



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### Integrated Sensing and Communication Enabled Multiple Base Stations

Jun 13, 2024 · Integrated sensing and communication (ISAC) exhibits notable potential for sensing the unmanned aerial vehicles (UAVs), facilitating real-time monitoring of UAVs for ...

### The First Experimental Validation of a Communication Base Station ...

Mar 22, 2025 · Integrated Sensing and Communication (ISAC) is an important trend for future commutation networks. The Communication Base Station (CBS) can be used as a Ground ...



### The First Experimental Validation of a ...

Mar 22, 2025 · Integrated Sensing and Communication (ISAC) is an important trend for future commutation networks. The Communication ...

### How Do Base Station Analyzers Improve Wireless Communication

Apr 23, 2025 · Facilitating Accurate Spectrum Analysis Base station analyzers offer powerful spectrum analysis tools that provide a visual representation of signal activity across a range of



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### [Fake Base Station Detection and Link Routing ...](#)

Sep 1, 2024 · Fake base stations comprise a critical security issue in mobile networking. A fake base station exploits vulnerabilities in the broadcast ...



### **5G Native Network Function for False Base Station Detection ...**

Jun 5, 2025 · To address this issue, we propose a new network function called the Measurement Report (MR) Verification Function (MRVF) which can detect false base stations and is ...



### [Characterization of Monostatic Base Stations Sensing ...](#)

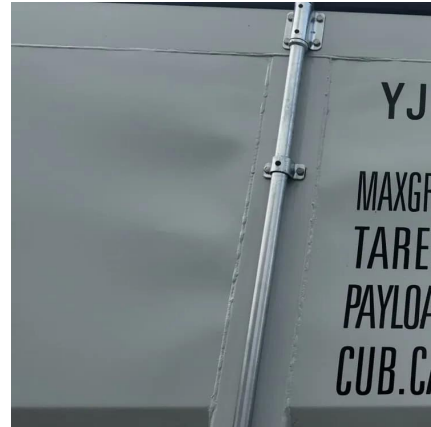
We introduce a novel architecture that repurposes existing 3GPP signals--Synchronization Signal Blocks (SSBs) and Positioning Reference Signals (PRSs)--for monostatic sensing at base ...





### Rogue Base Station Detection in Industrial Internet of ...

Apr 30, 2025 · Our detection approach is based on reference signal received power (RSRP) analysis, which allows us to monitor and evaluate signal strength variations. Since rogue base ...



### **Integrated sensing and communication enabled sensing base station**

Jan 21, 2025 · This paper studies the sensing base station (SBS) that has great potential to improve the safety of vehicles and pedestrians on roads. SBS can detect the targets on the ...

### Integrated Sensing and Communication enabled ...

Nov 27, 2023 · Driven by the intelligent applications of sixth-generation (6G) mobile communication systems such as smart city and au-tonomous driving, which connect the ...



### Radar Detection Based on Pilot Signals of LTE Base Stations

May 6, 2019 · This paper proposes a radar communication shared signal waveform, which can achieve higher resolution while using OFDM signals for target detection. Firstly, the ambiguity ...



## [Fake Base Station Detection and Link Routing Defense](#)

Sep 1, 2024 · Fake base stations comprise a critical security issue in mobile networking. A fake base station exploits vulnerabilities in the broadcast message announcing a base station's ...



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