**5G**

**Practical Laboratory Session**

**Wireless Communications 371-1-1903**

**Spring 2020**

Part 1 – 5G Connection

**Description**

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**Equipment needed**

* 2 Linux PC with GNU Radio installed.
* 2 LimeSDR/USRP Software defined radios.
* 2 SMA to SMA RF cables
* 2 ULF-SMA Adapters.
* Attenuators box.

If any of the above equipment is missing or defective, notify the lab instructor prior to starting this session or otherwise you may obtain false results (and major frustration).

**Equipment Setup**

**Recording**

This is a practical session; thus, you most likely do not have this equipment at your disposal at home other than currently, here. Therefor it is highly recommended that you document and record your results during this session. This will assist you in completing you report at home. You may not fully complete what that is required of you during the time you have, take this into account.

**Instructions**

**Report**

Part 2 – Cognitive IoT sensors

**Description**

In this experiment we will try to implement a sensor network that can learn its own time allocations.

One sensor will have a fixed schedule and the other will have to listen for a long time to increase the certainty that he will not cause a collision if he will broadcast in a time slot that he thinks is free.

**Equipment needed**

* 3 Linux PC with GNU Radio installed.
* 3 LimeSDR/USRP Software defined radios.
* 2 SMA to SMA RF cables
* 2 ULF-SMA Adapters.
* Attenuators box.

If any of the above equipment is missing or defective, notify the lab instructor prior to starting this session or otherwise you may obtain false results (and major frustration).

**Equipment Setup**

**Recording**

This is a practical session; thus, you most likely do not have this equipment at your disposal at home other than currently, here. Therefor it is highly recommended that you document and record your results during this session. This will assist you in completing you report at home. You may not fully complete what that is required of you during the time you have, take this into account.

**Instructions**

**Report**