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LAMPIRAN

A. Pengukuran Ketinggian Air

- Kolam Renang



- Pintu Air



- Data Pengukuran Ketinggian Air

rak dasar kolam ke sensor (m) : 1,2 meter/siaga 4 (Kolam Renan)			
Nilai terbaca (cm)	Nilai terukur (cm)	Selisih Error (cm)	Presentase Error (%)
20	18	2	11.11
21	19	2	10.53
20	19	1	5.26
20	19	1	5.26
22	21	1	4.76
Rata - Rata			7.39

rak dasar kolam ke sensor (m) : 1,8 meter/Siaga 3 (Kolam Renan)			
Nilai terbaca (cm)	Nilai terukur (cm)	Selisih Error (cm)	Presentase Error (%)
83	85	2	2.35
83	81	2	2.47
83	86	3	3.49
82	83	1	1.20
82	85	3	3.53
Rata - Rata			2.61

Jarak sensor ke permukaan air (m) : 1 meter (Pintu Air)				
Nilai terbaca (cm)	Nilai terukur (cm)	Selisih Error (cm)	Presentase Error (%)	Keefektifan sensor (%)
100	101	1	0.99	99.01
101	101	0	0.00	100.00
101	101	0	0.00	100.00
101	101	0	0.00	100.00
102	101	1	0.99	99.01
Rata - Rata			0.40	99.60

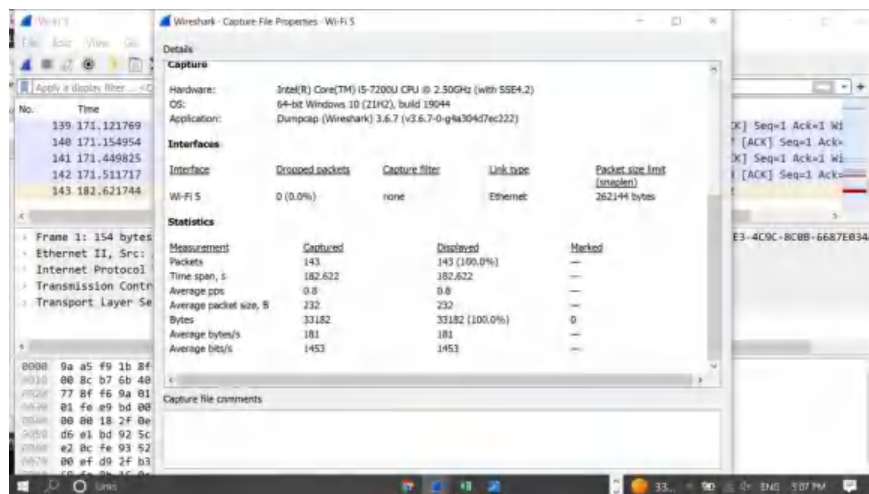


Jarak dasar kolam ke sensor (m) : 2,67 meter/siaga 2			
Nilai terbaca (cm)	Nilai terukur (cm)	Selisih Error (cm)	Presentase Error (%)
168	167	1	0.60
168	167	1	0.60
167	169	2	1.20
168	167	1	0.60
167	169	2	1.20
Rata - Rata			0.84

Jarak dasar kolam ke sensor (m) : 2,97/siaga1			
Nilai terbaca (cm)	Nilai terukur (cm)	Selisih Error (cm)	Presentase Error (%)
201	200	1	0.50
200	201	1	0.50
201	200	1	0.50
200	202	2	0.99
200	201	1	0.50
Rata - Rata			0.60

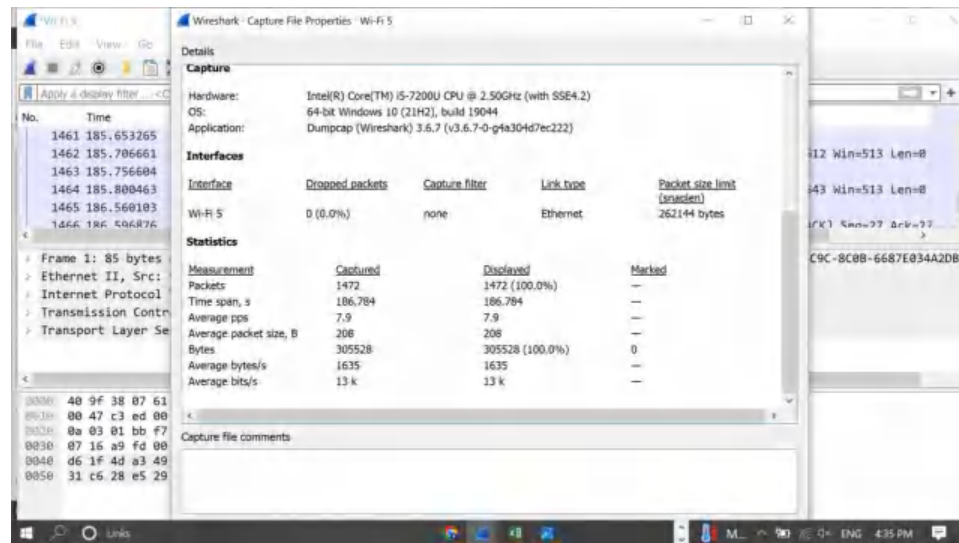
B. Parameter *Quality of Service (QoS)*

● Throughput

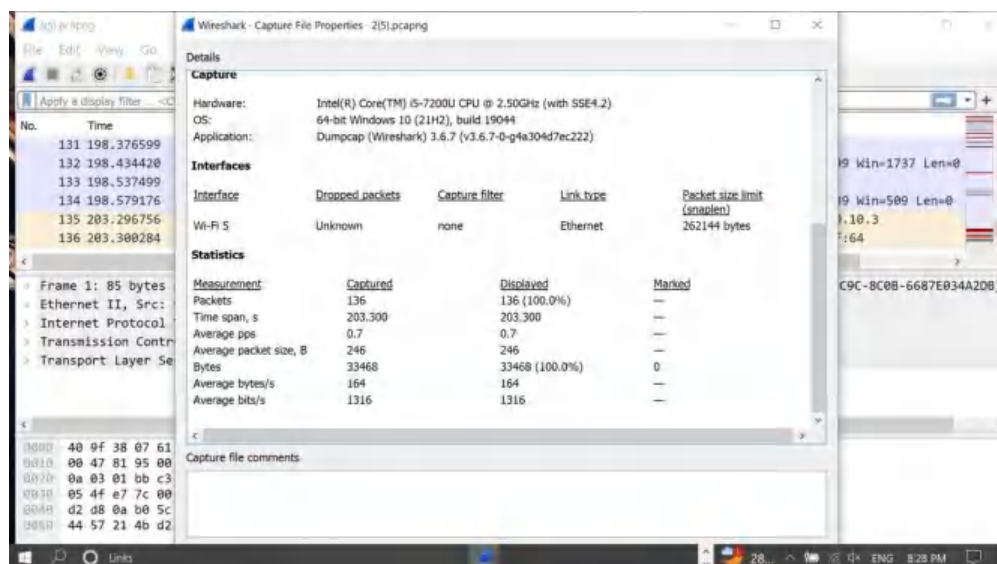


Siaga IV



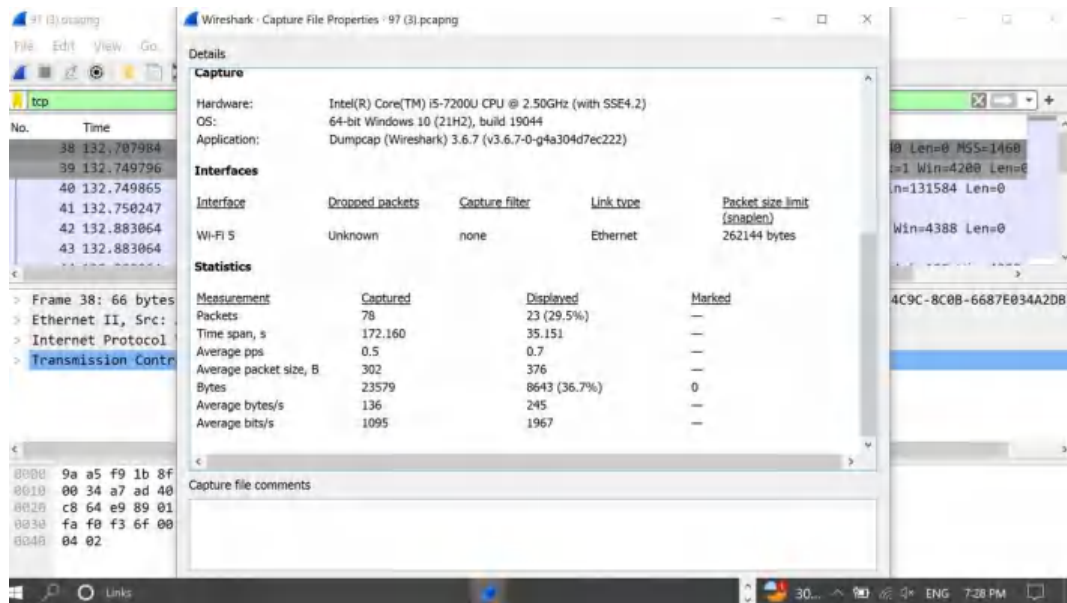


Siaga III



Siaga II





Siaga I

- Wireshark Pintu Air Kanal

Siaga III



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- Data Excel Throughput

Jarak dasar kolom ke sensor (m)	Paket yang diterima (bytes)	Lama Pengamatan (s)	Hasil throughput (Kb/s)	Rata-rata	Jarak kanal ke sensor diterima	Pengamat	Throughput (Kb/s)	Rata-rata	
1,2 meter	35182	182.62	1453.58	21168.64	1,7 meter	153455513	185.94	6602366.91	6635273.22
	105221	174.92	4812.41			193488	185.79	8331.43	
	13938	185.34	601.63			87237	184.76	3777.29	
	162421	171.99	7554.82			398982	186.10	17151.66	
	159676	189.35	6746.21			83124	182.39	3645.95	
1,8 meter	305528	186.78	13085.83	32786.00					
	181993	186.30	7814.93						
	97625	183.39	4258.66						
	83445	188.60	3539.61						
	95777	183.56	4086.97						
2,67 meter	112084	189.39	4734.65	48772.56					
	434703	170.54	20391.84						
	23579	172.16	1095.68						
	466928	177.81	21008.07						
	35594	184.63	1542.32						
2,97 meter	232995	186.58	9990.03	92646.27					
	1644716	167.64	78487.06						
	45474	214.85	1693.21						
	30407	209.89	1158.98						
	33468	203.30	1316.99						

- Packet Loss



The image shows the Wireshark 'Capture File Properties' window for a file named '97 (1).pcapng'. The window is divided into several sections: 'Details', 'Statistics', and 'Capture file comments'. The 'Details' section shows the hardware (Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz), OS (64-bit Windows 10), and application (Wireshark 3.6.7). The 'Statistics' section shows a table of measurements for the 'Wi-Fi 5' interface, including captured packets, time span, average packet size, and average bytes/bits per second. The 'Capture file comments' section is currently empty.

Interface	Dropped packets	Capture filter	Link type	Packet size limit (Maximum)
Wi-Fi 5	0 (0.0%)	none	Ethernet	262144 bytes

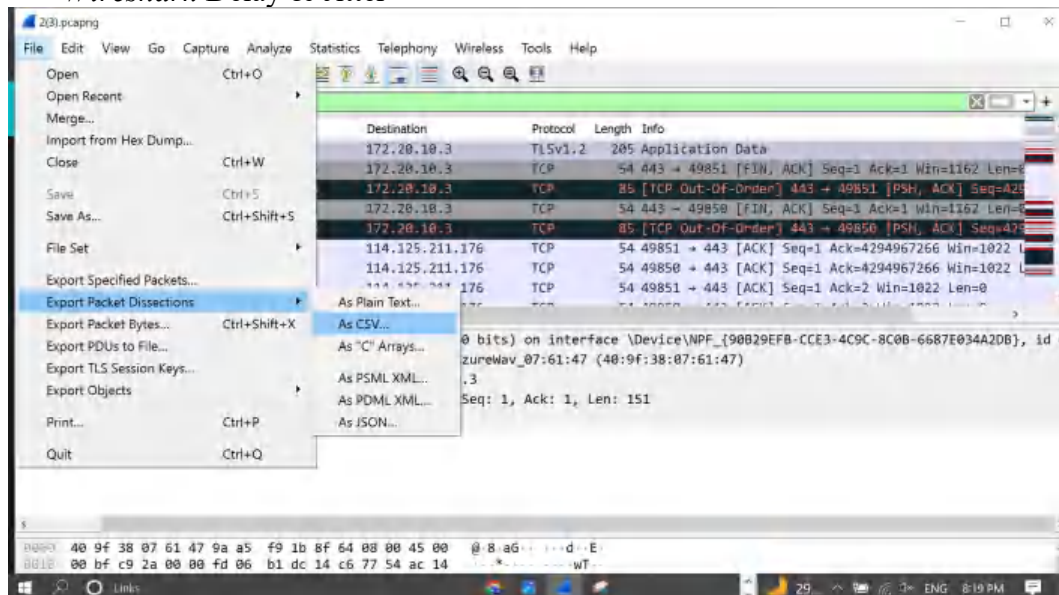
Measurement	Captured	Discarded	Filtered
Packets	333	—	—
Time span, s	189.385	—	—
Average pps	1.8	—	—
Average packet size, B	337	—	—
Bytes	112084	0	0
Average bytes/s	591	—	—
Average bits/s	4734	—	—



- Data Perhitungan Packet Loss di Excel

dasar kolom ke sens	Paket yang dikirim	Paket yang diterima	Paket Loss
1,2 meter (Siaga 4)	143	143	0
	390	390	0
	78	78	0
	491	491	0
1,8 meter (Siaga 3)	1091	1091	0
	1472	1472	0
	1282	1282	0
	1110	1110	0
2,67 meter (Siaga 2)	1106	1106	0
	1125	1125	0
	333	333	0
	1095	1095	0
2,97 meter (Siaga 1)	78	78	0
	1127	1127	0
	124	124	0
	445	445	0
dasar kanal ke sens	2486	2486	0
	191	191	0
	125	125	0
	136	136	0
1,7 meter (Siaga 3)	136175	136175	0
	1692	1692	0
	1114	1114	0
	1781	1781	0
	1109	1109	0

- Wireshark Delay & Jitter



● Data Perhitungan Delay di Excel

jarak dasar kolam ke sensor (	Total delay (s)	jumlah paket yang diterima (byte)	Nilai delay (ms)	Rata-rata delay (ms)	dasar kanal ke sensor	Total delay (s)	sat yang diterima	Nilai delay (ms)	Rata-rata delay (ms)
1,2 meter (Siaga 4)	171.51	143.00	1199.38	4547.86	1,7 meter (Siaga 3)	22.86708	136175	0.016660229	54.47543096
	174.92	390.00	448.50			185.745085	1692	10.977842	
	185.34	78.00	2376.12			184.760704	1114	16.58534147	
	171.99	491.00	350.29			186.095787	1781	10.4489493	
	189.35	1091.00	173.56			182.393216	1109	16.44603805	
1,8 meter (Siaga 3)	186.78	1472.00	126.89	771.12					
	186.30	1282.00	145.32						
	183.39	1110.00	165.22						
	188.60	1186.00	170.52						
	183.36	1125.00	163.17						
2,67 meter (Siaga 2)	189.39	333.00	968.72	4454.76					
	170.50	1095.00	155.71						
	172.16	78.00	2207.18						
	188.80	1127.00	81.72						
	184.83	124.00	1488.92						
2,97 meter (Siaga 1)	186.58	445.00	419.29	4783.57					
	167.64	2416.00	67.43						
	214.85	191.00	1124.89						
	209.89	125.00	1679.10						
	203.30	136.00	1494.86						

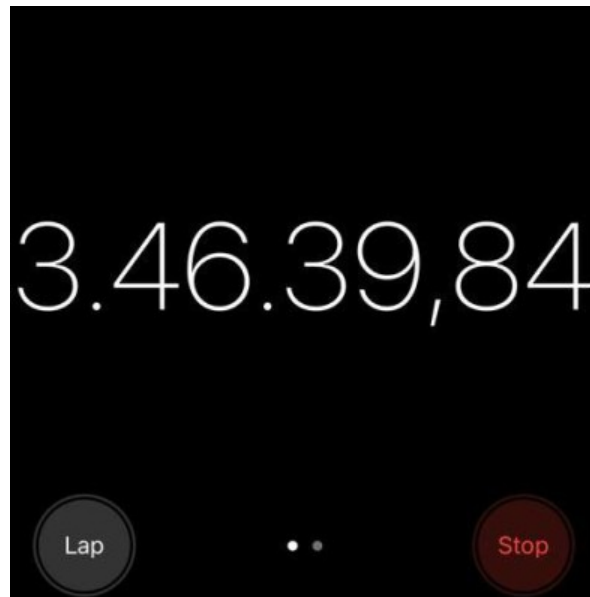
● Data Perhitungan Jitter di Excel

dasar kolam ke sensor	Total jitter (s)	paket yang diterima	Nilai jitter (ms)	Rata-rata jitter (ms)	Jarak dasar kolam ke sensor (m)	Total jitter (s)	paket yang diterima	Nilai jitter (ms)	Rata-rata jitter (m)
1,2 meter (Siaga 4)	393.907052	143	2335.82	8529.01	1,7 meter (Siaga 3)	41.395854	1148	3.02	82.86
	218.105278	390	815.05			237.962003	1692	14.86	
	348.38995	78	4466.53			278.19575	1114	24.97	
	312.719698	491	636.90			272.475828	1781	15.38	
	299.925966	1091	274.91			267.257889	1109	24.10	
1,8 meter (Siaga 3)	288.587628	1472	196.05	1153.44					
	280.365844	1282	218.69						
	276.470774	1110	249.07						
	278.730016	1106	252.02						
	267.385502	1125	237.60						
2,67 meter (Siaga 2)	320.161712	333	988.47	6951.43					
	296.182693	1095	270.49						
	283.308269	78	3632.16						
	57.1222	1127	56.89						
	269.180532	124	2069.63						
2,97 meter (Siaga 1)	332.348334	445	746.85	7436.08					
	275.579144	2486	110.77						
	318.631921	191	1668.24						
	386.609051	125	1062.85						
	247.162998	138	1817.37						

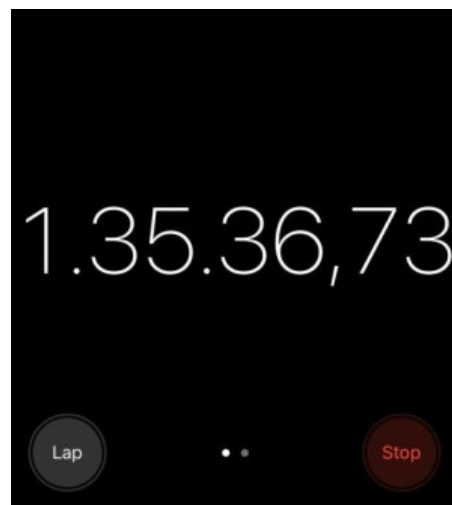
C. Waktu Tahan Baterai



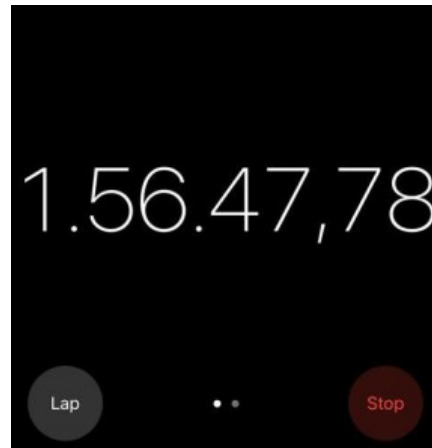
- Percobaan 1



- Percobaan 2



- Percobaan 3



- Percobaan 4

