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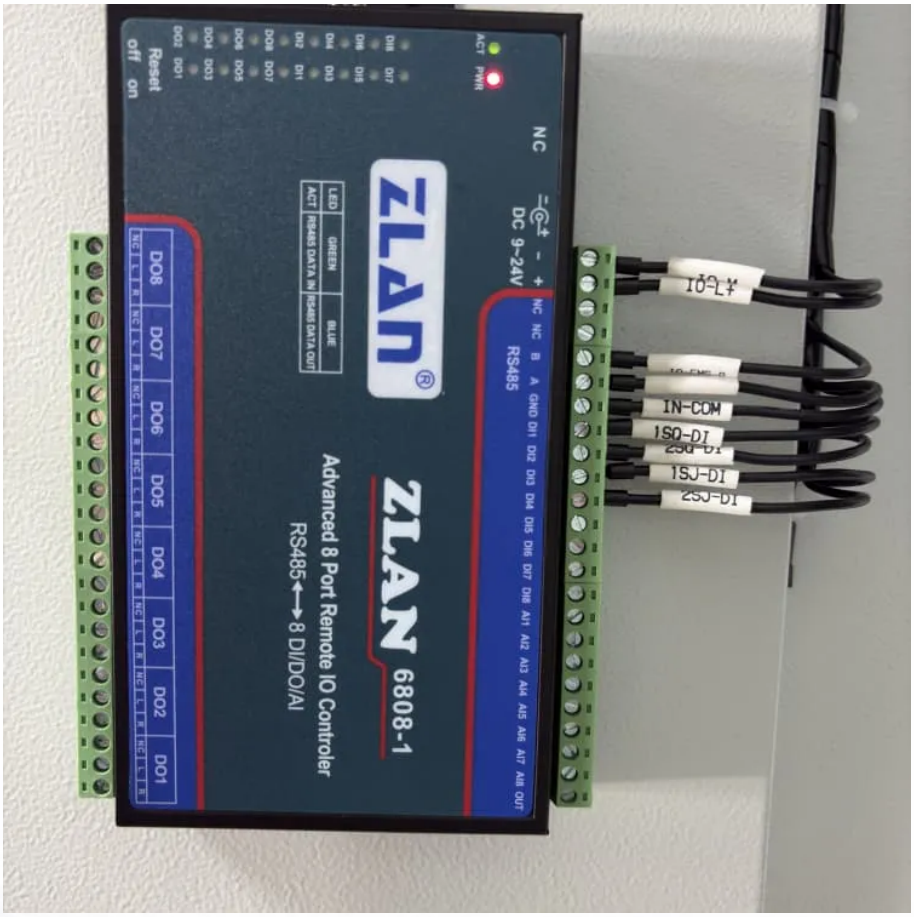
Communication integrated base station



Overview

How can a millimeter-wave base station improve real-time information transmission?

Finally, the proposed metasurfaces help the millimeter-wave base station to realize real-time information transmission of multi-users with different directions in a realistic indoor scenario. The experimental results demonstrate that the new beamforming base station system can intelligently enhance or attenuate signals in specific target areas.

Can a programmable metasurface build a smart base station framework for 6g?

Here, we propose a large-scale 2-bit millimeter-wave programmable metasurface to build an integrated smart base station framework for 6G communications. The meta-array is composed of 30 × 30 meta-elements, each with two embedded positive-intrinsic-negative (PIN) diodes.

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 sen ing and communication: The sensing function assists communication in beamfor ng and beam alignment. Communication assists sensing in providing the pr.

Can a 6g smart base station work indoors?

The experiment results show high consistency with the calculations and simulations, successfully validating the good performance of the proposed system. Additionally, we respectively construct a single-stream system and a four-stream system for 6G smart base station applications in a realistic indoor scenario.

Why is beamforming a good base station auxiliary equipment?

The signal energy boosted in the specified direction guarantees

communication speed and data integrity. This verifies that the proposed system has an excellent beamforming capability to act as good base station auxiliary equipment that can cover a wide angle range of ±70° in the upper half-space. Figure 7.

What is a good performance for a base station auxiliary equipment?

The good performance indicates its significant applications as a base station auxiliary equipment working in the millimeter-wave band and suggests its potential to inspire the development of new wireless communication technologies.

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