

Second Laureate Applied Research

26th Khwarizmi International Award (KIA)



● **Project Title:** Implementation of a complete DRM transmission chain on domestic high-power analog transmitters

● **Executive Organization:** Nasir System Gostar Corporation

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● **Collaborator Organization:** Islamic Republic of Iran Broadcasting

● **Abstract:**

In this project a complete digital audio transmission chain on MW and SW is implemented based on the DRM Standard. This system includes a content server, an OFDM modulator, and a linearizer for domestic high-power transmitters. In this design, a content server in the production studio compresses and multiplexes audio, teletext, and stationary visual contents using the IP Protocol. Then the stream will be transferred to the transmission sites using a communication network (optical fiber infrastructure or DVB-S satellite channel).

In the transmission site, a modulator receives data from the communication network and after applying the channel coding and OFDM modulation hands it over to the linearizer unit. Linearizer unit provides DRM Standard requirements for transmission through domestic MW transmitters (which many of them are currently in operation throughout Iran).

Using this product, it is possible to transmit digital quality audio on MW and SW (with expanded coverage) along with additional information including teletext, image, and data. On the other hand, with this design it is possible to upgrade current analog transmitters to transmit digital content with minimum effort and cost.

