

# 5g base station communication and joint communication



UL1973 / UL9540A / FCC  
UN38.3 / IEC62619 / CE  
CEI 0-21 / VDE2510-50  
UK

[VIEW MORE](#)



## Overview

---

What is multibeam design for joint communication and sensing in 5G?

**Multibeam Design for Joint Communication and Sensing in 5G New Radio Networks Abstract**—The large available bandwidths at millimeter-wave (mmW) frequencies enable very high data rates and reduced latencies while can also facilitate high-resolution radio-based sensing.

Is 5g-compliant user-equipment side sensing based on orthogo-NAL frequency division multiplexing?

**Abstract**—In this work, a proof of concept for 5G-compliant user-equipment side sensing is presented. It is based on orthogo-nal frequency division multiplexing radar-based ranging which is realized in this work by using the sounding reference signal from the 5G New Radio standard.

Can 5G support military movements in a joint operation?

The NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE) studied the different use scenarios and identified potential risks of using 5G to support military movements in a joint operation. Defence system vendors started creating 5G prototypes for various scenarios.

Should NATO use 5G in joint NATO activities?

When using 5G in joint NATO activities, it is important to consider the 5G security approach of each allied partner. A NATO 5G slice is one promising approach to facilitate cooperation among partners across countries and regions. Commonly, personnel who attend missions in other countries use roaming services.

Can 5G be used in defence?

**Abstract:** NATO considers 5G a “priority area” and the NATO Communication and Information Agency has identified four key areas for the usage of 5G in defence. Currently, each NATO member and defence company has its own



approach to using 5G, but it is clear that the defence sector will have to cooperate with public network operators.

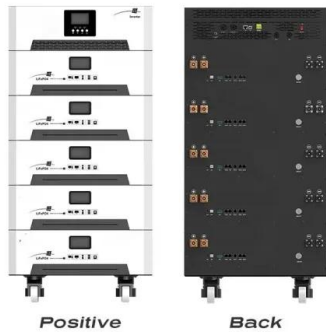
Can a 5G base-station be a dual-functional radar-communication node?

Similarly, in the proposed system presented in Fig. 1 where the 5G base-station, referred to as gNB, operates as a dual-functional radar-communication node using multiple beams, the reflections from the direction of the communication beam act as interference from the sensing perspective.



## 5g base station communication and joint communication

---



### [Electrical Enclosures and Connectors for Telecom Industry . E ...](#)

2 days ago· Discover how E-abel enclosures and Weipu connectors create reliable, scalable solutions for telecom networks. Applications include 5G base stations, fiber hubs, and smart ...

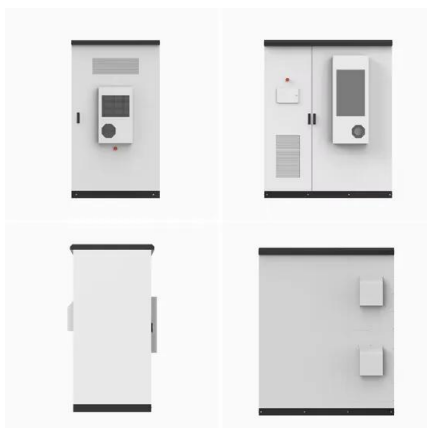
[Email Contact](#)

### **Performance Analysis of Joint Sensing and Communication based on 5G ...**

This work investigates a multibeam system for joint sensing and communication (JSC) based on multiple-input multiple-output (MIMO) 5G new radio (NR) waveforms. In particular, we ...



[Email Contact](#)



### [ACCEPTED FOR PUBLICATION IN IEEE JOURNAL ON ...](#)

Abstract--This work investigates a multibeam system for joint sensing and communication (JSC) based on multiple-input multiple-output (MIMO) 5G new radio (NR) waveforms.

[Email Contact](#)

### [Real-time power scheduling optimization strategy for 5G base stations](#)

To alleviate the pressure on society's power supply caused by the huge energy consumption of the 5th generation mobile communication (5G) base stations,a joint distributed ...



[Email Contact](#)



[JOURNAL OF LA Joint Communication and Sensing: 5G NR...](#)

Index Terms--5G, integrated sensing and communications, joint communication and sensing, joint radar-communications, mmWave, New Radio, OFDM, radar, range estimation, sounding ...

[Email Contact](#)

[5G Communication Base Station Antenna Market Size ...](#)

The global development of 5G networks is transforming the telecoms landscape, and the 5G communication base station antenna market ...

[Email Contact](#)



[Joint design of communication and sensing in Beyond 5G ...](#)

Key focus in our paper is on base stations using the same spectrum both for communication and sensing purposes (with emphasis on radar sensing) with an integrated JCAS design.

[Email Contact](#)





### [Modeling and aggregated control of large-scale 5G base stations ...](#)

A significant number of 5G base stations (gNBs) and their backup energy storage systems (BESSs) are redundantly configured, possessing surplus capacit...

[Email Contact](#)



### [ISAC: Integrated Sensing and Communication](#)

ISAC integrates sensing and spatial location of passive (not connected) objects into the mobile communication network, expanding the network's functionality beyond just ...

[Email Contact](#)

### [U.S. military moves to implement 5G: key considerations](#)

The United States Congress wants to see the Department of Defense's (DoD's) plans to upgrade to wireless communication on military ...

[Email Contact](#)



### [Energy-Efficient NOMA for 5G Heterogeneous Services: A Joint](#)

The escalating number of wireless users requiring different services, such as enhanced mobile broadband (eMBB), massive machine-type communications (mMTC), and ...

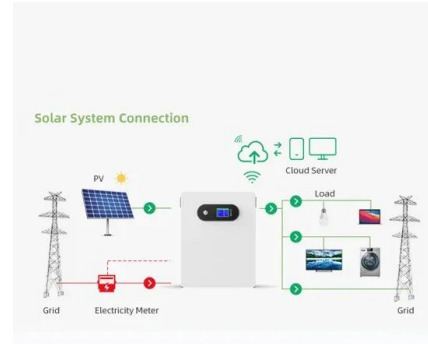
[Email Contact](#)



### [Performance Analysis of Joint Sensing and Communication ...](#)

This work investigates a multibeam system for joint sensing and communication (JSC) based on multiple-input multiple-output (MIMO) 5G new radio (NR) waveforms. In particular, we ...

[Email Contact](#)



### [Joint design of communication and sensing in Beyond 5G ...](#)

Key focus in our paper is on base stations using the same spectrum both for communication and sensing purposes (with emphasis on radar sensing) with an integrated JCAS design. ...

[Email Contact](#)

### [A survey on UAV placement optimization for UAV-assisted communication](#)

Considering UAV as aerial base station for downlink communication, we aim to maximize the energy efficiency and coverage rate by jointly optimizing the power allocation of ...

[Email Contact](#)



### [Multibeam Design for Joint Communication and Sensing in ...](#)

Considered scenario and system model for multibeam-based joint communications and sensing/radar in mmW 5G NR network. A single phased-array shared between TX and RX is ...

[Email Contact](#)

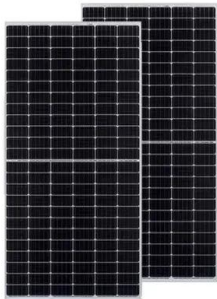




## Joint Load Control and Energy Sharing Method for 5G Green Base Station

Therefore, considering the time-sharing price of power grid, this paper proposes the optimal energy sharing scheduling and load control method of 5G base station cluster with ...

[Email Contact](#)



## [Joint Communication and Sensing: 5G NR Compliant Ranging ...](#)

Since the 1960s, joint sensing and communication (JSAC) has been proposed as an attractive technique with advantages of enhanced spectral and hardware efficiency along ...

[Email Contact](#)

## [U.S. military moves to implement 5G: key considerations](#)

The United States Congress wants to see the Department of Defense's (DoD's) plans to upgrade to wireless communication on military bases - a step toward getting all ...

[Email Contact](#)



## [Beyond 5G Into 6G at the IEEE 5G++ Summit](#)

For 6G, the core communication demands are to move cellular data around for productivity, interactivity and entertainment. Base stations will be able to offer even more than ...

[Email Contact](#)





### [Securing 5G Communication in Joint Operations Between ...](#)

Currently, each NATO member and defence company has its own approach to using 5G, but it is clear that the defence sector will have to cooperate with public network operators. When using ...

[Email Contact](#)



### [Joint design of communication and sensing for Beyond 5G ...](#)

Key focus in our paper is on base stations using the same spectrum both for communication and sensing purposes (with emphasis on radar sensing) with an integrated JCAS design. ...

[Email Contact](#)



### [Integrated Sensing and Communication Enabled Multiple Base Stations](#)

Rethinking the role of cellular mobile communication networks, we desire to add a "vision-like" capability to the widely deployed outdoor cellular base stations (BSs) to realize ...

[Email Contact](#)



### [Integrated Sensing and Communication Enabled Multiple Base Stations](#)

Driven by the intelligent applications of sixthgeneration (6G) mobile communication systems such as smart city and autonomous driving, which connect the physical and cyber ...

[Email Contact](#)





## Contact Us

---

For catalog requests, pricing, or partnerships, please visit:  
<https://www.ogrzewanie-jelenia.pl>