
COURSE DESCRIPTION

COURSE TITLE

3G RF Planning and Optimization

COURSE NUMBER

PTFS 011

TARGET AUDIENCE

People who has an access to daily cellular telecommunication maintenance and operation activity

PREREQUISITES

Students attending this class must have fundamental electrical and telecommunication knowledge and one year on the-job cellular telecommunication experience.

COURSE DURATION

2 Days

COURSE OUTLINE

3G RF Planning & Optimization

This training presents detail process in 3G RF Planning especially in scrambling code planning and capacity that impact on 3G network congestion. This training also presents about mobility concept in 3G networks including intersystem cell reselection and handover to 2G network. Optimization KPI and parameters also explained in final session.

TRAINING SYLLABUS 3G RF Planning & Optimization

Day	Training Module	Syllabus	Objectives
Day 1	<p>Session 1 : 3G RF Planning</p> <p>Session 2 : 3G RF Planning</p> <p>Session 3 : Cell Reselection</p> <p>Session 4 : Handover</p>	<p>09.00-09.30 :</p> <ul style="list-style-type: none"> • <i>Opening</i> • <i>Participant Introduction</i> <p>09.30-10.30 :</p> <ul style="list-style-type: none"> • <i>RF Planning Review</i> • <i>3G/WCDMA Introduction</i> • <i>3G/WCDMA Frequency Allocation</i> • <i>2G (GSM) VS 3G WCDMA</i> <p>10.30-10.45 (Coffee Break)</p> <p>10.45-12.00 :</p> <ul style="list-style-type: none"> • <i>Coverage VS Capacity</i> • <i>Capacity Planning : Code</i> • <i>Capacity Planning : Power</i> • <i>Capacity Planning : Channel Element</i> • <i>Architecture & Hardware</i> <p>12.00-13.00 (Lunch)</p> <p>13.00-15.00 :</p> <ul style="list-style-type: none"> • <i>3G-3G Cell Reselection</i> • <i>3G-2G Cell Reselection</i> • <i>2G-3G Cell Reselection</i> <p>15.00-15.30 (Coffee Break)</p> <p>15.30 -17.00 :</p> <ul style="list-style-type: none"> • <i>SHO</i> <ul style="list-style-type: none"> ○ <i>Event 1A</i> ○ <i>Event 1B</i> ○ <i>Event 1C</i> ○ <i>Event 1D</i> • <i>IRAT Handover</i> • <i>Quiz</i> 	<ol style="list-style-type: none"> 1. Participants can explain detail process in 3G RF planning 2. Participants can understand scrambling code planning on UMTS 3. Participants understand concept of multi carrier and multilayer in WCDMA 4. Participants can understand power, code and channel capacity in UMTS 5. Understanding the characteristics of the antenna in cellular communication 6. Understand the concept of mobility in WCDMA networks (cell selection, reselection and handover)

Day	Training Module	Syllabus	Objectives
Day 2	<p>Session 5 : Scrambling Code Planning</p> <p>Session 6 : HSDPA & Multi Carrier Strategy</p> <p>Session 7 : RF Optimization</p> <p>Session 8 : KPI in LTE Network</p> <p>Session 9 : 3G Drivetest</p>	<p>09.00-10.00 :</p> <ul style="list-style-type: none"> • <i>Scrambling Code Planning</i> <p>10.00-10.15 (Coffee Break)</p> <p>10.15-12.00 :</p> <ul style="list-style-type: none"> • <i>Channel Type</i> • <i>HSDPA Introduction</i> • <i>Dual Carrier Strategy</i> <p>12.00-13.00 (Lunch)</p> <p>13.00-15.00 :</p> <ul style="list-style-type: none"> • <i>RF Optimization Process</i> • <i>Key Performance Indicator</i> • <i>Accessibility</i> • <i>Retainability</i> • <i>Mobility</i> • <i>Integrity</i> <p>15.00-15.30 (Coffee Break)</p> <p>15.30 -17.00 :</p> <ul style="list-style-type: none"> • <i>3G Drivetest</i> • <i>Post Test</i> 	<ol style="list-style-type: none"> 1. Participants can explain in detail process of RF Optimization & Optimization KPIs 2. Participants can prepare hourly, daily and weekly KPI 3. Participants understand optimization process flow chart