

China Mobile - *5G Cloud One* aerostat base station

Peter Lobner, 10 September 2022

5G Cloud One is a tethered aerostat equipped to operate as an airborne 5G cellular base station and provide communication services during emergency rescue and disaster relief operations. This aerostat was jointly developed by the Yunnan branch of China Mobile, Yunnan Innovation Institute of Beihang University and Huawei Technologies Co., Ltd.

The aerostat is designed to carry a mission payload of 200 kg (441 lb), stay in the air continuously for 15 days and operate even during strong winds. A single *5G Cloud One* aerostat can provide service to an area of about 100 square kilometers (38.6 square miles). These mobile aerostats can be deployed to locations that best reinforce a damaged terrestrial 5G communications network and can be redeployed as terrestrial service is gradually restored.



*The 5G Cloud One aerostat on its mooring mast,
with a 5G antenna under the envelope.*

Source: China Media Group



5G Cloud One deploying from its mooring. Source: Screenshot from Xinhua News video via China Daily (15 September 2022)



5G Cloud One aerostat deployed. Source: Screenshot from Xinhua News video via China Daily (15 September 2022)

The first operational test flight of the 5G Cloud One aerostat in September 2021 was successfully conducted at an altitude of 300 meters (984 ft) in Chuxiong Yi Prefecture in Yunnan Province in

southwest China. This is a region that is prone to natural disasters. For example, several people were killed and dozens injured in a major earthquake in Yunnan Province in May 2022. According to Chinese news agency Xinhua, the test demonstrated that the aerostat could “effectively compensate for the shortcomings of traditional communication methods in emergencies.”

Future plans for additional development or deployment of the *5G Cloud One* aerostat have not been announced.

For more information

- “Unmanned 5G-enabled airship completes test flight in southwest China,” Ecns.cn, 15 September 2021: <http://www.ecns.cn/news/2021-09-15/detail-ihagyxhs7014000.shtml>
- “Unmanned 5G-enabled airship completes test flight in Southwest China,” China Daily, 15 September 2021: <https://www.chinadaily.com.cn/a/202109/15/WS61418a47a310e0e3a6821bf1.html>
- “China: Airship with 5G base for communication in disaster areas,” Market Research Telecast (MRT), 16 September 2021: <https://marketresearchtelecast.com/china-airship-with-5g-base-for-communication-in-disaster-areas/157007/>

Other *Modern Airships* articles

- *Modern Airships - Part 1*: <https://lynceans.org/all-posts/modern-airships-part-1/>
- *Modern Airships - Part 2*: <https://lynceans.org/all-posts/modern-airships-part-2/>
- *Modern Airships - Part 3*: <https://lynceans.org/all-posts/modern-airships-part-3/>