**Faculty Member: Date:** .

**Semester: Section:** .

**EE-351 Communication Systems**

**Lab 7:**  **SSB TRANSMISSION**

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|  |  | **PLO4-CLO3** | | **PLO5-CLO4** | **PLO8-CLO5** | **PLO9-CLO6** |
| **Name** | **Reg. No** | **Viva / Quiz / Lab Performance** | **Analysis of data in Lab Report** | **Modern Tool Usage** | **Ethics and Safety** | **Individual and Team Work** |
|  |  | **5 Marks** | **5 Marks** | **5 Marks** | **5 Marks** | **5 Marks** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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**Lab 7: SSB Transmission**

**Objectives**

You will be able to describe that how a balanced modulator is used to generate DSB signal, Explain how the SSB is output from LSB filter. And explain how an SSB have low power consumption and narrow bandwidth.

**Lab Instructions**

* The students should perform and demonstrate each lab task separately for stepwise evaluation
* Each group shall submit lab report on LMS within 6 days after lab is conducted. Lab report submitted via email will not be graded.
* Students are however encouraged to practice on their own in spare time for enhancing their skills.
* Complete as many problems as you can within the allotted time.
* Talk to your classmates for help

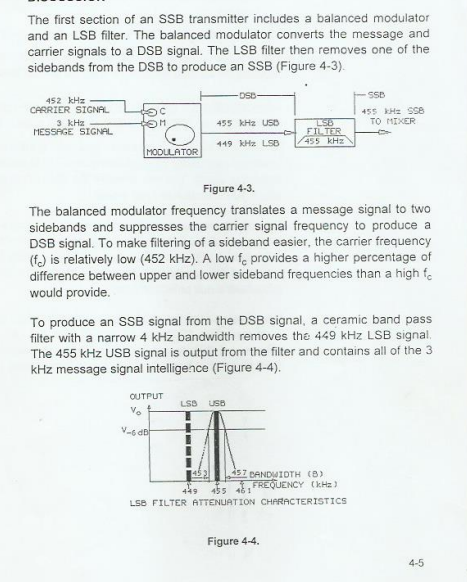
**Lab Report Instructions**

All questions should be answered precisely to get maximum credit. Lab report must ensure following items:

* Lab objective
* Results (screen shots) duly commented and discussed.
* Conclusion

**Exercise 1 (Balanced Modulator and LSB Filter)**

**Introduction:**

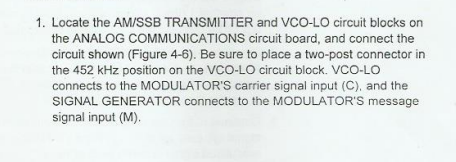
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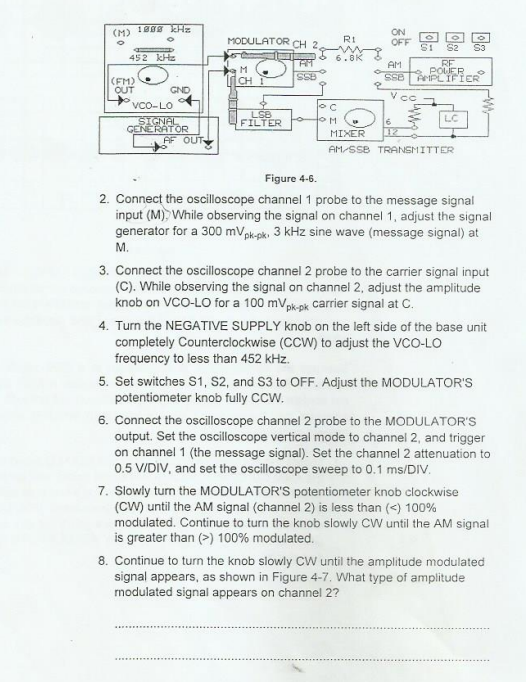
**Text, letter

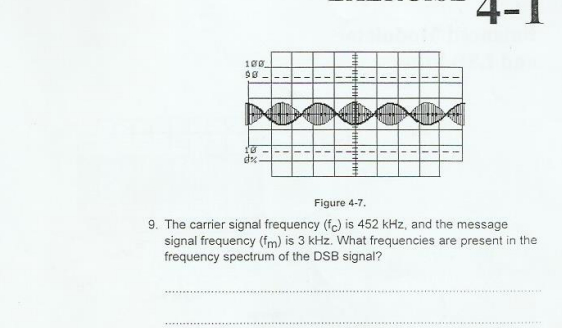
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**Tasks (Exercise 1)**

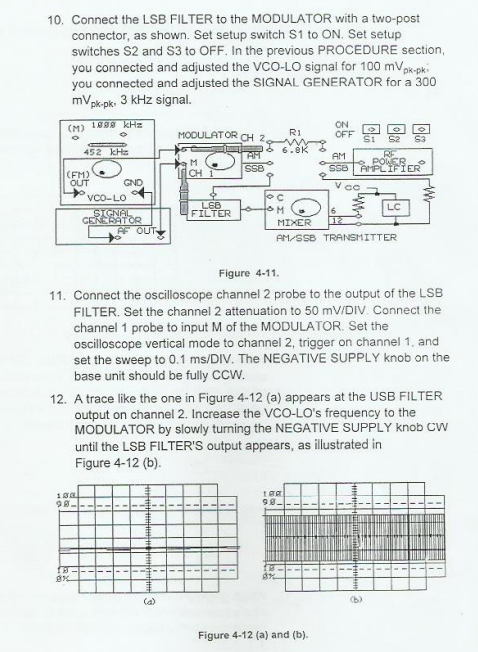
**Procedure A: Balanced Modulator( Convert the Carrier and Message signal to DSB signal)**

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**Procedure B: LSB Filter (Produce an SSB signal by filtering LSB signal)**

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**A picture containing text

Description automatically generated**

**Diagram, engineering drawing

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**Diagram, engineering drawing

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**Chart, diagram

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**Exercise (2): Mixer and RF Amplifier**

**Discussion:**

**Text, letter

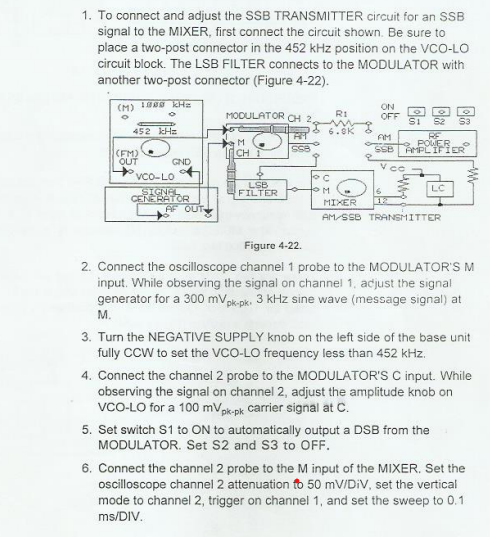
Description automatically generated**

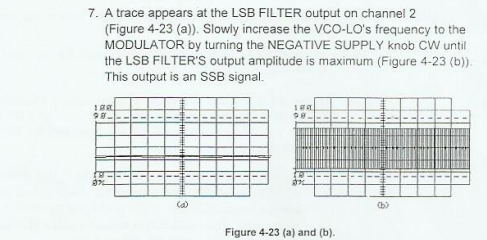
**Diagram

Description automatically generated**

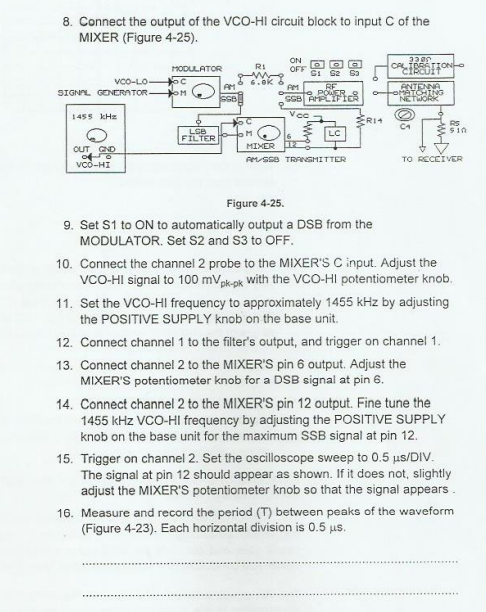
**Tasks(2)**

**Procedure A: Adjust the Circuit for a 455kHz to the MIXER**

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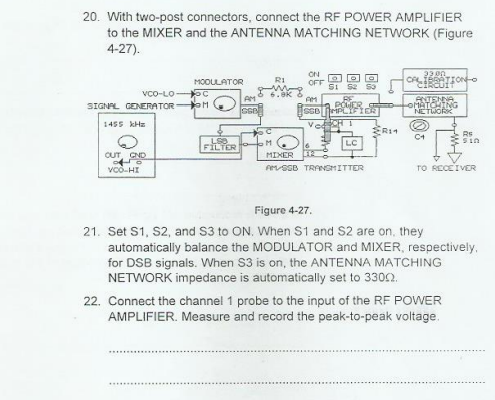
**Procedure B: Mixer: Convert the 455kHz SSB to a 1000kHz SSB**

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**Diagram

Description automatically generated**

**Procedure C: RF Power Amplifier and Antenna Matching Network**

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**Text

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**Table

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