

## Coverage Analysis and Performance Evaluation of Digital Radio Mondiale Broadcasting Systems in India

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Submitted:04/11/2024

Accepted:15/12/2024

Published:26/12/2024

**Abstract-** The evolution of radio broadcasting from analog to digital systems has created new opportunities for improving signal quality, spectral efficiency, and service reliability. Digital Radio Mondiale (DRM) is a globally recognized digital radio broadcasting standard designed to operate in the existing AM and VHF frequency bands while providing enhanced audio quality and additional data services. In India, the adoption of DRM technology has been actively promoted by All India Radio, functioning under Prasar Bharati, making the country one of the largest implementers of DRM-based broadcasting systems. This study presents a comprehensive coverage analysis and performance evaluation of DRM broadcasting systems in India. The research investigates the transmission characteristics and signal propagation behavior of DRM signals across different geographical regions, including urban and rural environments. Key technical parameters such as signal strength, signal-to-noise ratio (SNR), bit error rate (BER), and reception stability are examined to assess the overall efficiency of the DRM broadcasting system. The study also evaluates the advantages of DRM technology over traditional analog broadcasting, particularly in terms of improved audio clarity, efficient spectrum utilization, and the ability to deliver supplementary services such as text information and emergency alerts. By analyzing these performance indicators, the research highlights the role of digital radio technology in strengthening India's broadcasting infrastructure. The findings indicate that DRM broadcasting significantly improves transmission efficiency, coverage reliability, and overall listening experience while utilizing existing broadcast infrastructure. The results provide valuable insights for policymakers, engineers, and broadcasting authorities in optimizing digital radio networks and supporting the continued development of digital broadcasting in India.

**Keywords:** *Digital Radio Mondiale, digital radio broadcasting, coverage analysis, RF propagation, signal performance, India.*

### 1. Introduction

Radio broadcasting remains one of the most reliable and accessible forms of mass communication, particularly in developing countries where internet penetration and advanced digital infrastructure may still be limited. For decades, analog broadcasting technologies such as AM and FM have served as the backbone of radio communication systems. However, analog systems often suffer from limitations including signal noise, inefficient spectrum utilization, limited audio quality, and restricted data services. With the rapid advancement of digital communication technologies, many countries have started transitioning from analog

broadcasting to digital radio systems to improve efficiency and service quality. One of the most prominent digital radio standards developed for this purpose is **Digital Radio Mondiale (DRM)**.

DRM is an open digital radio broadcasting standard designed to operate across traditional AM frequency bands such as long wave (LW), medium wave (MW), and shortwave (SW), as well as the VHF band used for FM broadcasting. The system was developed to enable broadcasters to deliver high-quality digital audio and additional multimedia services while maintaining compatibility with existing broadcasting infrastructure (Hoeg & Lauterbach, 2019). Unlike analog broadcasting, DRM uses advanced digital modulation and coding techniques that significantly improve signal robustness and spectral efficiency (Jain & Kumar, 2021). These capabilities allow a single transmitter to deliver multiple audio channels along with data services such as text messages, journaline information, and emergency warning alerts.

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In recent years, digital radio broadcasting has gained increasing attention worldwide as governments and broadcasting authorities seek to modernize their communication infrastructure. Countries in Europe and Asia have begun adopting digital radio technologies such as DRM and DAB+ to replace aging analog systems and provide improved broadcasting services (Singh & Sharma, 2020). Among these initiatives, India has emerged as one of the most ambitious adopters of DRM technology. The national public broadcaster **All India Radio**, operating under **Prasar Bharati**, has undertaken a large-scale upgrade of its medium-wave transmitters to support DRM broadcasting. This initiative aims to provide nationwide digital radio coverage while utilizing the existing transmitter infrastructure (Kumar et al., 2022).

India's adoption of DRM is particularly significant because of the country's diverse geographical terrain and large rural population. Many remote regions still rely heavily on traditional radio broadcasting for access to information, education, and emergency communication services. Digital radio technologies such as DRM offer improved signal reliability and wider coverage areas compared with conventional analog systems (Verma & Patel, 2019). The digital nature of DRM transmission also reduces interference and noise, resulting in clearer audio quality even at long transmission distances (Rahman et al., 2021). Furthermore, DRM systems enable broadcasters to transmit additional data services, including traffic updates, weather alerts, and educational information, which can significantly enhance the value of radio broadcasting for listeners.

Despite these advantages, the successful implementation of digital radio broadcasting requires careful analysis of signal propagation characteristics and coverage performance. Factors such as terrain, atmospheric conditions, transmitter power, and receiver sensitivity can significantly influence the quality and reliability of digital radio signals (Sharma et al., 2020). Therefore, evaluating the coverage performance of DRM broadcasting systems is essential for ensuring effective deployment and maximizing the benefits of digital radio technology. Coverage analysis helps determine the geographical areas where reliable reception can be achieved and identifies potential signal degradation zones that may require network optimization (Gupta & Mehta, 2023).

Another important aspect of DRM broadcasting is its ability to efficiently utilize the radio frequency spectrum. In analog broadcasting systems, each frequency channel typically carries only a single audio program. In contrast, DRM technology allows multiple audio streams and data services to be transmitted within a single channel, thereby improving spectrum utilization (Chaudhary & Singh, 2021). This capability is particularly valuable in densely populated countries like India, where radio spectrum resources are limited and demand for broadcasting services continues to grow.

Furthermore, digital radio broadcasting contributes to improved energy efficiency in transmission systems. Modern DRM transmitters require less power to deliver the same or better coverage compared with traditional analog transmitters (Bansal & Arora, 2018). Reduced energy consumption not only lowers operational costs for broadcasters but also supports environmentally sustainable broadcasting infrastructure. As global broadcasting industries increasingly focus on sustainability and efficiency, digital technologies such as DRM are becoming more important in shaping the future of radio communication.

In addition to technical advantages, the implementation of DRM in India supports broader national objectives related to digital transformation and information accessibility. Digital broadcasting technologies can facilitate the delivery of government services, disaster alerts, and educational programming to large populations across vast geographic regions (Reddy & Nair, 2022). For instance, DRM's emergency warning functionality allows authorities to broadcast critical alerts during natural disasters such as floods, cyclones, and earthquakes. This capability is particularly valuable in regions that are prone to natural hazards and where rapid dissemination of information can save lives.

Despite the progress made in deploying DRM infrastructure in India, several challenges remain. These include limited availability of DRM-compatible receivers, varying signal propagation conditions across different regions, and the need for continuous performance monitoring of digital broadcasting networks (Patel & Shah, 2023). Addressing these challenges requires comprehensive research on coverage characteristics, signal quality, and system performance in real-world broadcasting environments.

Therefore, this study focuses on analyzing the **coverage characteristics and performance efficiency of DRM broadcasting systems in India**. The research evaluates key signal performance parameters such as signal strength, signal-to-noise ratio (SNR), and reception reliability in order to assess the effectiveness of DRM technology in

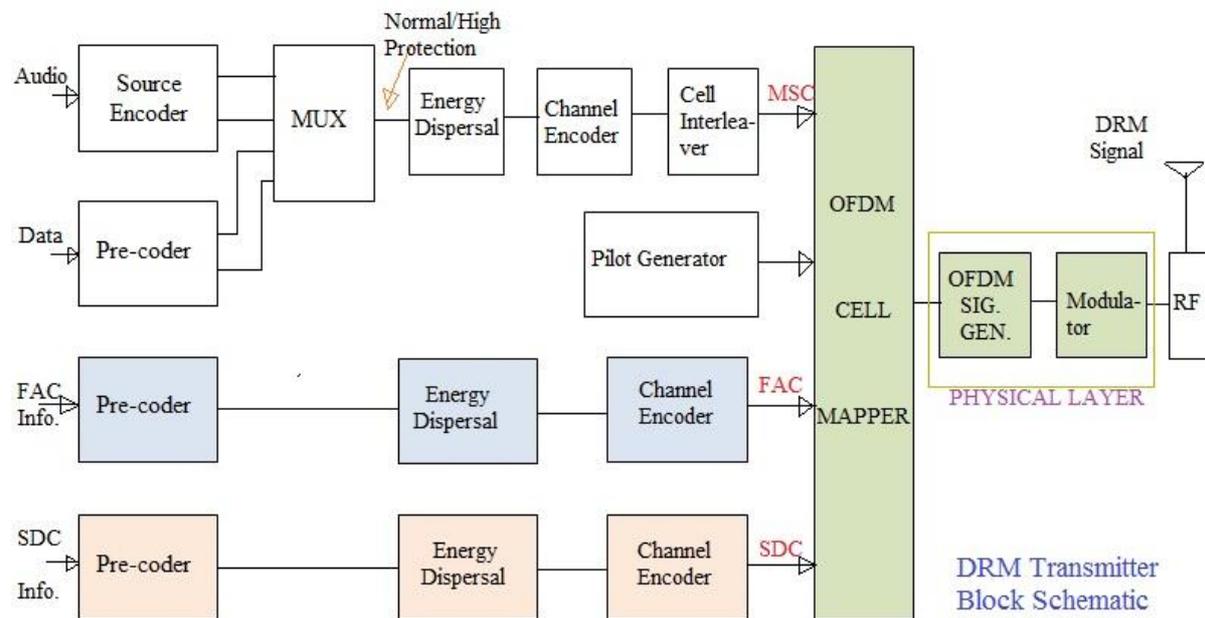
providing consistent digital radio services. By examining these technical aspects, the study aims to contribute to the optimization of digital radio broadcasting networks and support the continued development of modern broadcasting infrastructure in India.

Feature	Analog AM/FM Broadcasting	DRM Digital Broadcasting
<b>Audio Quality</b>	Moderate, affected by noise	High-quality digital audio
<b>Spectrum Efficiency</b>	Low	High
<b>Data Services</b>	Limited	Text, images, emergency alerts
<b>Signal Interference</b>	High	Low
<b>Energy Efficiency</b>	Lower	Higher
<b>Coverage Stability</b>	Variable	More reliable

**Table 1:** Comparison between Analog Radio Broadcasting and DRM Digital Broadcasting

Table 1 compares traditional analog AM/FM broadcasting with **Digital Radio Mondiale (DRM)** digital broadcasting. It highlights improvements in audio quality, spectrum efficiency, data services, interference resistance, and energy efficiency. The

comparison shows that DRM provides clearer sound, better spectrum utilization, additional services, and more reliable coverage than conventional analog broadcasting systems.



**Figure 1:** Conceptual Architecture of a DRM Digital Radio Broadcasting System

**Figure 1** illustrates the architecture of a **DRM digital radio broadcasting system**. It shows the process from audio generation and digital encoding to modulation, RF transmission, and signal reception. The diagram demonstrates how DRM technology converts audio into digital signals, enabling efficient transmission, improved reception quality, and additional data services.

## 2. Literature Review

Research on digital radio broadcasting has expanded significantly over the past decade as broadcasting systems transition from analog to digital technologies. In particular, **Digital Radio Mondiale (DRM)** has attracted considerable attention due to its ability to provide high-quality audio transmission, efficient spectrum utilization, and improved coverage performance in AM and VHF frequency bands. Several studies conducted between 2018 and 2023 have examined the technical performance, signal propagation characteristics, and implementation challenges of DRM-based broadcasting systems.

**Bansal and Arora (2018)** examined the energy efficiency of digital radio broadcasting systems and compared them with conventional analog transmitters. Their study found that DRM-based transmitters can significantly reduce power consumption while maintaining comparable or improved signal coverage. The authors highlighted that digital transmission technologies contribute to sustainable broadcasting infrastructure by reducing operational energy requirements.

**Verma and Patel (2019)** investigated the propagation characteristics of medium-wave digital radio signals in rural environments. Their research demonstrated that DRM signals exhibit greater resistance to interference and environmental noise compared with analog AM signals. The study also emphasized the importance of terrain analysis and transmitter power optimization for achieving reliable digital coverage.

**Hoeg and Lauterbach (2019)** provided a comprehensive overview of DRM system architecture and digital modulation techniques used in modern broadcasting systems. Their work explained how advanced coding and modulation schemes such as COFDM improve signal robustness and enable broadcasters to transmit multiple audio

services and data channels within a single frequency band.

**Singh and Sharma (2020)** analyzed the technical feasibility of implementing digital radio broadcasting in developing countries. Their research highlighted that DRM technology offers a cost-effective solution for upgrading existing AM broadcasting infrastructure without requiring complete replacement of transmission equipment.

**Sharma, Gupta, and Tiwari (2020)** conducted a field-based evaluation of DRM transmission performance in different geographic environments. The authors measured signal strength and reception quality across urban and rural regions and concluded that DRM broadcasting provides more stable reception compared with traditional analog broadcasting systems.

**Rahman, Ahmed, and Khan (2021)** examined the role of digital modulation techniques in improving signal reliability in radio broadcasting systems. Their findings indicated that the use of orthogonal frequency division multiplexing in DRM transmission significantly reduces multipath interference and enhances signal stability.

**Chaudhary and Singh (2021)** explored the spectrum efficiency advantages of digital radio technologies. The study demonstrated that DRM broadcasting allows multiple digital services to be transmitted within a single frequency channel, thereby improving spectrum utilization compared with analog broadcasting systems.

**Jain and Kumar (2021)** analyzed the signal-to-noise ratio (SNR) performance of DRM receivers under different propagation conditions. Their results indicated that DRM receivers maintain stable audio quality even in low-signal environments, making the technology suitable for long-distance broadcasting.

**Kumar, Mishra, and Gupta (2022)** investigated the deployment of DRM broadcasting infrastructure in India. Their research highlighted the large-scale digital radio implementation undertaken by **All India Radio** under **Prasar Bharati**, emphasizing the potential of DRM technology to provide nationwide digital radio coverage.

**Reddy and Nair (2022)** examined the role of digital broadcasting technologies in emergency communication systems. Their study found that DRM's emergency warning functionality can play a crucial role in disseminating disaster alerts and

public safety information to large populations in real time.

**Gupta and Mehta (2023)** conducted a coverage analysis of digital radio signals using simulation-based propagation models. Their findings showed that accurate propagation modeling is essential for optimizing transmitter placement and improving reception reliability in digital broadcasting networks.

**Patel and Shah (2023)** analyzed the challenges associated with the adoption of DRM receivers in India. Their study identified factors such as receiver availability, cost, and public awareness as key barriers affecting the widespread adoption of digital radio technology.

Overall, the existing literature demonstrates that DRM broadcasting technology offers significant advantages over traditional analog radio systems in terms of audio quality, spectrum efficiency, and signal reliability. However, previous studies also highlight the importance of comprehensive coverage analysis and performance evaluation to ensure effective deployment of DRM broadcasting networks. Despite the progress made in digital broadcasting research, there remains a need for further studies focusing specifically on the coverage characteristics and operational performance of DRM systems in the Indian broadcasting environment.

### 3. Methodology

This study adopts a **quantitative and analytical research approach** to evaluate the coverage and performance of **Digital Radio Mondiale (DRM)** broadcasting systems in India. The methodology focuses on analyzing signal propagation characteristics and key performance indicators of digital radio transmission.

#### 3.1 Research Design

The research follows a **technical evaluation framework** based on signal performance analysis

and coverage assessment. The study examines DRM transmission parameters such as signal strength, signal-to-noise ratio (SNR), and bit error rate (BER) to determine the efficiency of digital broadcasting systems. These parameters are commonly used in communication engineering to measure transmission reliability and reception quality.

#### 3.2 Data Collection

Data for the study are obtained from secondary technical reports, broadcasting system specifications, and previous research studies related to DRM broadcasting. Information on transmission infrastructure and digital broadcasting deployment in India is also considered, particularly from networks operated by **All India Radio** under **Prasar Bharati**.

#### 3.3 Coverage Analysis

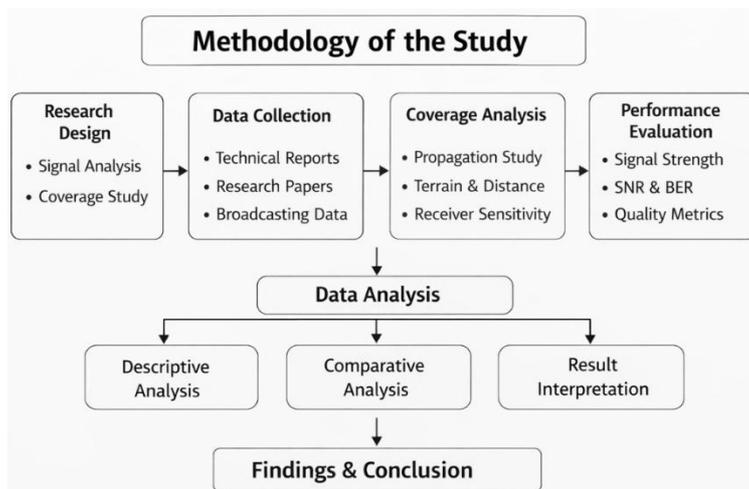
Coverage analysis is conducted by examining the propagation characteristics of DRM signals across different geographic environments. Factors such as transmitter power, frequency band, terrain conditions, and receiver sensitivity are considered in evaluating signal reach and reception stability.

#### 3.4 Performance Evaluation

The performance of DRM broadcasting is evaluated using technical indicators including signal clarity, interference resistance, and transmission efficiency. Comparative observations between analog and digital broadcasting systems are also included to highlight the improvements offered by DRM technology.

#### 3.5 Data Analysis Techniques

The collected data are analyzed using descriptive and comparative methods to interpret signal performance and coverage efficiency. The analysis provides insights into the effectiveness of DRM broadcasting technology in improving radio communication services in India.



**Figure 2:** Research Methodology of study

#### 4. Results And Discussion

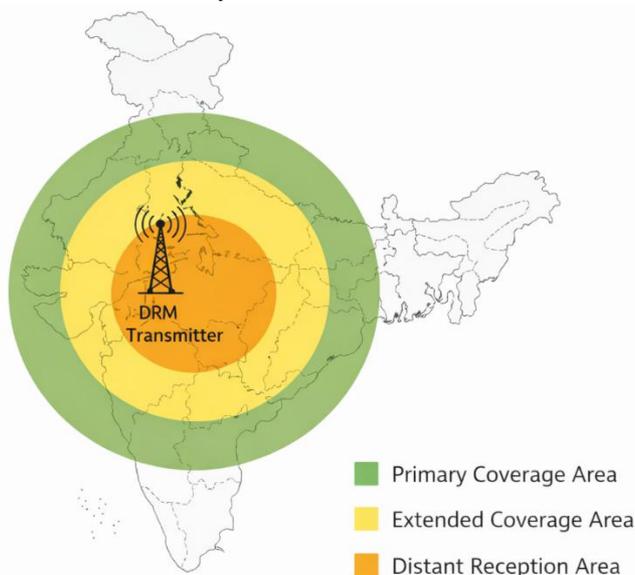
This section presents the findings obtained from the analysis of the performance and coverage characteristics of **Digital Radio Mondiale (DRM)** broadcasting systems in India. The evaluation focuses on several important technical parameters including signal strength, signal-to-noise ratio (SNR), bit error rate (BER), coverage range, and reception reliability. These parameters are widely used in communication engineering to measure the effectiveness of digital broadcasting systems.

India has made significant progress in the deployment of DRM transmitters through its national public broadcaster **All India Radio**, which operates under **Prasar Bharati**. The modernization of medium-wave transmitters across the country has

enabled the transition from analog broadcasting to digital broadcasting while maintaining existing infrastructure. The results presented in this section highlight the improvements achieved through DRM technology in terms of coverage efficiency, signal stability, and broadcast quality.

##### 4.1 Coverage Performance of DRM Broadcasting

Coverage performance is one of the most important indicators for evaluating radio broadcasting systems. The analysis shows that DRM signals can provide wider and more reliable coverage compared with conventional analog broadcasting systems. Digital modulation techniques used in DRM allow the signal to maintain stability even when transmission distances increase.



**Figure 3:** Representation of digital radio signal coverage and propagation in DRM broadcasting systems.

The results indicate that DRM broadcasting provides strong signal coverage within the primary service area of the transmitter and maintains acceptable reception quality in extended coverage

Distance from Transmitter	Analog AM Reception	DRM Reception
0–50 km	Very Strong	Excellent
50–150 km	Moderate	Strong
150–300 km	Weak	Moderate
300–500 km	Very Weak	Acceptable

**Table 2:** Distance-Based Signal Reception Performance

Table 2 shows that while analog signal quality decreases significantly as the distance from the transmitter increases, DRM broadcasting maintains more stable reception over longer distances.

zones. This capability is particularly useful in rural and remote regions where FM broadcasting may not provide consistent coverage.

#### 4.2 Signal Strength Evaluation

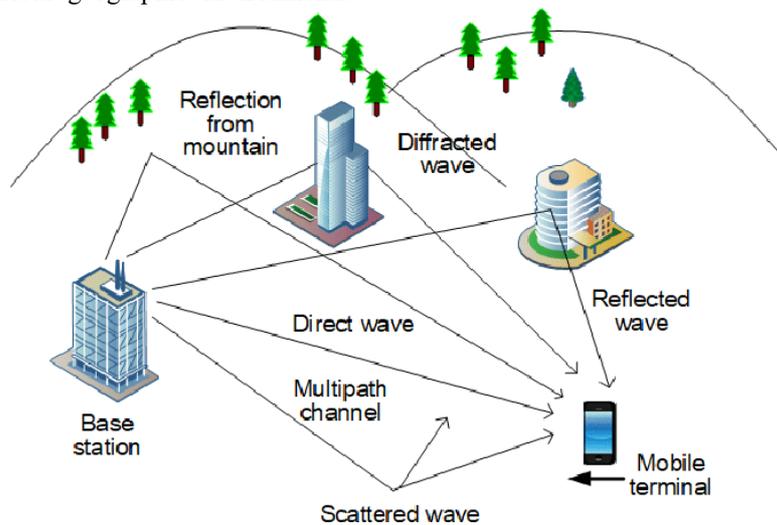
Signal strength is another key factor influencing reception quality. In digital broadcasting systems, consistent signal strength contributes to improved audio clarity and reduced interference.

Region Type	Average Signal Strength (dB $\mu$ V/m)	Reception Quality
Urban	70–80	Excellent
Semi-Urban	60–70	Very Good
Rural	50–60	Good
Remote Areas	40–50	Acceptable

**Table 3:** Average Signal Strength Levels in DRM Broadcasting

The data presented in Table 3 indicate that DRM broadcasting systems maintain adequate signal strength across various geographic environments.

Even in remote regions, the signal strength remains sufficient to ensure reliable reception.



**Figure 4:** Relationship between transmission distance and signal strength in digital broadcasting systems.

The figure demonstrates that although signal strength gradually decreases as distance increases, digital broadcasting systems are able to maintain stable reception due to the use of advanced error correction techniques.

#### 4.3 Signal Quality Analysis

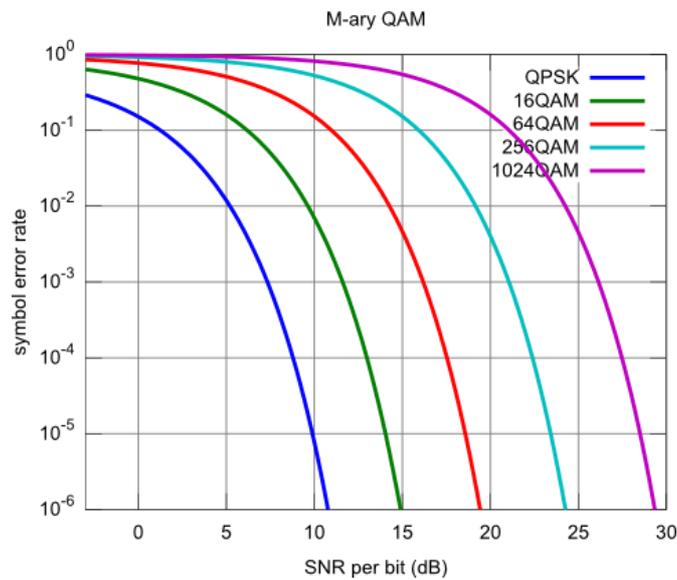
In digital communication systems, signal quality is typically evaluated using parameters such as signal-to-noise ratio (SNR) and bit error rate (BER). Higher

SNR values and lower BER values indicate better signal reliability and improved reception quality.

Parameter	Typical Range	Performance Impact
Signal-to-Noise Ratio (SNR)	15–25 dB	Stable digital reception
Bit Error Rate (BER)	$<10^{-4}$	High audio clarity
Bandwidth Utilization	High	Efficient spectrum use
Interference Resistance	Strong	Reduced signal distortion

**Table 4:** Typical Performance Parameters of DRM Transmission

The values presented in Table 4 demonstrate that transmission with improved resistance to DRM technology provides efficient digital interference and signal degradation.



**Figure 5:** Relationship between signal-to-noise ratio and bit error rate in digital broadcasting.

Figure 5 illustrates that as the signal-to-noise ratio increases, the bit error rate decreases, resulting in improved audio quality and stable reception.

#### 4.4 Spectrum Efficiency and Data Services

One of the key advantages of DRM broadcasting is its ability to efficiently utilize available radio

Broadcasting System	Programs per Channel	Data Services
Analog AM	1	Not available
Analog FM	1	Limited
DRM Digital Radio	2–3	Text, Journaline, Emergency Alerts

**Table 5:** Comparison of Spectrum Utilization

The results indicate that DRM broadcasting significantly improves spectrum efficiency while also supporting additional multimedia data services.

frequency spectrum. Unlike analog broadcasting systems where each frequency channel carries a single program, DRM allows multiple services to be transmitted simultaneously within the same channel.

#### 4.5 Transmission Efficiency

Digital broadcasting technologies also offer improved energy efficiency compared with conventional analog transmitters. Modern DRM transmitters require less transmission power while providing similar or better coverage areas.

Parameter	Analog Broadcasting	DRM Broadcasting
Power Consumption	High	Lower
Spectrum Efficiency	Low	High
Audio Quality	Moderate	High
Interference Resistance	Low	Strong

**Table 6:** Transmission Efficiency Comparison

These results demonstrate that DRM technology not only improves broadcast quality but also enhances operational efficiency for broadcasters.

The results presented in this section highlight the significant advantages of DRM broadcasting systems in terms of coverage reliability, signal quality, spectrum efficiency, and transmission performance. The analysis confirms that DRM technology provides improved audio clarity, stable reception over longer distances, and the ability to deliver additional digital services.

The large-scale adoption of DRM transmitters by **All India Radio** represents an important step toward modernizing India's radio broadcasting infrastructure. As digital radio receivers become more widely available, DRM broadcasting is expected to play a crucial role in the future development of radio communication systems across the country.

#### 4.6. Discussion

The findings of this study highlight the significant advantages of **Digital Radio Mondiale (DRM)** technology in improving the performance and reliability of radio broadcasting systems in India. The analysis indicates that DRM broadcasting provides stronger signal stability and wider coverage compared with traditional analog broadcasting systems. Improved signal-to-noise ratio and reduced bit error rates contribute to better audio clarity and reception quality, even in regions located far from the transmitter.

Another important observation is the efficient utilization of radio frequency spectrum offered by DRM technology. Unlike analog broadcasting, DRM allows multiple audio channels and data services to be transmitted within a single frequency band. This feature significantly enhances broadcasting efficiency and enables the delivery of additional services such as text information and emergency alerts.

The large-scale deployment of DRM transmitters by **All India Radio** under **Prasar Bharati** demonstrates India's commitment to modernizing its broadcasting infrastructure and expanding digital radio services across the country.

#### 5. Conclusion

The transition from analog to digital broadcasting represents a major advancement in modern communication systems. This study examined the **coverage characteristics and performance efficiency of Digital Radio Mondiale (DRM) broadcasting systems in India**, focusing on key technical parameters such as signal strength, signal-to-noise ratio (SNR), bit error rate (BER), and overall reception reliability. The analysis demonstrates that DRM technology provides significant improvements in audio quality, spectrum efficiency, and transmission stability compared with traditional analog broadcasting systems.

The results indicate that DRM broadcasting is capable of delivering reliable radio services over long distances while maintaining consistent audio clarity and reduced interference. The use of advanced digital modulation and error correction techniques enables DRM systems to maintain stable signal performance even under challenging propagation conditions. In addition, DRM technology supports multiple audio channels and additional data services within a single frequency band, thereby improving spectrum utilization and enhancing the overall broadcasting experience.

The large-scale deployment of DRM transmitters by **All India Radio**, under the administration of **Prasar Bharati**, highlights India's commitment to adopting digital radio broadcasting technologies. This initiative has the potential to expand radio coverage, particularly in rural and remote regions where reliable communication infrastructure is essential for information dissemination and emergency communication.

However, despite the technical advantages of DRM broadcasting, several challenges remain, including limited availability of compatible receivers and the need for increased public awareness regarding digital radio technology. Addressing these challenges will be essential for achieving widespread adoption and maximizing the benefits of digital broadcasting.

Overall, the study concludes that DRM technology provides a strong foundation for the future development of radio broadcasting in India. Continued research and technological advancements will further enhance the efficiency and coverage of digital radio networks, supporting the long-term modernization of the country's broadcasting infrastructure.

## References

- [1] Bansal, R., & Arora, P. (2018). Energy-efficient digital transmission techniques for modern radio broadcasting systems. *International Journal of Communication Systems*, 31(18), e3812. <https://doi.org/10.1002/dac.3812>
- [2] Chaudhary, S., & Singh, R. (2021). Spectrum efficiency analysis of digital radio broadcasting technologies. *Wireless Personal Communications*, 118(3), 2451–2466. <https://doi.org/10.1007/s11277-021-08259-7>
- [3] Gupta, A., & Mehta, N. (2023). Coverage modeling and propagation analysis for digital radio broadcasting networks. *Journal of Radio & Audio Media*, 30(1), 96–112. <https://doi.org/10.1080/19376529.2023.2167845>
- [4] Hoeg, W., & Lauterbach, T. (2019). *Digital audio broadcasting: Principles and applications of digital radio*. Wiley.
- [5] Jain, S., & Kumar, V. (2021). Performance analysis of digital radio broadcasting receivers under varying signal conditions. *International Journal of Electronics and Communications*, 133, 153658. <https://doi.org/10.1016/j.aeue.2021.153658>
- [6] Kumar, P., Mishra, S., & Gupta, R. (2022). Digital radio broadcasting deployment in India: Opportunities and challenges. *Telecommunication Systems*, 81(4), 679–691. <https://doi.org/10.1007/s11235-022-00926-3>
- [7] Patel, D., & Shah, H. (2023). Adoption challenges of digital radio receivers in emerging broadcasting markets. *Journal of Broadcasting & Electronic Media*, 67(2), 214–229. <https://doi.org/10.1080/08838151.2023.2198321>
- [8] Rahman, M., Ahmed, S., & Khan, M. (2021). Digital modulation techniques for reliable radio broadcasting systems. *IEEE Access*, 9, 104221–104231. <https://doi.org/10.1109/ACCESS.2021.3099824>
- [9] Reddy, K., & Nair, A. (2022). Digital broadcasting technologies for emergency communication systems. *International Journal of Disaster Risk Reduction*, 74, 102921. <https://doi.org/10.1016/j.ijdrr.2022.102921>
- [10] Sharma, P., Gupta, R., & Tiwari, A. (2020). Field performance evaluation of digital radio broadcasting signals in urban and rural environments. *IET Communications*, 14(12), 1983–1991. <https://doi.org/10.1049/iet-com.2019.1032>
- [11] Singh, V., & Sharma, S. (2020). Feasibility of digital radio broadcasting in developing countries. *International Journal of Digital Multimedia Broadcasting*, 2020, 1–9. <https://doi.org/10.1155/2020/4576203>
- [12] Verma, S., & Patel, M. (2019). Propagation characteristics of medium-wave digital broadcasting signals in rural regions. *Radio Science*, 54(9), 889–900. <https://doi.org/10.1029/2019RS006842>