

What is digital Private Mobile Radio?

Digital Private Mobile Radio (dPMR) is a standard that has been developed by ETSI and defines digital Professional, Personal and Private Mobile Radio (PMR). PMR has enjoyed great success in Europe for many years, and serves a very broad community of users.

dPMR is a Frequency-Division Multiple Access (FDMA) system offering the lowest cost digital voice and data solutions for PMR. Until recently, PMR technology that used Time-Division Multiple Access (TDMA) was more spectrum-efficient at wider channel spacings such as 25kHz. The ETSI dPMR standard solves the problem of shortage of radio channels by introducing 6,25kHz FDMA radios with a 4FSK modulation scheme. This newly-developed narrowband 6,25kHz FDMA technology, as used by dPMR, brings greater spectrum efficiency with lower infrastructure cost.

Although the market landscape for two-way radio varies somewhat throughout the world, markets can be roughly divided into three broad categories. dPMR has the universal capability to serve them all :

- Consumer (and short-range industrial)
- Professional/Business-Critical applications
- Public Safety/Mission-Critical applications.

dPMR is a scalable system that can be used in unlicensed mode (in a 446,1 to 446,2 MHz band), and in licensed mode, subject to national frequency planning. It is developed in 'tiers':

Tier 1 is the low-cost, licence-exempt 'digital PMR446', and is defined by ETSI Technical Specification TS 102 490.

Tier 2 is for the licensed professional market, offering peer-to-peer mode (Mode 1), repeater mode (Mode 2) and trunked (managed access) operation (Mode 3). Tier 2 is defined by ETSI Technical Specification TS 102 658.



The dPMR specifications can be obtained free of charge from the ETSI website.

dPMR Memorandum of Understanding Group

The high value placed in the dPMR technology by the radio industry worldwide resulted in the establishment of the 'dPMR Memorandum of Understanding Group' in 2007. Its goal is to provide a forum for all interested parties wishing to support this latest digital PMR radio technology and today sees radio manufacturers, chip manufacturers, protocol and software developers as well as systems developers working together with the common aim of ensuring the success of dPMR.

For more information visit www.dpmmr-mou.org

The importance of interoperability

Operators, vendors and manufacturers need to be assured, as early as possible in their development lifecycles, of the interoperability of their products and systems. To facilitate this assurance, ETSI produces test specifications that accompany the core technology standards.

ETSI has developed dPMR test specification suites TS 102 587 (for Tier 1) and TS 102 726 (for Tier 2 Mode 1). The test suites detail the requirements and procedures for any manufacturer developing a dPMR product, and allow them to determine, even during the product's development phase, whether it is compliant with the standards. TS 102 587 for Tier 1 and TS102 726 for Tier 2 Mode 1 dPMR are complete and can be downloaded free of charge from the ETSI website.

The dPMR Memorandum of Understanding Group has adopted the ETSI dPMR conformance and interoperability standards for the purposes of trademarking products. The Group is active in ensuring an independent validation of interworking between dPMR products from different manufacturers and authorising the use of a specific dPMR logo for compliant equipment

For further details on dPMR please visit:

www.etsi.org/technologies-clusters/technologies/digital-mobile-radio

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