In a methodical way, the course is aimed at acquiring abilities and technological resources which can make reality the block diagrams of radio receivers and transmitters. This subject has a markedly experimental approach, it takes place in a laboratory with an adjoined classroom. The instrumentation is able to work up to 500MHz. At the end of the course the student is able to design and build a FM receiver (88-108 MHz).
Content

1. Fundamental structures for the reception of radio signals: The superheterodyne receiver

   Degree competences to which the content contributes:


   Degree competences to which the content contributes:

3. Design and realization of a MW band regenerative receiver

   Degree competences to which the content contributes:

4. Design of tunable LC oscillators with bipolar transistors. Crystal controlled oscillators. Voltage-controlled oscillators

   Degree competences to which the content contributes:

5. Design and build up of a 27MHz ASK transmitter.

   Degree competences to which the content contributes:

6. Design and realization of a superheterodyne receiver based on the active mixer NE602

   Degree competences to which the content contributes:

7. Design and build up of a FM receiver with FLL structure using the IC TDA7000

   Degree competences to which the content contributes:

8. Receiver for DRM (Digital Radio Mondial). Solutions based on SDR (Software Defined Radio)

   Degree competences to which the content contributes:

(ENG) 9. Etapes auxiliars en equips de ràdio: amplificadors d'àudio, fonts d'alimentació
11532 - DR - Radio Receiver Design

Degree competences to which the content contributes:

Description:
(ENG)

Related activities:
(ENG)

Qualification system

Throughout the course, students have to make and orally expose two application notes related to some of the designs they have made.
Grading policy:
50% each oral presentation

Regulations for carrying out activities
11532 - DR - Radio Receiver Design

Bibliography

Basic:


Miguel, J.M. Lecturas seleccionadas para la asignatura de diseño de radioreceptores. CPET,


Complementary:

Miguel, J.M. Diseño y realización de un receptor de radio regenerativo. CPET,

Diseño de osciladores en HF: construcción de una radiobaliza EN27MHZ.

Miguel, J.M. Diseño y realización de radiobalizas. CPET,

Miguel, J.M. Diseño y realización de fuentes de alimentación. CPET,

Miguel, J.M. Diseño y realización de amplificadores de audio. CPET,

Miguel, J.M. Diseño y realización de un receptor de FM. CPET,

Others resources: