



## Course Synopsis

**Course :** Mobile TV

**Duration:** 1 day

**Q6 Code :** GEN3039

### Introduction

This one day course explores two topics:

- MBMS (Multimedia Broadcast and Multicast Service)
- DVB-H (The Handheld version of Digital Video Broadcasting)

These are two opposing strategies for delivering TV services to mobile consumers.

3G MBMS is a unidirectional point to multipoint bearer that runs over UMTS networks – mobile terminals. With most 3G networks in Europe being very under used and with much spare capacity, carrying TV programming is an appealing prospect to 3G operators.

DVB-H is the mobile version of the already successfully deployed DVB-T (terrestrial) service, for example in the UK this is Freeview. DVB-H uses a dedicated network and frequency. As DVB-H is derived directly from DVB-T, an understanding of this is necessary before exploring DVB-H.

### Course Objectives

To describe both MBMS and DVB-H in some detail and to compare and contrast the two technologies.

### Who Should Attend

Anyone requiring an overview of Mobile TV and how it would be deployed.

### Prerequisites

The course assumes that delegates are familiar with at least the architecture of the UMTS UTRAN and air interface.

### Course Outline

Introduction

- The place of MBMS
- Development of DVB-H
- Background Technologies
  - Principles of OFDM
  - Forward Error Correction
    - Reed-Solomon Coding
    - Convolutional Coding
- MBMS Media codecs and formats

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#### MBMS Overview

- MBMS Bearer Service (Distribution Layer):
  - Standards
  - System Description
  - Multicast and Broadcast Modes
  - UTRAN MBMS
  - GERAN MBMS
  - Functional Entities To Support MBMS
  - MBMS Attributes and Parameters
  - Architectural Aspects of MBMS User Services

#### MBMS User Layer (Service Layer)

- User Service Discovery/Announcement
- Download Delivery Method
- Streaming delivery method
- File Repair Procedure
- The Reception Reporting Procedure
- MBMS Metadata
- Protocols and codecs
- User service guidelines

#### Charging for MBMS

- Offline charging architecture
- Online charging architecture
- Definition of charging information
- MBMS charging specific parameters

#### DVB Overview

- An Overview of the World of DVB
- The DVB Standard Set
- DVB Formats
- DVB Variants (DVB-S, DVB-T, DVB-CS, DVB-V and DVB-H)

#### DVB-Terrestrial and DVB-Handheld

- Modes of Operation
- Transmitter Input and Output Signals
- Single and Multi-Frequency Networks
- DVB-T Transmitters
- DVB-T Distribution Networks
- SFN Networks
- Aspects of System Planning
- DVB-H: Differences from DVB-T