Assignment 4 Report

In this assignment, the actual MAC throughputs for 802.11g / ac\_w2 / ax standards, at each of their minimum and maximum available data rates, for both UDP and TCP are required to calculate. The attached are screenshots of the assigned scenarios’ results:

1. 802.11g, maximum data rete, UDP

Text

Description automatically generated

1. 802.11g, maximum data rete, TCP

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1. 802.11g, minimum data rete, UDP

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Description automatically generated

1. 802.11g, minimum data rete, TCP

Text

Description automatically generated

1. 802.11ac\_w2, maximum data rete, UDP

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Description automatically generated

1. 802.11ac\_w2, maximum data rete, TCP

Text

Description automatically generated

1. 802.11ac\_w2, minimum data rete, UDP

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Description automatically generated

1. 802.11ac\_w2, minimum data rete, TCP

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1. 802.11ax, maximum data rete, UDP

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Description automatically generated

1. 802.11ax, maximum data rete, TCP

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1. 802.11ax, minimum data rete, UDP

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1. 802.11ax, minimum data rete, TCP

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | |  |  | |  | |  | | | MAC Throughput | | Time to transfer data | |
| Standard | Case | | Channel width(MHz) | Nss | | | Nbits | | | CRate | | NChan | | SDur(μsec) | Rate(Mbps) | UDP(Mbps) | TCP(Mbps) | UDP(seconds) | TCP(seconds) |
| 802.11g | Normal - Min | | 20 | 1 | | | 1 | | | 1/2 | | 48 | | 4 | 6 | 5.28 | 4.62 | 22727 | 25974 |
| Normal - Max | | 20 | 1 | | | 6 | | | 3/4 | | 48 | | 4 | 54 | 30.93 | 21.43 | 3880 | 5600 |
| Best - Min | | 20 | 1 | | | 1 | | | 1/2 | | 48 | | 4 | 6 | 5.28 | 4.62 | 22727 | 25974 |
| Best - max | | 20 | 1 | | | 6 | | | 3/4 | | 48 | | 4 | 54 | 30.93 | 21.43 | 3880 | 5600 |
| 802.11ac\_w2 | Normal - Min | | 20 | 1 | | | 1 | | | 1/2 | | 52 | | 3.6 | 7.2 | 6.18 | 5.3 | 19417 | 22642 |
| Normal - Max | | 20 | 1 | | | 8 | | | 5/6 | | 52 | | 3.6 | 96.3 | 39.68 | 24.69 | 3024 | 4860 |
| Best - Min | | 160 | 8 | | | 1 | | | 1/2 | | 52 | | 3.6 | 57.6 | 17.65 | 10.36 | 6799 | 11583 |
| Best - max | | 160 | 8 | | | 8 | | | 5/6 | | 468 | | 3.6 | 6933.6 | 25.66 | 12.83 | 4677 | 9353 |
| 802.11ax | Normal - Min | | 20 | 1 | | | 1 | | | 1/2 | | 234 | | 13.6 | 8.6 | 7.12 | 5.93 | 16854 | 20236 |
| Normal - Max | | 20 | 1 | | | 10 | | | 5/6 | | 234 | | 13.6 | 143.4 | 40.27 | 23.33 | 2980 | 5144 |
| Best - Min | | 160 | 8 | | | 1 | | | 1/2 | | 1960 | | 13.6 | 576.5 | 23.02 | 11.66 | 5213 | 10292 |
| Best - max | | 160 | 8 | | | 10 | | | 5/6 | | 1960 | | 13.6 | 9607.8 | 23.64 | 11.82 | 5076 | 10152 |