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Course Profile

Introduction to UMTS

ETS504

Duration:

1 day

Objectives:

Present a technical introduction to UMTS.

Describe the key concepts and techniques.

Identifies the relative benefits of UMTS.

Present an overview of future trends and enhancements.

Describe the key changes to user equipment.

Who should attend:

Managers, Marketing and Sales professionals who require an overview of the functionality of the UMTS system.

Prerequisites:

None

Follow-on courses:

None.

Course Style:

The course is presented as a mixture of discussion and teaching sessions.



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Key contents:

First Generation Mobile	2nd Generation Mobile
3rd Generation Mobile	GSM
TDMA	CDMA
Analog Systems	NMT450
NMT900	GPRS
UMTS	2.5G
TCP/IP	IPv4
Packet Switched Networks	Circuit Switched Networks
Data Rates	Frame Relay
Quality of Service	Cordless Telephony
DECT	CT1 & 2
WCDMA	UTRAN
Spread Spectrum	RAN
Node B	BSS
RNC	SONET/SDH
AAL	CAMEL
MEXE	PCM24
PCM30	UE
Soft/Softer Handovers	Gold Codes
Goulay Codes	OLPC/CLPC
FDD	TDD
MUD	Macro Diversity
Rake Receivers	Intelligent Antenna
Synchronisation	OVSF
ATM	MPLS
E1	T1
Frequency Licenses	Future enhancements
EDGE	GERAN
HSCSD	Standards Bodies



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Detailed contents:

Introduction

Evolution to 3G

Subscriber & Services requirements

Worldwide standards bodies and harmonisation path

UMTS characteristics

UMTS objectives

UMTS licensing process/frequency allocation

Advantages of 3G

Advantages over GSM/ Analog systems

Network Architecture

UMTS Network architecture

UMTS Network elements

UMTS Domains

UMTS Network Services

UMTS Data Rates

Quality of Services

Network Security measures

Multiple Access Techniques

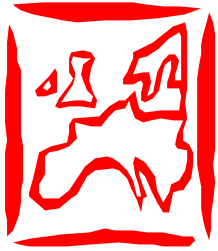
Multiple Access Schemes

WCDMA characteristics

WCDMA advantages

FDD & TDD

Benefits of Spread Spectrum and Capacity Enhancement



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Detailed contents continued:

The UMTS Air Interface

UMTS Air Interface overview

Data Flow Process

Structure of Transmission

Air-Interface Channels

Channel Mapping on the Air Interface

Frame Structures

User Equipment

UMTS Mobile Equipment including USIM and mobile states

Mobile Power Classes

Equipment requirements

Bluetooth

Management Functions

UMTS Handovers

Rake Receivers

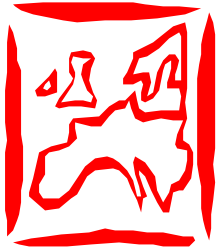
Multi User Detection (MUD)

Cell Monitoring

Power control measures (Open and Closed Loop)

Mobile subscriber Admission and Load Control

Packet Scheduling Functions



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To book this course, or to obtain more information, contact:

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