



# 5G Broadcast Demystified

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This document addresses and corrects lingering misconceptions about 5G Broadcast—some of which were based on early drafts and are no longer valid under finalized specifications.

**It is an old LTE technology with misleading 5G in its name.**

*Inaccurate. The specifications became part of 3GPP Release 16, coinciding with the definition of 5G - hence the designation "5G Broadcast." The non-abbreviated name is LTE based 5G Broadcast. 5G in the name references that the technology fulfills the requirements defined for broadcasting in the 5G and the timing of the specification's release. See section 7.3 in 3GPP TR 38.913 which defines 5G multimedia broadcast requirements e.g. "Support for dedicated broadcast networks with high spectral efficiency".*

## **You need SIM and mobile subscription: it is not free-to-air like ATSC 3.0**

*False. 5G Broadcast explicitly supports Receive Only Mode (ROM), enabling free-to-air reception without uplink connection and SIM credentials. Section 5.8.1 in 3GPP TS 36.331 underlines Receive Only Mode with stating: "Device may receive MBMS without an active uplink". Additionally, 5G Broadcast supports premium services requiring encryption and authentication.*

## **Broadcaster must partner with a mobile operator for 5G Broadcast; you can't run your own network.**

*False. ETSI TS 103 720 Section 103 720 defines dedicated/standalone broadcast deployments, stating "Standalone deployments enable broadcast-only networks independent of MNO (Mobile Network Operator) infrastructure"*

## **It is not an open standard, and it is controlled by telco companies.**

*False. 5G Broadcast is openly standardized in 3GPP, with public contributions from a diverse set of stakeholders – including broadcasters across multiple continents. It is also profiled by ETSI, and acknowledged by ITU-R, both open standard bodies.*

## **With 5G Broadcast spectrum efficiency is inferior, making ATSC 3.0 superior.**

*Outdated. While Release 16 lacked Time and Frequency Interleaving (TFI), resulting in a performance gap relative to ATSC 3.0, the addition of TFI feature with Release 19 closed the gap. Recent lab test results show improved performance for pedestrians and low-mobility scenarios at low to*

*mid SNR levels. A detailed technical presentation on TFI based improvements will be shared at IBC 2025.*

**It can't fit in 6 MHz channels: it needs 10/20Mhz like LTE**

*False. Since Release 17, 3GPP added support for broadcast-friendly 6/7/8 MHz carrier bandwidth options specifically for UHF bands. For more information you can refer to ETSI TS 103 720.*

**This is a small-cell thing: you can't cover large areas with SFN like ATSC 3.0 could.**

*False. 5G Broadcast is designed for high power high tower (HPHT) and large SFN networks. Several trials have demonstrated large area coverage using 100 kW class HPHT sites.*

**Existing 5G phones can't support 5G Broadcast.**

*True, but evolving. While current phones do not natively support 5G Broadcast, the technology builds on eMBMS, which has been implemented in various phones. Some existing phones can be configured to demonstrate limited 5G Broadcast feature set. This is another data point which underlines 5G Broadcast support on cellular devices is relatively easier compared to traditional broadcast standards (like ATSC 3.0), making it a practically viable standard for mobile reception.*

**5G Broadcast doesn't support interactivity or other advanced broadcast features.**

*False. Like ATSC 3.0 or DVB-T2, 5G Broadcast is a physical access layer technology and is agnostic to service-level features.*

**You can't reuse broadcast transmitter/antennas: you need new telco gear.**

*False. Multiple broadcast vendors have successfully demonstrated 5G Broadcast excitors driving existing HPHT transmitter cabinets, filters and antennas.*

In conclusion, despite the “5G” moniker, 5G Broadcast is designed with traditional broadcasters in mind, placing cellular modem devices at the center of its design decisions. It is neither limited nor inferior compared to other broadcast standards like ATSC 3.0.

Adoption of any new standard – whether ATSC 3.0 or 5G Broadcast - should be evaluated in light of key factors such as regulatory frameworks, the size of the serviceable device base, prevailing business models, and time-to-monetization.

As a scalable, standards-based innovation from 3GPP, 5G Broadcast presents a compelling option for broadcasters.