



FCC WISP Microwave Boot Camp

Comsearch In-house Training Course

ABOUT THE COURSE

FCC WISP Microwave Boot Camp is designed to provide an introductory level foundation with a mixture of both theory and real world examples. Learn through basic theory, case studies, field demonstrations and course examples.

There are NO COURSE PREREQUISITES.

COURSE DATE / TIME

Monday, May 21, 2018
8:30am - 4:30pm

COURSE LOCATION

Comsearch, 19700 Janelia Farm Boulevard,
Ashburn, VA 20147

OBJECTIVE

By the end of this course, you will understand:

1. Basic elements of a microwave path
2. How propagation affects the design
3. Practical factors that influence good path design
4. Regulatory considerations

SECTIONS WILL INCLUDE

Introduction to 3.5 GHz CBRS

The Citizens Broadband Radio Service (CBRS) will provide up to 150 MHz of spectrum for a broad array of services. This session will focus on specifics of CBRS that may be of interest to the WISP community. Topics will include:

- Intro to CBRS
- Regulatory review and update
- Roles of WinnForum and CBRS Alliance
- Licensing and Market Area issues
- What is a Spectrum Access System (SAS) and Environmental Sensing Capability?
- SAS Demo
- Use cases
- Possible other bands

Microwave Components

- Radios
- Transmission Lines
- Antennas

RF Propagation

- Free space path loss
- Fresnel zones
- K Factor
- LOS path clearance
- Fading

Path Reliability

- Factors that affect reliability
- What is an outage?
- Fade margin
- Space diversity
- Effects of environmental factors

Path Design Considerations

- Frequency options
- Licensed timelines
- Components
- EIRP limits
- Quiet zones
- Geo satellite orbit
- Tower registrations

Path Survey

- Survey planning
- Site survey
- Path profile verification

Interference Analysis

- Interference impact
- C/I calculation

Frequency Planning

- High / low plans
- Frequency plan conflicts (Bucking)
- Interference resolution methods
- Prior Coordination Procedure
- Interference protection

FCC Licensing

- FCC application filing
- Completion of construction
- License management
- Regulatory updates

NOTE: Syllabus is subject to change.



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