



**National
Communications
Authority**



DIGITAL AUDIO BROADCASTING

August 2023



Say **goodbye** to **interference** **noise on your** **radio**

With **DAB+**, radio stations can
now reach more cities beyond
their immediate locations,
providing you with a broader
range of programme content.



Digital Audio Broadcasting (DAB)

Current Challenges with FM Broadcasting in Ghana

Over the years, Frequency Modulation (FM) radio has become a critical medium for communication, entertainment, and information dissemination in Ghana.

As Ghana's population continues to grow and urbanise, the demand for FM radio stations in major cities has surged, however, the available FM frequencies are limited, leading to numerous challenges.

Some of the issues currently being faced by Ghana's FM radio landscape are:

- ▶ Spectrum constraints, which hinders the grant of new FM radio authorisations.
- ▶ FM radio sometimes suffer interference which causes poor sound quality and disrupted reception for listeners. Additionally, this pose a challenge for advertisers and broadcasters, as it impacts their reach and potential revenue.

Promotion of Digital Radio

Embracing digital radio technologies, such as Digital Audio Broadcasting (DAB), can alleviate some of the challenges faced by traditional FM radio. Digital radio offers better sound quality, more efficient spectrum utilisation, and a wider range of channels.



Benefits of DAB

- 1. Overcoming Frequency Constraints:** With severe constraints on FM radio frequencies in major Ghanaian cities, DAB offers a solution to expand coverage and cater for the growing demand for sound broadcasting services.
- 2. Improved Reception Quality:** DAB utilises digital signals, mitigating interference and delivering superior audio quality compared to traditional analogue FM radio.
- 3. Efficient Spectrum Usage:** DAB allows more stations to share the same frequency channel and transmitter thereby enhancing energy and frequency efficiency. In this trial, 18 existing FM stations in Accra and Kumasi will share the same frequency channel to deliver DAB services.
- 4. Enhanced Interactive Services:** In comparison to FM, DAB allows the transmission of metadata such as text and images for the following - service and programme information, emergency warnings, news, weather and traffic information.
- 5. Ease of Selecting DAB stations to listen:** Consumers are able to select DAB stations by searching for the names of the stations instead of memorising their frequencies.



DAB Receivers/Equipment

To receive DAB signals, you will require a DAB+ compatible receiver or radio such as standalone DAB radios, DAB+ enabled car stereos, and even DAB+ functionality in select smartphones and portable devices.



1. Car Adapter
2. Portable Player
3. Multipurpose Player

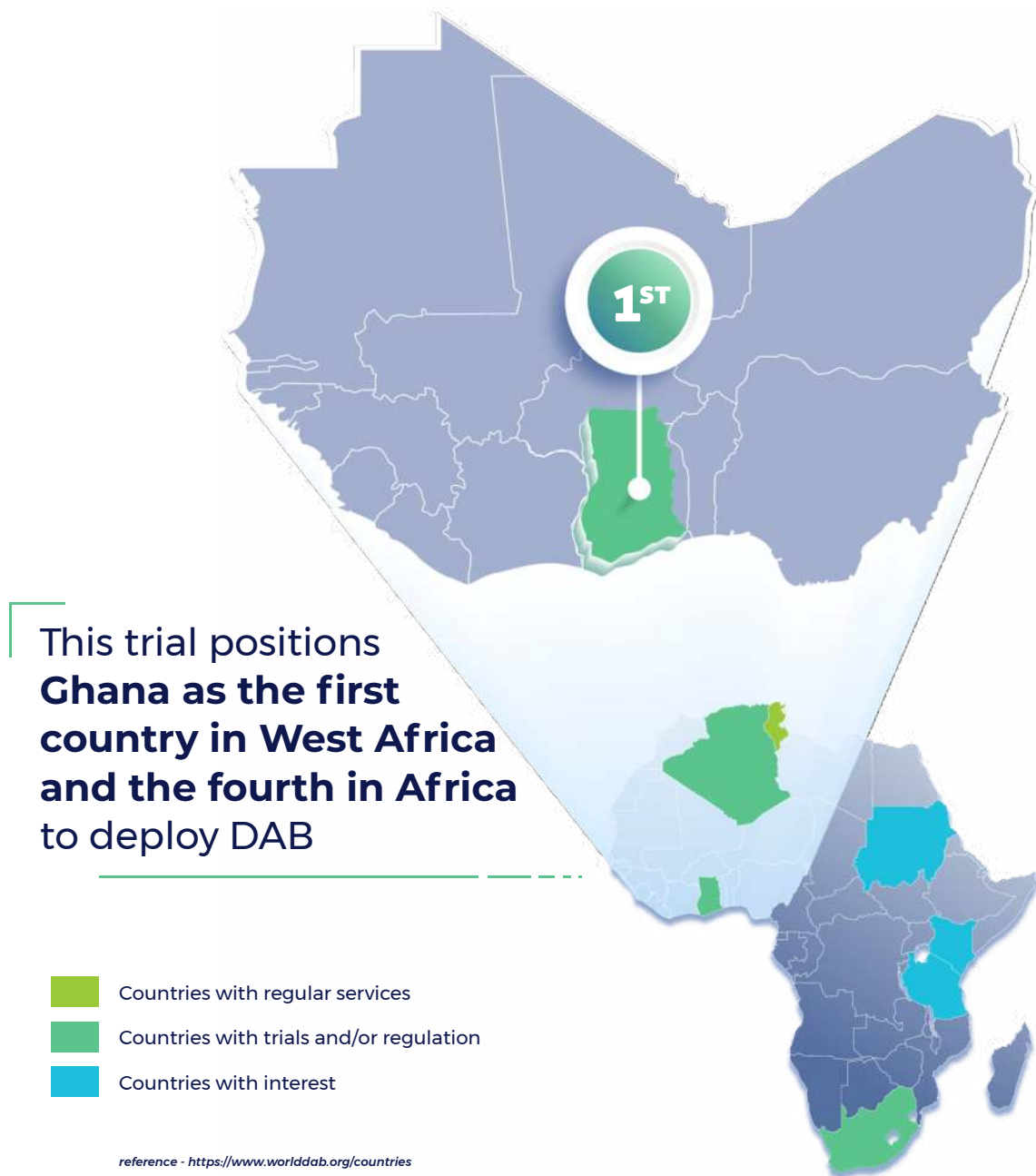


DAB Trial in Ghana

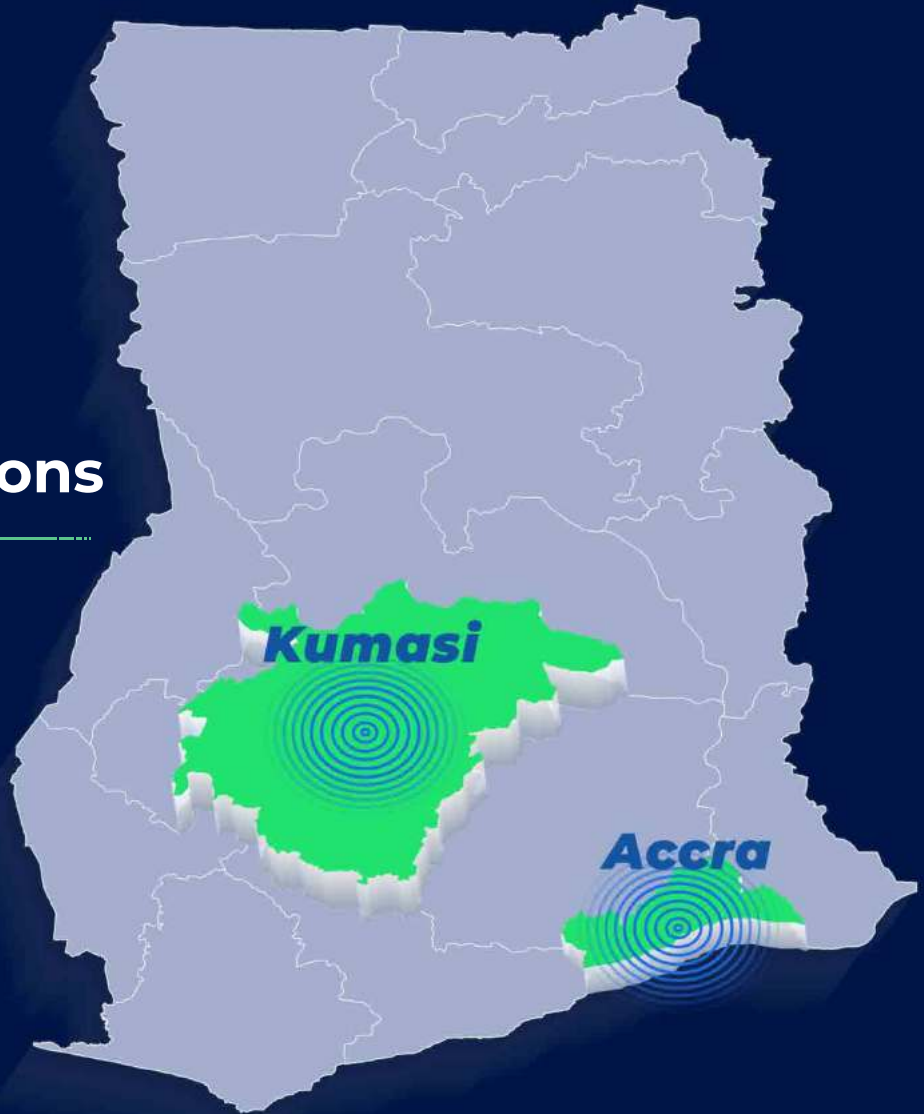
The DAB trial in Accra and Kumasi commenced in August, 2023. FM stations involved in this trial will be heard simultaneously in Accra and Kumasi.

Objectives of the DAB Trial

1. Test the features, coverage characteristics and other technical metrics of DAB+ to inform frequency planning and regulatory standards.
2. Establish the quality aspects of DAB and the transmission parameters which deliver optimum quality.
3. Ascertain the issues that may emerge with multiple stations sharing the same infrastructure with a single transmission network provider.
4. Market readiness and required market structure to inform the development of appropriate authorisation for DAB.
5. Determine the requirements for the development of minimum specifications for DAB receivers in collaboration with the Ghana Standards Authority (GSA).



Trial Regions



Audio Channels for Trial

11

Radio Stations in Accra



7

Radio Stations in Kumasi



Frequently Asked Questions

1. What is Digital Audio Broadcasting (DAB)?

Digital Audio Broadcasting (DAB) is a state-of-the-art radio technology that enables the transmission of digital audio content over the airwaves.

2. How does DAB differ from traditional analogue FM radio?

DAB stands out from FM radio in various ways. It uses digital signals instead of analogue signals, resulting in improved reception quality and reduced signal interference. Moreover, DAB utilizes a different frequency band from FM, allowing up to 18 stations to share the same transmitter, making it more energy-efficient. DAB also offers the transmission of additional data services alongside audio content.

3. Why is DAB being introduced in Ghana?

With increasing demand for sound broadcasting services and limited FM frequency availability in major cities, DAB addresses the frequency constraints for FM radio and allows stations to reach more cities while broadcasting the same programme content. DAB's spectrum efficiencies make it the perfect audio technology from a radio frequency management perspective.

4. How does DAB work? Can you explain the technology behind it?

DAB works by converting audio signals from radio stations into digital format. This digital data is then compressed and combined with data from other stations (multiplexing) before being transmitted for general reception. DAB receivers decode the transmitted data, converting it back into audio signals for a seamless listening experience.

5. Will DAB use the same frequencies as traditional analogue FM stations?

No, DAB will operate in the frequency range 174 to 230 MHz, while FM radio uses the frequency band 87.5 to 108 MHz.

6. Which Digital Audio Broadcasting standard has Ghana adopted?

Ghana has adopted the DAB+ standard. DAB+ provides enhanced audio quality and higher spectrum efficiency compared to the first-generation DAB.

7. Do I need a special device to receive DAB+ broadcasts?

Yes, to experience DAB+, you will need a DAB+ compatible receiver or radio such as standalone DAB radios, DAB+ enabled car stereos, and even DAB+ functionality in select smartphones and portable devices.

8. Are there any subscription fees for DAB+ services?

No, listening to DAB+ radio stations in Ghana does not require a subscription fee.

9. Can I still listen to FM radio stations if I have a DAB+ receiver?

Yes, DAB+ receivers in Ghana are required to support FM radio services as well. This gives you the flexibility to switch between DAB+ and FM broadcasts as desired.

10. Are there any additional features or services?

Indeed, DAB+ goes beyond traditional radio. Experience text information displayed on the radio screen, such as song titles, artiste names, and news headlines. Some DAB+ radios support interactive features like traffic updates, weather information, and on-demand content.

11. Are there any plans to switch off FM radio in favour of DAB?

Currently, there are no plans to phase out FM radio. DAB complements FM radio and offers listeners more options without replacing their existing equipment.

12. Want to Know More?

For further information about DAB, contact:

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