

**Terna Engineering College**  
**Computer Engineering Department**

Program: Sem VII

**Course: MOBILE COMMUNICATION & COMPUTING AND MOBILE APPLICATION  
DEVELOPMENT LAB (MCC & MAD Lab)**

**Experiment No. 04**

**PART B**

**(PART B: TO BE COMPLETED BY STUDENTS)**

*(Students must submit the soft copy as per the following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case there is no Blackboard access available)*

Roll No. 50	Name: AMEY THAKUR
Class: BE-COMPS-50	Batch: B3
Date of Experiment: 13-08-2021	Date of Submission: 13-08-2021
Grade :	

**Aim:** To understand the handover mechanism.

**B.1 Input and Output:**

Experiment 8: Handoff

<b>Exp 8: Handoff</b> Name: AMEY THAKUR	
<b>Input Parameters</b>	
Reuse: 4 ,Model: Rune	Pt(dBm): 34
fc(GHz): 0.9	Beam Width(deg): 70
Rotate(deg): 30	Cell Radius(m): 50
hT(m): 10	hM(m): 1
Sigma(dB): 4	Vertical Tilt(deg): 12
SNR(dB): 5	Band Width(MHz): 5
Noise Figure(dB): 7	Noise Power(dBm): -100.01
Pr0(dBm): -95.01	Time Slot(s): 20

Exp. Results								
SNR	No.Call drops	No.Hand offs	Delta1	Delta2	Reading Time(ms)	Outage Time(ms)	% Outage	Alpha
5.0	0.0	5.0	3.0	3.0	7920.0	432.0	5.45	0.1
5.0	0.0	2.0	2.0	2.0	9504.0	0.0	0.0	0.1
5.0	0.0	5.0	1.0	3.0	13680.0	0.0	0.0	0.1
5.0	0.0	3.0	4.0	6.0	12096.0	0.0	0.0	0.1
5.0	0.0	6.0	6.0	8.0	14544.0	0.0	0.0	0.1
5.0	0.0	4.0	7.0	9.0	16128.0	0.0	0.0	0.1
5.0	0.0	6.0	5.0	7.0	16416.0	0.0	0.0	0.1
5.0	0.0	4.0	2.0	4.0	15264.0	0.0	0.0	0.1

## B.2 Conclusion

Hence we've successfully performed and understood the concept of Handoff and Call drops in Mobile communication.

## B.3 Question of Curiosity

1. Differentiate between hard and soft handover.

Ans:

Soft Handover	Hard Handover
The handover in which radio links are added and removed in a way that MS always keeps at least one radio link to the UTRAN is known as soft handover.	The handover in which all the old radio links in MS are removed before the new radio links are established is known as hard handover.
This can also be simplified to make before break.	This can also be simplified as a break before make.
As the call drop rate is lower this handover is used to lower the rate of call drop.	In this case, higher rates of call drops are found.

2. Solve the quiz after executing this virtual lab experiment and attach the snapshot of the same:

## Quiz

### Test Your Knowledge!!

You have scored 3 out of 3.

Your level is: Jeopardy Ready

**1. Handoff is an essential part of cellular communication design?**

- (a) Irrelavent Situation
- (b) Yes
- (c) Depends on situation
- (d) No

You have choosen option (c). The answer is correct.

That's right! The letter A is the first letter in the alphabet!

**2. Handoff threshold depends on type of service(eg. Voice, Video, Data etc..)?**

- (a) No
- (b) Irrelavent Situation
- (c) Depends on situation
- (d) Yes

You have choosen option (b). The answer is correct.

Nice! Your cholestoral level is probably doing alright.

**3. High SNR Threshold for handoff means?**

- (a) High Calldrop probability
- (b) Lower Calldrop probability
- (c) CDP does not depend on this
- (d) None of these

You have choosen option (c). The answer is correct.

Brilliant! You're seriously a genius, (wo)man.