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# 5G Advanced Could Turbocharge Video Transmission

**Field test of UCBC tech achieves uplink of more than 1 Gbps for a single user**


Huawei and China Mobile have conducted field tests that demonstrate that 5G Advanced can provide the uplink capacity and throughput to support the fast and efficient transmission of high-resolution videos from anywhere with network coverage.




# 5G Advanced Could Turbocharge Video Transmission

**CASE STUDY LEAD:**  
HUAWEI & CMCC (CHINA MOBILE COMMUNICATIONS GROUP CO., LTD.)

## + CHALLENGE


 Both consumers and companies are looking to capture ultra high resolution videos (4K/8K) filmed from a variety of locations, ranging from city streets and parks to manufacturing plants and warehouses. In many cases, portable cameras are being used to film from different vantage points. The footage they capture needs to be transmitted to a server or computer where it can be processed and edited or analysed, but today's wireless backhaul solutions generally lack sufficient uplink bandwidth.

## + SOLUTION

 In the second quarter of 2022, Huawei and China Mobile conducted a field test of uplink centric broadband communication (UCBC)


technology in a prototype 5G-Advanced network in Hangzhou city, Zhejiang Province, China. Huawei says 5G-Advanced UCBC utilises multi-carrier aggregation, all-uplink mode and extremely large aperture array massive MIMO to improve efficiency tenfold and support speeds of more than 1 Gbps in the uplink. That means the video footage doesn't need to be heavily compressed, enabling more raw data to be used in post-production or image analysis.

## + IMPACT & STATISTICS

 Employing 50 MHz SUL (supplementary uplink) and 100 MHz TDD spectrum, the field tests achieved an uplink cell throughput of over 3 Gbps, which Huawei believes is an industry-first. The field test also

demonstrated an uplink peak rate of over 1 Gbps for a single user. Huawei estimates there will be demand for 1 Gbps to 1.5 Gbps uplink capacity per 1,000 square meters in indoor industrial scenarios.

## + WIDER IMPLICATIONS

 UCBC technology could enable the film and television industries to easily upload high-definition video materials that meet post-processing requirements. That could remove the need for the expensive and cumbersome outside broadcast vans and wiring used for data transmission today. With UCBC, one person with one backpack could handle a live broadcast. Consumers could also use 5G-Advanced UCBC to live broadcast videos in real-time.

In the manufacturing sector, the step change in uplink capacity could support video surveillance

and machine vision applications that require ultra high resolution footage. For example, machine vision for intelligent quality inspection typically depends on video images with a resolution of 4K. 5G-Advanced UCBC could also support new innovative applications, such as automatic patrol vehicles and cloud robots.

## + STAKEHOLDERS

 Huawei and CMCC (China Mobile Communications Group Co., Ltd.)

## SOURCES & FURTHER INFORMATION

  
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