ENCRYPTION METRICS

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_ApplyEyeMakeup_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0207771769	0.0078290844	0.0238876333	7.9974460295	7.9976205793	7.9969653419	7.9991768454	99.6141493056	33.2255923203
2	0.0015138849	-0.0139777801	0.0100149336	7.9977040261	7.9973727226	7.9979277359	7.9992012473	99.6163194444	33.2651501225
3	0.0174979694	-0.0227204324	-0.0383443966	7.9972491517	7.9980882189	7.9978104279	7.9991854093	99.6271701389	33.1981226171
4	0.0016708811	0.0055277191	-0.0427523420	7.9974145348	7.9977404550	7.9977056761	7.9992527934	99.6167534722	33.2655824483
5	0.0059186297	0.0067443850	-0.0113794538	7.9975774798	7.9974554434	7.9977825627	7.9992426419	99.6258680556	33.2299649374
6	0.0209641370	0.0078411567	-0.0421284574	7.9972193030	7.9976366752	7.9972215130	7.9991304692	99.6163194444	33.2008459286
7	-0.0190188047	0.0107958857	0.0090009001	7.9976739743	7.9977268884	7.9976290990	7.9992532886	99.5928819444	33.1953397331
8	-0.0051109202	0.0222505351	-0.0026165256	7.9976254275	7.9981344026	7.9980474160	7.9991926514	99.6098090278	33.1661083878
9	-0.0299978871	0.0289601669	-0.0084142057	7.9974459310	7.9976357909	7.9973969682	7.9991109288	99.6032986111	33.1582686547
10	-0.0266077685	-0.0290560023	0.0019192590	7.9974170408	7.9975684478	7.9975068109	7.9991333831	99.6263020833	33.2640505855
11	0.0147942197	0.0086808884	0.0156508635	7.9975181450	7.9974459134	7.9979851728	7.9992837248	99.5902777778	33.2060644744
12	0.0050708928	-0.0010721160	-0.0630796307	7.9976064326	7.9973859916	7.9975240009	7.9991826125	99.5998263889	33.2293011302
13	0.0232493828	-0.0012276385	0.0252782811	7.9974924061	7.9978023393	7.9976653578	7.9991352177	99.6076388889	33.2771650327
14	0.0055068004	0.0050487727	-0.0256550475	7.9973467525	7.9975857830	7.9978040692	7.9992238623	99.6115451389	33.2656232979
15	-0.0157419063	-0.0014902274	-0.0067474020	7.9976561464	7.9976598131	7.9975257362	7.9991636249	99.6150173611	33.1775973584
16	0.0007765384	0.0090824317	0.0047917255	7.9973089686	7.9975388967	7.9978924962	7.9993395872	99.5924479167	33.1959354575
17	0.0296733554	-0.0102440408	0.0226216369	7.9975835643	7.9972850640	7.9975869787	7.9991204522	99.6089409722	33.2781556373
18	-0.0002066438	-0.0002183790	-0.0517904808	7.9975022850	7.9977099430	7.9977199392	7.9992313821	99.6267361111	33.2710120507
19	0.0118932280	-0.0178863458	-0.0447403090	7.9979352001	7.9975487547	7.9975530959	7.9993029570	99.6111111111	33.2240519472
20	-0.0011247015	-0.0050044622	-0.0419311800	7.9979808047	7.9975519835	7.9974464911	7.9992061154	99.6228298611	33.2985464325
21	-0.0099643566	0.0016294257	-0.0303368195	7.9975247216	7.9976038941	7.9969276045	7.9990347908	99.6228298611	33.2310474537
22	-0.0144474381	-0.0002433083	0.0096208291	7.9976119548	7.9977239671	7.9978754502	7.9993143937	99.6176215278	33.2350949755
23	-0.0163381641	0.0196498735	0.0560862875	7.9973267781	7.9976950512	7.9979400090	7.9991929057	99.6076388889	33.1774237473
24	-0.0499337066	0.0082953360	-0.0123558540	7.9977241512	7.9974419282	7.9981016007	7.9991712203	99.6228298611	33.2189746732
25	-0.0131161744	-0.0134698390	0.0041169756	7.9978236382	7.9974528668	7.9973786662	7.9992323299	99.6150173611	33.2395407816
26	0.0030308982	-0.0032707957	0.0148045115	7.9976003194	7.9976526090	7.9979215644	7.9992684841	99.6006944444	33.1724009395
27	-0.0020119441	-0.0144040781	-0.0074652991	7.9977116679	7.9977390722	7.9975938896	7.9992736109	99.5842013889	33.2049632353
28	-0.0045014495	-0.0111245673	0.0043611326	7.9974558003	7.9976076681	7.9975297762	7.9992241203	99.6002604167	33.1732094227
29	-0.0095780921	-0.0041228199	0.0709109553	7.9973625734	7.9979285501	7.9973759677	7.9991846196	99.5898437500	33.2103707108
30	0.0075960086	0.0290570719	0.0109587376	7.9975862903	7.9975091695	7.9974863413	7.9992240356	99.6328125000	33.1801096133
31	-0.0073758261	-0.0193157466	-0.0137641811	7.9976273243	7.9979608974	7.9976832572	7.9991857045	99.6163194444	33.1920700572
32	-0.0218014659	0.0387211224	0.0001512874	7.9975653319	7.9975882830	7.9976988668	7.9992120450	99.6085069444	33.2458061002
33	-0.0138140500	-0.0146372002	0.0109052487	7.9977209460	7.9976747573	7.9975458971	7.9991993926	99.6011284722	33.2577256944
34	0.0040128246	0.0225581486	-0.0014170330	7.9978643850	7.9978325642	7.9977002600	7.9993288027	99.6171875000	33.2038534858

35	-0.0039282589	-0.0001737874	-0.0600227258	7.9974009045	7.9978889054	7.9977129844	7.9992243325	99.6128472222	33.2559555419
36	0.0071316914	0.0051140952	0.0505523400	7.9975909638	7.9973399655	7.9973369571	7.9991960325	99.6098090278	33.2216707516
37	0.0163696450	0.0246136662	0.0337690919	7.9976037099	7.9980384659	7.9976788493	7.9992875972	99.6085069444	33.2088354439
38	0.0253188933	-0.0212414937	-0.0099363663	7.9975685525	7.9978155663	7.9977022951	7.9992231056	99.5681423611	33.2134395425
39	-0.0179238434	0.0294436349	-0.0246208409	7.9974129918	7.9974293432	7.9976277344	7.9992930149	99.6271701389	33.2421109069
40	-0.0099302339	-0.0009324214	-0.0117974525	7.9973067626	7.9971894916	7.9981352352	7.9992368661	99.5894097222	33.2309044798
41	-0.0167810765	-0.0111215410	0.0039276732	7.9974163867	7.9976792915	7.9975494181	7.9992804425	99.6019965278	33.2522773693
42	-0.0098462371	0.0357903707	0.0237119097	7.9974924851	7.9978441719	7.9976445437	7.9992302880	99.6093750000	33.2401535267
43	-0.0024442552	-0.0189927100	0.0502165745	7.9973463331	7.9974234432	7.9977060801	7.9992040027	99.6158854167	33.2300313181
44	-0.0262475251	-0.0197449476	0.0177884894	7.9973713469	7.9977171835	7.9977279085	7.9992172849	99.5959201389	33.1808806509
45	0.0012107308	0.0131946771	-0.0254486577	7.9977852335	7.9974523430	7.9977398464	7.9992352903	99.6254340278	33.1764518655
46	-0.0220894462	-0.0006324612	0.0485088946	7.9977240707	7.9979756936	7.9978673442	7.9992857565	99.6206597222	33.1954231345
47	0.0232733372	-0.0342757361	0.0289668487	7.9977275456	7.9972859639	7.9975383095	7.9991645276	99.5915798611	33.2841247958
48	-0.0390371024	0.0023281860	-0.0004941445	7.9977146983	7.9978138077	7.9976471755	7.9992760404	99.6006944444	33.1969430828
49	0.0079640310	-0.0120463312	0.0399470002	7.9978443169	7.9975557325	7.9975037918	7.9991824671	99.6011284722	33.2597681781
50	-0.0290091760	0.0100333020	0.0175190261	7.9975505805	7.9972668900	7.9977339597	7.9992893112	99.5963541667	33.2807359749
Total	**46.0302426999**	**49.8054190159**	**48.4845847132**	**399.8780663687**	**399.8816216434**	**399.8823084736**	**399.9609420101**	**4980.4470486111**	**1661.2047760076**
Average	**-0.0044853229**	**0.0010108542**	**0.0006550047**	**7.9975613274**	**7.9976324329**	**7.9976461695**	**7.9992188402**	**99.6089409722**	**33.2240955202**

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_ApplyLipstick_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	0.0052102367	-0.0081554286	-0.0120667716	7.9977388651	7.9976675594	7.9977074777	7.9993464477	99.6328125000	33.2355017702
2	-0.0236569222	-0.0067726662	0.0035187051	7.9980081329	7.9972602176	7.9978775755	7.9992461999	99.6210937500	33.2397501362
3	-0.0045737795	-0.0114816979	0.0037978077	7.9976593151	7.9974700257	7.9975810046	7.9992911504	99.6154513889	33.2381076389
4	-0.0292867875	-0.0108484047	0.0672411282	7.9973248345	7.9974090488	7.9974752898	7.9991791323	99.6041666667	33.1842150054
5	-0.0211299537	0.0143162437	0.0670709841	7.9977015590	7.9975682724	7.9973573538	7.9991930079	99.6037326389	33.1307495915
6	0.0135869512	0.0085787079	0.0275319267	7.9974396682	7.9974608716	7.9975930727	7.9991392208	99.6150173611	33.2019505719
7	0.0092777591	0.0104499696	-0.0562085641	7.9977861894	7.9974170014	7.9975631577	7.9992337905	99.6015625000	33.2115110975
8	0.0274352666	0.0079622449	-0.0067466457	7.9976194468	7.9977193970	7.9976729187	7.9991897529	99.6276041667	33.2719788263
9	0.0059895123	0.0007727520	-0.0255835372	7.9974684050	7.9972507217	7.9978384384	7.9992228772	99.6215277778	33.1986791939
10	0.0254800962	0.0101043567	-0.0318585287	7.9978478534	7.9974103828	7.9974459906	7.9992548984	99.6024305556	33.2886046432
11	-0.0045143865	-0.0129019295	-0.0276021098	7.9978390959	7.9977356273	7.9973847561	7.9992748105	99.5976562500	33.1250782952
12	0.0075563089	0.0114582511	-0.0115896666	7.9975512402	7.9975426981	7.9974614628	7.9992773074	99.6102430556	33.2086397059
13	-0.0203974029	0.0268031659	0.0259854519	7.9978047194	7.9976766615	7.9971092510	7.9992554495	99.5946180556	33.1897280093
14	-0.0144267114	0.0121565325	-0.0506525798	7.9977662706	7.9978800444	7.9977349152	7.9992345305	99.5928819444	33.2375953159
15	-0.0176098181	-0.0035909552	0.0014738929	7.9978887605	7.9978584338	7.9977193169	7.9993168203	99.5967881944	33.1553376906
16	0.0163929636	-0.0321196320	-0.0429306710	7.9974991112	7.9975051724	7.9977429498	7.9991311255	99.6180555556	33.2745404412
17	-0.0415303551	-0.0120898952	-0.0380453524	7.9974482009	7.9976788091	7.9975038199	7.9992768920	99.6041666667	33.2701269744
18	0.0367027170	-0.0120725224	-0.0271512251	7.9975478388	7.9976271348	7.9978864507	7.9992315990	99.6050347222	33.2524135349
19	-0.0053995369	0.0234385923	-0.0138864096	7.9975891017	7.9977670853	7.9976166820	7.9992164020	99.6145833333	33.2269250408
20	-0.0044896484	0.0049022352	-0.0163729788	7.9976270347	7.9976695780	7.9979870143	7.9992586520	99.6223958333	33.1543436819
21	0.0026346935	-0.0225923696	-0.0152487061	7.9977063841	7.9978944654	7.9974463099	7.9992673074	99.6019965278	33.2641935594
22	-0.0148304800	0.0145825312	-0.0018773749	7.9975468762	7.9973386018	7.9975498883	7.9990665480	99.6115451389	33.2012544254
23	0.0007930679	0.0146221435	-0.0366852608	7.9973361751	7.9973027216	7.9980425832	7.9991760598	99.6219618056	33.2833214188
24	0.0023099914	-0.0182260546	0.0011406649	7.9978658368	7.9983966456	7.9976171457	7.9993237789	99.6150173611	33.3153390523
25	-0.0076673137	0.0216118575	0.0079780047	7.9977833089	7.9975279418	7.9972246540	7.9991614838	99.6145833333	33.2865893927
26	0.0206921243	0.0112844500	0.0187545732	7.9976240662	7.9976848355	7.9976755668	7.9993225554	99.6158854167	33.2939151008
27	0.0392108968	0.0098722637	-0.0224891238	7.9978536188	7.9977530916	7.9974165438	7.9992412553	99.5993923611	33.1815189270
28	-0.0133940669	-0.0196242745	0.0182408376	7.9975577043	7.9976276898	7.9977703817	7.9991772233	99.6115451389	33.1726766748
29	-0.0020802332	0.0121505090	0.0399063353	7.9974687931	7.9976884899	7.9977306491	7.9990543827	99.6258680556	33.1508459286
30	0.0114502333	-0.0037581801	-0.0112779565	7.9976131742	7.9978248109	7.9976959402	7.9992331294	99.5972222222	33.1428342865
31	-0.0354032335	0.0084840423	0.0336889829	7.9976474289	7.9980190583	7.9976351520	7.9992550857	99.6171875000	33.2163347631
32	0.0183493502	-0.0169269368	-0.0308808587	7.9976639473	7.9973869932	7.9974732760	7.9992443594	99.6006944444	33.2208350354
33	-0.0308631768	-0.0153996442	0.0508240587	7.9978816312	7.9977085274	7.9976034179	7.9991719864	99.6019965278	33.4128914760
34	0.0131032899	0.0241128463	-0.0010009910	7.9975380931	7.9979492999	7.9976542345	7.9992447209	99.6319444444	33.2744655501

35	0.0141329924	0.0449738389	0.0487874782	7.9977993647	7.9976115994	7.9974697364	7.9991860916	99.6145833333	33.1716656454
36	-0.0145954402	0.0137968428	0.0601948796	7.9976655232	7.9975116622	7.9973778076	7.9992553348	99.5989583333	33.1712520425
37	-0.0160190696	-0.0325687604	0.0081219702	7.9977782853	7.9975536176	7.9980846229	7.9992007343	99.6106770833	33.1653713916
38	0.0288736538	-0.0442748262	0.0558865274	7.9973144909	7.9978819225	7.9973777749	7.9992330101	99.6006944444	33.1820125272
39	0.0053629111	-0.0310171901	0.0098030173	7.9975024441	7.9974181132	7.9974866004	7.9991301466	99.6067708333	33.1650003404
40	0.0000910632	-0.0040763391	0.0281954215	7.9979117135	7.9974870880	7.9974980526	7.9992914315	99.6180555556	33.2927730120
41	0.0106161469	0.0028456837	-0.0040133503	7.9973711796	7.9974545043	7.9976802355	7.9992329305	99.6241319444	33.3024220452
42	0.0097540743	0.0140701427	0.0552982415	7.9975490459	7.9975069493	7.9978179643	7.9992279591	99.6041666667	33.2355392157
43	-0.0038699592	-0.0110746586	0.0176477402	7.9975530815	7.9979252451	7.9980706688	7.9993014619	99.6310763889	33.3517071759
44	-0.0168596546	-0.0273627051	-0.0604581765	7.9976884647	7.9976067337	7.9978737640	7.9992056393	99.6154513889	33.2618038535
45	0.0255898722	0.0241534658	0.0423643215	7.9975070194	7.9977822111	7.9978433639	7.9992651506	99.6093750000	33.2056304466
46	-0.0158413656	0.0147987680	0.0488427499	7.9973805248	7.9976182564	7.9976969001	7.9991534539	99.5924479167	33.2842711737
47	-0.0166638946	0.0102934010	0.0523560878	7.9975537104	7.9974571341	7.9976855820	7.9991467764	99.5733506944	33.2222903050
48	-0.0215061393	-0.0095650851	-0.0316517522	7.9979346116	7.9974767941	7.9973915569	7.9991542843	99.5980902778	33.1726970997
49	-0.0190837038	-0.0210326624	0.0014549723	7.9973969799	7.9980092781	7.9980123798	7.9992445036	99.6046006944	33.1831835512
50	-0.0144774129	0.0338914612	0.0134604694	7.9978069428	7.9974956143	7.9973445298	7.9991337669	99.6076388889	33.1555572576
Total	49.9403420454	50.0000000000	46.3158003839	399.8819560636	399.8814746392	399.8815061815	399.9610726185	4980.4787326389	1661.2359698393
Average	-0.0015914841	0.0003790896	0.0046657389	7.9976391213	7.9976294928	7.9976301236	7.9992214524	99.6095746528	33.2247193968

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_Archery_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0090021971	-0.0183574005	0.0080513042	7.9976701056	7.9977122740	7.9977700648	7.9993173793	99.5742187500	33.1696418845
2	0.0087923038	0.0203554931	0.0152569541	7.9969947871	7.9975267651	7.9974525629	7.9991294806	99.6106770833	33.2418521923
3	-0.0213192978	-0.0313955087	-0.0158615260	7.9974153057	7.9980950279	7.9977556732	7.9993145694	99.6440972222	33.2047606890
4	-0.0204051531	0.0114158214	-0.0003920704	7.9976935983	7.9972869924	7.9973647711	7.9992813690	99.6145833333	33.1637884668
5	-0.0144127989	0.0161678745	-0.0201481382	7.9977734674	7.9974493263	7.9975143649	7.9991793027	99.6206597222	33.2086941721
6	-0.0090996948	-0.0160312331	0.0210052897	7.9974402657	7.9976104195	7.9975455449	7.9991333049	99.5976562500	33.1615042892
7	0.0418027926	-0.0258677637	0.0031451057	7.9977728629	7.9977236497	7.9976144584	7.9992450260	99.6158854167	33.2056236383
8	-0.0021105050	0.0236266108	-0.0395459749	7.9974619684	7.9976740713	7.9974599996	7.9991814573	99.6349826389	33.2403662854
9	0.0066558272	0.0154423066	0.0501531180	7.9975548567	7.9974810918	7.9975749254	7.9992020589	99.5846354167	33.1244264025
10	-0.0039512003	-0.0053614190	0.0397952475	7.9976577932	7.9975097965	7.9974950045	7.9992535291	99.6150173611	33.2672862200
11	0.0133155414	0.0386881600	0.0192465724	7.9976881089	7.9980201600	7.9974916346	7.9992959285	99.6128472222	33.2153611792
12	0.0078775484	-0.0169666369	0.0209153843	7.9976404477	7.9974106052	7.9975526983	7.9991783653	99.5972222222	33.2418607026
13	-0.0311423080	-0.0048725902	-0.0004594379	7.9978427569	7.9974757122	7.9974937770	7.9992597981	99.6202256944	33.2141578159
14	0.0251002901	0.0160020617	0.0014860730	7.9979462852	7.9978515160	7.9977584394	7.9992518175	99.6089409722	33.1644199346
15	0.0153294621	-0.0148292871	-0.0096124096	7.9977163909	7.9974905045	7.9977256699	7.9992832963	99.5950520833	33.2006144472
16	-0.0226846242	0.0024781840	0.0271658201	7.9976233652	7.9975044576	7.9978898989	7.9992017005	99.6167534722	33.1782918028
17	-0.0032619187	0.0086557328	-0.0305269338	7.9977416858	7.9977234965	7.9976724142	7.9992131621	99.6085069444	33.2357179330
18	-0.0277951034	0.0167861984	0.0004573784	7.9973250615	7.9972829252	7.9976922202	7.9991713103	99.6284722222	33.1952290986
19	0.0211658692	-0.0515417023	-0.0062699029	7.9976906026	7.9976140306	7.9977010596	7.9992490186	99.6006944444	33.2250765931
20	0.0058606668	-0.0157494567	0.0077665492	7.9979006088	7.9978515681	7.9973588004	7.9992573135	99.6124131944	33.1560917075
21	0.0021564372	-0.0159563091	-0.0131114609	7.9976805709	7.9975328002	7.9974481481	7.9991256243	99.5920138889	33.1920411220
22	-0.0161235165	-0.0233621463	-0.0017783887	7.9978707344	7.9979274681	7.9976639295	7.9992559124	99.6019965278	33.2464665033
23	0.0060220996	0.0276161974	-0.0517728254	7.9976455491	7.9979427633	7.9974405217	7.9991021356	99.6024305556	33.2182461874
24	0.0177311185	-0.0200481905	-0.0086084610	7.9981932279	7.9978162529	7.9975669682	7.9992933698	99.5937500000	33.2496766068
25	-0.0022845421	-0.0337410970	0.0629394900	7.9976339910	7.9973288836	7.9974688199	7.9991148218	99.6241319444	33.2980255991
26	-0.0257382722	-0.0005951094	-0.0259532460	7.9977741975	7.9972583931	7.9982189649	7.9993116360	99.6111111111	33.1733047386
27	-0.0109105021	0.0314059838	-0.0429994852	7.9973637923	7.9976105128	7.9973848203	7.9991596996	99.6141493056	33.2347903050
28	-0.0175513103	0.0127161844	-0.0205070134	7.9976854450	7.9972092204	7.9973821955	7.9991895331	99.6145833333	33.1889297386
29	-0.0002771534	-0.0178649597	-0.0308596163	7.9974922600	7.9973836908	7.9980251004	7.9992938600	99.6310763889	33.2583231209
30	0.0143635055	-0.0216448864	0.0255269930	7.9975274887	7.9977575591	7.9977952012	7.9992993479	99.5924479167	33.2389161220
31	0.0092648148	-0.0226347841	-0.0238571535	7.9974554968	7.9975489824	7.9973524125	7.9991204323	99.5959201389	33.1548900463
32	-0.0097625205	-0.0098771405	-0.0286084870	7.9981579831	7.9976728685	7.9975289712	7.9992428396	99.6015625000	33.1079010076
33	0.0099300383	-0.0131165393	-0.0288272467	7.9971839121	7.9980039057	7.9976922804	7.9992384093	99.6223958333	33.1913994417

34	0.0249937330	0.0353389640	0.0043921511	7.9970920505	7.9976681672	7.9975288635	7.9992200410	99.6167534722	33.2565206291
35	-0.0065618023	-0.0000905490	0.0267381972	7.9978984751	7.9977454814	7.9978117401	7.9992656820	99.6011284722	33.1568321078
36	0.0164399600	-0.0175390998	-0.0223355535	7.9976700929	7.9976250309	7.9978825233	7.9992917068	99.5915798611	33.1826014434
37	-0.0420363230	-0.0074205174	0.0242747322	7.9974834570	7.9973853574	7.9975602903	7.9992672249	99.5980902778	33.1395629085
38	-0.0318460704	-0.0028465910	0.0586693005	7.9972259764	7.9976244805	7.9975511371	7.9992273786	99.6219618056	33.1757421024
39	0.0376961556	0.0103179184	0.0179206108	7.9976754667	7.9977370598	7.9977838047	7.9992082709	99.6124131944	33.2287717865
40	-0.0179925425	-0.0058533993	0.0174115969	7.9977838973	7.9975276238	7.9976749312	7.9991538602	99.6124131944	33.3040696487
41	-0.0098516728	-0.0124039205	-0.0070713918	7.9972191397	7.9974338633	7.9978908541	7.9992071698	99.6193576389	33.2473600899
42	-0.0110654905	0.0286561390	-0.0004066415	7.9977114306	7.9978763439	7.9973932233	7.9991854031	99.5846354167	33.1652454385
43	-0.0009209838	0.0257702241	-0.0092949218	7.9974600288	7.9977664531	7.9980921218	7.9991898977	99.6067708333	33.1832601443
44	0.0281081889	0.0073023715	-0.0266039478	7.9977987133	7.9976774453	7.9978704702	7.9993909722	99.5967881944	33.1475966776
45	-0.0007903895	0.0273141711	0.0372436781	7.9976588966	7.9975752317	7.9976343275	7.9992215797	99.6401909722	33.1650139570
46	0.0104806120	-0.0354732947	-0.0121994610	7.9979582642	7.9974751935	7.9978671893	7.9992323808	99.6037326389	33.1869247004
47	-0.0153981503	-0.0062405254	0.0182093195	7.9978622719	7.9977372717	7.9976475526	7.9993074525	99.5872395833	33.2066806236
48	0.0220704675	-0.0223789094	0.0359611312	7.9978181571	7.9977074217	7.9972802844	7.9991138250	99.6271701389	33.1958792892
49	0.0237982243	0.0041045889	-0.0331269608	7.9975283003	7.9973868531	7.9973764908	7.9991822468	99.6367187500	33.2473464733
50	-0.0155421511	0.0074503966	0.0015247370	7.9974567412	7.9974584917	7.9972713030	7.9991837839	99.6401909722	33.2251514842
Total	48.2929393068	49.6901607060	40.6097882133	399.8815163333	399.8806954615	399.8809694235	399.9611956856	4980.5082465278	1660.1822354984
Average	-0.0006176507	-0.0020489848	0.0006903615	7.9976303267	7.9976139092	7.9976193885	7.9992239137	99.6101649306	33.2036447100

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BabyCrawling_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0221619264	0.0266323374	-0.0474804901	7.9977374264	7.9975060821	7.9975701672	7.9992327687	99.6011284722	33.2778390523
2	-0.0023163698	0.0152533807	-0.0258565164	7.9974174927	7.9975682968	7.9974305446	7.9991749980	99.6241319444	33.1755208333
3	0.0072799819	-0.0246680255	0.0014671624	7.9978145129	7.9975746843	7.9976753569	7.9992121149	99.6354166667	33.2172419662
4	0.0150743957	-0.0337658436	-0.0079601232	7.9978450998	7.9976136533	7.9976471377	7.9991682372	99.6111111111	33.2475388072
5	-0.0004525644	-0.0198504996	-0.0307405132	7.9975905846	7.9975918345	7.9976164687	7.9991363095	99.5985243056	33.1930623638
6	0.0094176335	-0.0040507131	-0.0250466532	7.9975288160	7.9976797082	7.9975599035	7.9991887647	99.6302083333	33.1835801334
7	0.0033151030	-0.0120771650	0.0053323822	7.9978198151	7.9977719411	7.9974982036	7.9993410641	99.5998263889	33.1734800517
8	-0.0091474293	-0.0041980845	0.0395371291	7.9974331983	7.9974462550	7.9976410694	7.9991532661	99.6180555556	33.2896616285
9	0.0050585357	-0.0185948682	0.0287505052	7.9975699407	7.9974087770	7.9973304988	7.9990740533	99.6085069444	33.1703652642
10	-0.0028309471	-0.0177822228	-0.0011289297	7.9974339198	7.9974499442	7.9977538775	7.9992023750	99.5920138889	33.2534262663
11	-0.0029992624	0.0072087362	0.0002208002	7.9976106344	7.9979398915	7.9976861437	7.9992652335	99.5959201389	33.2241387527
12	-0.0311336128	0.0018473614	0.0422355161	7.9977746527	7.9972445974	7.9976225063	7.9991750566	99.6236979167	33.2625680828
13	0.0171821963	-0.0140932637	-0.0481364848	7.9978096266	7.9975758670	7.9978250405	7.9993125509	99.6093750000	33.1928853486
14	-0.0031241447	0.0144025634	-0.0143824316	7.9977495058	7.9973447353	7.9974140716	7.9992249918	99.6271701389	33.2977005038
15	0.0064702497	0.0310371203	-0.0045530807	7.9972499700	7.9977193563	7.9978007342	7.9991473612	99.6263020833	33.2912990196
16	0.0146998918	-0.0142320450	0.0114843783	7.9977062234	7.9974766552	7.9976762783	7.9991676257	99.6202256944	33.2137935730
17	0.0426773583	-0.0124037276	-0.0009212629	7.9973426396	7.9977786125	7.9975018835	7.9992940683	99.6254340278	33.2423015387
18	0.0200329295	0.0004809811	-0.0067923269	7.9971937207	7.9976032142	7.9976733668	7.9991782018	99.5989583333	33.2028254357
19	-0.0333954745	-0.0112475080	-0.0060127417	7.9978894498	7.9976198211	7.9978079616	7.9993158966	99.5941840278	33.1626719090
20	-0.0308439259	0.0227436506	0.0016392624	7.9971426409	7.9977801402	7.9974426166	7.9992210098	99.5855034722	33.2719958470
21	0.0216388852	-0.0225133057	0.0759346694	7.9978476469	7.9980563543	7.9977049625	7.9992764609	99.5959201389	33.2368906590
22	-0.0095816129	-0.0013802821	0.0031141710	7.9975900272	7.9976001224	7.9972814993	7.9991331527	99.5946180556	33.2028850082
23	-0.0283872929	0.0046798829	0.0070067056	7.9979137124	7.9975456646	7.9975405284	7.9992214209	99.6254340278	33.2886080474
24	0.0163746408	-0.0405108853	-0.0037735872	7.9976881037	7.9977917257	7.9975804965	7.9992925373	99.6241319444	33.2679755583
25	-0.0308906118	0.0053584587	-0.0068495289	7.9974927186	7.9977011452	7.9975003546	7.9991566459	99.6228298611	33.2320874183
26	-0.0341371583	0.0205430318	-0.0395981549	7.9980098610	7.9976895689	7.9976084485	7.9992666274	99.6006944444	33.2735719635
27	0.0239944978	0.0147840115	0.0522834818	7.9976779988	7.9974465224	7.9974709444	7.9992186886	99.6197916667	33.2348311547
28	0.0331876652	0.0140264302	-0.0172590595	7.9973535151	7.9977196516	7.9976970274	7.9992116397	99.6163194444	33.2394097222
29	0.0146090958	0.0119937809	0.0030638789	7.9979844936	7.9976704358	7.9974927948	7.9992356973	99.6250000000	33.2728400735
30	0.0153071533	-0.0116859575	-0.0217559352	7.9975657030	7.9978545389	7.9976784703	7.9992188720	99.6063368056	33.2753114788
31	-0.0182220009	-0.0049941903	0.0035053376	7.9976928634	7.9977911557	7.9974933982	7.9991515153	99.5820312500	33.2102583742
32	-0.0272275366	-0.0049610893	-0.0403577004	7.9973238878	7.9971568118	7.9975458200	7.9991361039	99.6067708333	33.2174325980
33	0.0410084415	0.0252780024	0.0540741404	7.9978985998	7.9976178850	7.9974758009	7.9992599135	99.6102430556	33.1786049837
34	0.0358676481	0.0169620237	0.0416007651	7.9977754929	7.9977270744	7.9973580541	7.9992193818	99.6002604167	33.1835290714

35	-0.0032800884	-0.0009851312	0.0453714950	7.9974419579	7.9973864379	7.9980591741	7.9992501056	99.6158854167	33.1864106754
36	-0.0006562877	0.0005097476	0.0443606515	7.9976433310	7.9977844397	7.9976419630	7.9991851513	99.6006944444	33.2155518110
37	0.0058122280	0.0054716860	0.0167967982	7.9977056162	7.9976585908	7.9975730407	7.9993329215	99.6076388889	33.1692384940
38	-0.0063939622	-0.0063777070	-0.0546868521	7.9973569693	7.9975303610	7.9974004484	7.9991418718	99.6189236111	33.1414470997
39	-0.0121130157	0.0008391744	-0.0245287493	7.9975568656	7.9976607695	7.9976589748	7.9992489360	99.6475694444	33.2554091776
40	-0.0011060580	-0.0104985613	-0.0491285490	7.9976058685	7.9974287913	7.9973032539	7.9991734672	99.5872395833	33.1990127996
41	-0.0109900525	0.0013043583	0.0051949900	7.9977226556	7.9975760789	7.9975970005	7.9992437429	99.5928819444	33.0922998366
42	-0.0080695052	-0.0150319690	0.0153029246	7.9972126761	7.9973480133	7.9978690432	7.9992578475	99.6067708333	33.2393127042
43	-0.0096450146	-0.0196471404	-0.0266555542	7.9976481617	7.9980030061	7.9976789939	7.9993198480	99.6028645833	33.1983132489
44	0.0117519983	0.0168404731	-0.0190198441	7.9976467083	7.9977069080	7.9972125748	7.9992774070	99.5998263889	33.1750476580
45	0.0077318241	-0.0129424097	-0.0054121927	7.9976470733	7.9977466854	7.9975300025	7.9992354871	99.5889756944	33.1186580882
46	0.0157342816	0.0205020434	-0.0397386052	7.9976054012	7.9974009887	7.9976457609	7.9992341794	99.6223958333	33.2879867919
47	-0.0238495436	0.0306547701	-0.0308683618	7.9972087246	7.9979402303	7.9978340945	7.9993016555	99.6098090278	33.2025599129
48	-0.0337326646	0.0016090193	0.0363419072	7.9978003076	7.9974711732	7.9977994237	7.9992374447	99.6028645833	33.1209797113
49	-0.0197168676	-0.0043986667	0.0224168205	7.9977710333	7.9977129047	7.9980095153	7.9992133341	99.5928819444	33.2384293301
50	0.0304717918	-0.0249451837	-0.0029315342	7.9976296769	7.9976075967	7.9975547877	7.9992240486	99.6111111111	33.1893790850
Total	49.6396913373	50.0000000000	40.4059956888	399.8806775213	399.8810256993	399.8799704829	399.9610620528	4980.4644097222	1660.8881689134
Average	-0.0000341301	-0.0011374679	-0.0008907976	7.9976135504	7.9976205140	7.9975994097	7.9992212411	99.6092881944	33.2177633783

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BalanceBeam_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0301335390	-0.0129851662	0.0125066886	7.9978317705	7.9975158498	7.9975364315	7.9992384348	99.6163194444	33.1987847222
2	-0.0061358007	-0.0254832830	0.0275986932	7.9978507165	7.9975443454	7.9976183583	7.9992482941	99.6098090278	33.2693235975
3	0.0141276338	-0.0074264539	0.0036783773	7.9978457830	7.9977929221	7.9974661707	7.9993410895	99.5954861111	33.2596932870
4	0.0090764766	-0.0034865156	0.0672727471	7.9976956447	7.9976262784	7.9977139376	7.9992331693	99.6219618056	33.2285794526
5	-0.0308947496	0.0083969594	-0.0169807843	7.9973374581	7.9976382849	7.9975108833	7.9991832017	99.6059027778	33.2040781590
6	-0.0035715684	0.0049402294	-0.0030598005	7.9977987890	7.9972000100	7.9976206497	7.9991532930	99.6171875000	33.2333997141
7	-0.0096007335	-0.0274407741	0.0075895166	7.9975287091	7.9974167282	7.9976383041	7.9992390722	99.6163194444	33.2174325980
8	0.0234622155	-0.0329489037	0.0053092483	7.9975770879	7.9976741150	7.9978254269	7.9992208319	99.5998263889	33.1993906590
9	0.0060549219	-0.0047750430	-0.0229274579	7.9976978094	7.9978606905	7.9969916286	7.9992418308	99.6258680556	33.2973634940
10	-0.0038744818	-0.0072634743	0.0244961026	7.9975141509	7.9978185163	7.9977059825	7.9991402978	99.6232638889	33.2136301743
11	0.0168083605	0.0287939554	0.0534216997	7.9974674270	7.9977882569	7.9974942007	7.9991864830	99.6128472222	33.2652658633
12	-0.0252187066	0.0027028254	-0.0628363556	7.9977040751	7.9974842683	7.9976389066	7.9992459065	99.5989583333	33.2477890114
13	-0.0060568979	-0.0154417657	0.0374480085	7.9975894967	7.9974125403	7.9976047143	7.9991976255	99.6093750000	33.1476647603
14	0.0105097959	0.0124277720	-0.0288125782	7.9976487075	7.9975823899	7.9969739220	7.9991760866	99.6176215278	33.1338865060
15	0.0202832017	-0.0104961992	0.0345380443	7.9976735016	7.9976673810	7.9973591852	7.9991301194	99.6219618056	33.3161117919
16	-0.0088559533	0.0131475468	0.0393963001	7.9974010478	7.9975029631	7.9974583946	7.9991160046	99.6128472222	33.1995183143
17	-0.0062522197	0.0350194871	0.0125589364	7.9976809338	7.9970463818	7.9979532394	7.9992000665	99.6076388889	33.2677934368
18	-0.0079071811	-0.0012649990	-0.0102584707	7.9977437481	7.9977018363	7.9979767190	7.9992684534	99.6080729167	33.3598651961
19	0.0086024829	-0.0146741286	0.0322716185	7.9974959776	7.9976234629	7.9979703884	7.9992896359	99.6067708333	33.2539215686
20	0.0185528211	-0.0401257755	0.0074248388	7.9975705531	7.9976973594	7.9975261585	7.9992005121	99.6119791667	33.2003506264
21	0.0033868715	-0.0020290230	0.0066950747	7.9975285463	7.9974045857	7.9972305508	7.9991675758	99.6310763889	33.2941023284
22	0.0040810190	0.0077384725	0.0411351716	7.9978550178	7.9977358361	7.9974313461	7.9992225232	99.5781250000	33.2313061683
23	0.0021266518	-0.0073553269	0.0027703705	7.9978386811	7.9975293446	7.9979800825	7.9992599101	99.6046006944	33.2501242511
24	-0.0036576121	-0.0170929757	0.0333142684	7.9974893029	7.9977494136	7.9975532721	7.9992511605	99.6180555556	33.2315274374
25	-0.0103242170	0.0186738004	-0.0130276572	7.9975640289	7.9980345207	7.9973367719	7.9992478149	99.5868055556	33.2253455202
26	-0.0166031006	0.0213238390	-0.0150994653	7.9976037390	7.9977243814	7.9976347533	7.9992176701	99.6297743056	33.2962605528
27	-0.0095172720	-0.0135182006	-0.0074752783	7.9978329671	7.9975945302	7.9977382520	7.9991767285	99.6280381944	33.1645101443
28	0.0055927882	0.0052237836	-0.0016940649	7.9978811137	7.9975070760	7.9976697013	7.9992590737	99.6184895833	33.2003404139
29	0.0019678822	-0.0092376463	-0.0297343682	7.9974402614	7.9972634633	7.9974030249	7.9990915205	99.6002604167	33.1724332789
30	-0.0144195070	0.0086700562	0.0412104606	7.9975417191	7.9974991672	7.9976836222	7.9991132844	99.6085069444	33.3021395016
31	0.0061775493	0.0352630163	0.0135267039	7.9976910980	7.9976304179	7.9976210643	7.9992621801	99.5985243056	33.2571810321
32	0.0056647558	0.0058323277	0.0058259933	7.9977875187	7.9979628636	7.9974998953	7.9992869821	99.6184895833	33.1374829793
33	-0.0149786582	-0.0129191066	-0.0184089448	7.9977564044	7.9976964300	7.9976143769	7.9992509793	99.5998263889	33.2052730120
34	-0.0222453145	-0.0366535579	0.0031192166	7.9974860179	7.9978659745	7.9975635264	7.9992887923	99.5963541667	33.2418862337

35	0.0066059088	0.0222638994	0.0281950410	7.9978056533	7.9973807905	7.9972457048	7.9993125615	99.6080729167	33.1827001634
36	-0.0023637880	-0.0169663937	-0.0156428787	7.9976755792	7.9971182206	7.9974843934	7.9991043133	99.5972222222	33.2087894880
37	-0.0137724830	0.0317014513	0.0503855983	7.9976224569	7.9973379809	7.9976418784	7.9992333059	99.6193576389	33.2478809232
38	-0.0145743532	-0.0321994202	0.0313484619	7.9971177043	7.9976691652	7.9977844048	7.9991134284	99.5950520833	33.2294372958
39	-0.0019620126	-0.0425491776	0.0116173365	7.9976986136	7.9976109427	7.9974892512	7.9991803730	99.5924479167	33.2523539624
40	-0.0116947097	0.0035458570	0.0263088233	7.9979525516	7.9977337529	7.9977181565	7.9992400657	99.5976562500	33.1943440223
41	-0.0001754583	-0.0039472437	-0.0065895007	7.9975323846	7.9972455449	7.9973468990	7.9990930749	99.5837673611	33.1836073666
42	-0.0239387057	0.0040694056	0.0057674561	7.9976311153	7.9976634017	7.9972443044	7.9991593285	99.6284722222	33.2367766204
43	0.0055259484	0.0000971095	-0.0205627598	7.9976889565	7.9974613756	7.9977537996	7.9991821411	99.6215277778	33.2324874047
44	0.0069366809	-0.0214897402	0.0391418862	7.9975187066	7.9975905535	7.9975160089	7.9991568018	99.5933159722	33.2530518110
45	-0.0141376476	-0.0264148581	-0.0370930222	7.9973173453	7.9978120319	7.9975703898	7.9991779412	99.6223958333	33.2562806373
46	-0.0216731841	-0.0099362314	-0.0232454439	7.9979658946	7.9978601254	7.9976871240	7.9993859790	99.6354166667	33.2290611383
47	-0.0031547470	-0.0479305377	-0.0120030877	7.9974022656	7.9975913425	7.9977444313	7.9992092420	99.6011284722	33.1723447712
48	0.0010547450	0.0141101102	-0.0446900064	7.9978933208	7.9978114293	7.9974703255	7.9992828759	99.5963541667	33.2435440496
49	-0.0186358321	-0.0339713500	0.0553252091	7.9979031481	7.9979359321	7.9980900420	7.9992901123	99.6202256944	33.2179670479
50	-0.0074349238	-0.0167843660	-0.0003600068	7.9978174730	7.9978394256	7.9975701597	7.9992488143	99.6080729167	33.1512867647
Total	46.9323412972	50.0000000000	38.9270694047	399.8824929730	399.8804546004	399.8789011148	399.9607169627	4980.4774305556	1661.4156692538
Average	-0.0037433155	-0.0054172617	0.0074137834	7.9976498595	7.9976090920	7.9975780223	7.9992143393	99.6095486111	33.2283133851

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BandMarching_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0023428153	-0.0006922647	0.0179314316	7.9976979189	7.9975805056	7.9974237523	7.9990967916	99.6145833333	33.2160522195
2	-0.0286221608	-0.0360855835	-0.0023437094	7.9977648747	7.9973039266	7.9978747102	7.9992481542	99.6124131944	33.1336260893
3	0.0191597117	0.0058651044	-0.0285437748	7.9980281259	7.9975269052	7.9979322808	7.9991355018	99.5946180556	33.2133169935
4	-0.0344668574	-0.0007964125	-0.0293697830	7.9979330297	7.9974066682	7.9978382179	7.9992317198	99.6215277778	33.1230494281
5	0.0528187995	0.0255869085	0.0319778041	7.9977521219	7.9976839006	7.9978367030	7.9993149153	99.6202256944	33.0828890931
6	0.0113666039	-0.0114358501	-0.0556055329	7.9973467458	7.9975623555	7.9976455090	7.9991561037	99.6054687500	33.2042075163
7	-0.0162066477	0.0190769438	-0.0043685888	7.9976841637	7.9974567331	7.9973751489	7.9991699564	99.5785590278	33.2476154003
8	0.0033024846	0.0010170876	-0.0596231181	7.9971785420	7.9972687247	7.9973306062	7.9991101984	99.6063368056	33.1877416939
9	-0.0363088194	-0.0419548744	0.0254378393	7.9973671504	7.9975891998	7.9973986748	7.9991508452	99.6393229167	33.3174938725
10	-0.0402151831	0.0264408956	0.0393745935	7.9977477356	7.9975822612	7.9972141182	7.9991302754	99.6223958333	33.2902182053
11	-0.0045371737	-0.0600223127	0.0091985736	7.9973765639	7.9977980749	7.9972728308	7.9992130855	99.5941840278	33.1933040577
12	0.0059249156	-0.0244327949	0.0378715556	7.9976079301	7.9976565465	7.9975658117	7.9990849246	99.6093750000	33.2051828023
13	0.0078928684	0.0000444756	0.0057009075	7.9976001195	7.9977939020	7.9971636856	7.9991831071	99.5876736111	33.1268909995
14	0.0135122198	-0.0105201594	-0.0001726024	7.9975485312	7.9977370112	7.9976564185	7.9991855497	99.6254340278	33.2293743192
15	-0.0066120486	-0.0161058240	-0.0115489593	7.9974304150	7.9973789235	7.9977724939	7.9990898671	99.5959201389	33.1887510212
16	-0.0023943559	0.0151274499	0.0216464263	7.9978701449	7.9976804901	7.9975300548	7.9991687642	99.6059027778	33.1999183007
17	0.0131482996	-0.0080362575	0.0185127797	7.9975253505	7.9976730966	7.9975765685	7.9992053130	99.6041666667	33.2101256127
18	0.0216771095	-0.0169806261	0.0435009135	7.9971597656	7.9976741680	7.9974727605	7.9992323923	99.5993923611	33.2021446078
19	-0.0232145135	-0.0242914721	-0.0261449219	7.9973820036	7.9975982356	7.9976392487	7.9991357530	99.6158854167	33.1548934504
20	0.0062415650	0.0071519918	-0.0132495504	7.9976111697	7.9976983633	7.9978641242	7.9992458579	99.5928819444	33.2490655637
21	-0.0050655341	-0.0208458327	-0.0272415822	7.9976324836	7.9976014234	7.9975580050	7.9992551352	99.6115451389	33.2093273420
22	-0.0028916324	-0.0269183291	-0.0302924620	7.9975413988	7.9975102253	7.9974997431	7.9991902148	99.6080729167	33.1611996187
23	0.0075988018	0.0034088645	0.0435907331	7.9977559084	7.9977184133	7.9976740863	7.9991739942	99.6154513889	33.2152692674
24	0.0080375358	0.0206255206	-0.0392505696	7.9975091897	7.9979823100	7.9975458857	7.9992497164	99.6046006944	33.1135331563
25	0.0081663026	0.0170946824	0.0008092066	7.9973127365	7.9974255155	7.9975935666	7.9991535300	99.6197916667	33.2559334150
26	0.0145718487	0.0172680894	0.0207609661	7.9972567732	7.9973374718	7.9973295030	7.9990413735	99.5881076389	33.2863579112
27	0.0080774781	0.0171861201	0.0081861349	7.9977125007	7.9970907563	7.9977051951	7.9990706328	99.5820312500	33.2082754630
28	0.0123049624	0.0307666795	0.0112115460	7.9977264742	7.9976560949	7.9977631750	7.9992862702	99.6006944444	33.1874897876
29	-0.0132504954	-0.0060730706	-0.0563624754	7.9975030107	7.9976241671	7.9978106078	7.9992593613	99.6245659722	33.2681644880
30	0.0122854657	-0.0129734585	-0.0083943941	7.9975880885	7.9973396822	7.9973874827	7.9991590669	99.5894097222	33.0633527369
31	-0.0264433293	-0.0001668766	0.0314252672	7.9974252641	7.9974877448	7.9974256080	7.9991979348	99.6115451389	33.1548338780
32	-0.0325015210	-0.0091640093	-0.0392576812	7.9974865128	7.9976655273	7.9977665416	7.9993351819	99.6137152778	33.2609426062
33	0.0075763798	-0.0224621633	-0.0130651586	7.9977082190	7.9975966435	7.9973836515	7.9991813164	99.5954861111	33.2385297522
34	0.0115778520	-0.0141797175	-0.0645005476	7.9975316096	7.9977151789	7.9972309565	7.9990731766	99.6202256944	33.2509412446

35	-0.0237278266	0.0105315590	-0.0058325437	7.9973195371	7.9975228475	7.9974245869	7.9991355066	99.5755208333	33.2682189542
36	-0.0148703346	0.0146951328	-0.0198557764	7.9975195679	7.9975373594	7.9974848010	7.9991664751	99.6154513889	33.2086397059
37	0.0248219122	-0.0412830269	-0.0049066678	7.9978783184	7.9979029725	7.9980446238	7.9992300725	99.6024305556	33.2889739924
38	-0.0088930194	0.0325462132	0.0600472570	7.9977239231	7.9978207270	7.9970505939	7.9993178675	99.6098090278	33.1703431373
39	-0.0215254914	0.0283819234	0.0036377657	7.9972812593	7.9977221125	7.9977115844	7.9991697797	99.6028645833	33.2034092456
40	0.0060760354	-0.0248914829	0.0223739796	7.9974746737	7.9974580638	7.9974252077	7.9990542560	99.6189236111	33.2009208197
41	-0.0113030953	0.0032927918	0.0166462752	7.9975300769	7.9975102736	7.9977320803	7.9991729173	99.5976562500	33.1469039352
42	0.0095022477	-0.0247305461	-0.0105945780	7.9976474650	7.9978260971	7.9975855969	7.9992346365	99.6032986111	33.2409705202
43	0.0363784935	-0.0462194063	-0.0098772374	7.9977525669	7.9978907823	7.9973726676	7.9992899849	99.6176215278	33.2067810458
44	-0.0315922058	-0.0001942973	0.0261226031	7.9970518624	7.9976753212	7.9973473100	7.9990719807	99.6289062500	33.2009106073
45	-0.0031352593	-0.0018258116	0.0199031952	7.9973911541	7.9976113613	7.9975995011	7.9992277029	99.6080729167	33.1941670071
46	-0.0043278910	-0.0159694792	-0.0256295498	7.9977422136	7.9981000143	7.9980222347	7.9993641859	99.5998263889	33.2253965822
47	-0.0066151945	0.0016283152	-0.0093227185	7.9975223054	7.9975023728	7.9975570956	7.9992119531	99.6236979167	33.1632829521
48	0.0372044576	0.0151101874	-0.0733096528	7.9977902320	7.9976975141	7.9974249858	7.9991416234	99.5959201389	33.1462060866
49	0.0075511591	-0.0089268699	-0.0533033798	7.9973356238	7.9976178033	7.9973604966	7.9990328313	99.6050347222	33.1918607026
50	-0.0223951302	0.0076170874	-0.0514079580	7.9978944237	7.9977494134	7.9979565207	7.9992721463	99.5924479167	33.2195176334
Total	49.7793808967	38.5015070996	43.8774007419	399.8781577754	399.8805461825	399.8781576133	399.9592099010	4980.3289930556	1660.1265148421
Average	-0.0011336600	-0.0041542718	-0.0051501089	7.9975631555	7.9976109237	7.9975631523	7.9991841980	99.6065798611	33.2025302968

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BaseballPitch_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	0.0167149140	-0.0247533740	-0.0030381578	7.9970778852	7.9977070640	7.9973447793	7.9992681934	99.6028645833	33.2073648557
2	-0.0167113086	-0.0090816424	0.0147289945	7.9975200438	7.9975499948	7.9975540566	7.9992055446	99.6015625000	33.2668947440
3	-0.0173748406	-0.0228299122	-0.0147818584	7.9976610590	7.9975273583	7.9975465891	7.9992253883	99.6024305556	33.2263735703
4	-0.0025525884	-0.0020215255	-0.0134394898	7.9978091906	7.9977307004	7.9976713624	7.9991786163	99.6115451389	33.2162700844
5	-0.0083572365	0.0229372860	-0.0399946185	7.9977410306	7.9974318614	7.9974962105	7.9991288920	99.5937500000	33.1928019472
6	0.0020323253	0.0075101138	0.0102427066	7.9976808843	7.9973792554	7.9975536068	7.9992632804	99.5998263889	33.2056610839
7	0.0192658725	-0.0077473355	0.0391802935	7.9978513215	7.9976250864	7.9973880857	7.9992230328	99.6271701389	33.2184521378
8	0.0034145896	0.0154056092	0.0138663886	7.9975801513	7.9974125167	7.9973682155	7.9991606536	99.6150173611	33.1146701389
9	0.0065431965	0.0147040418	-0.0359269832	7.9976876196	7.9977016485	7.9976876134	7.9992150023	99.5972222222	33.1820176334
10	0.0216285715	-0.0197296640	-0.0204213220	7.9977390232	7.9971033630	7.9971823457	7.9991926294	99.6150173611	33.2728587963
11	-0.0119196779	-0.0064230770	0.0257187464	7.9978236837	7.9973782107	7.9977308042	7.9991483780	99.6002604167	33.1443491285
12	0.0239049547	0.0279495316	-0.0164549547	7.9976704229	7.9978957153	7.9978116297	7.9993052252	99.6124131944	33.2167313453
13	0.0039902360	0.0019356192	0.0284870081	7.9974388016	7.9975213982	7.9976776569	7.9991969622	99.6250000000	33.1724809368
14	-0.0405139198	-0.0107186516	-0.0083530138	7.9977237640	7.9978866646	7.9977302345	7.9993067227	99.5933159722	33.2021633306
15	-0.0150248093	-0.0103982861	0.0395426738	7.9980440994	7.9975456507	7.9974285358	7.9992245049	99.5755208333	33.2202359069
16	0.0133057110	0.0382967710	0.0266948291	7.9979338829	7.9974494642	7.9974992778	7.9991490587	99.6197916667	33.2377399918
17	0.0076983206	0.0251599966	-0.0644598934	7.9974772609	7.9976240016	7.9974824113	7.9991628642	99.6232638889	33.2274067266
18	0.0428025424	-0.0026191892	0.0052688954	7.9975233926	7.9975833198	7.9975820697	7.9991660666	99.6189236111	33.2209405637
19	0.0233812952	0.0103798546	0.0297313598	7.9973119062	7.9975325316	7.9975083559	7.9992510566	99.6141493056	33.1630889161
20	-0.0215141324	-0.0224808739	-0.0565705493	7.9974669739	7.9975167841	7.9974838379	7.9991193966	99.6193576389	33.2152096950
21	-0.0009220928	0.0134728119	-0.0186975168	7.9975493987	7.9978887778	7.9977360574	7.9992730276	99.6245659722	33.3068967865
22	-0.0073679497	0.0072238549	-0.0626402458	7.9975333127	7.9975756529	7.9975978401	7.9991334606	99.5768229167	33.2125357435
23	0.0271920663	-0.0290086286	-0.0145234296	7.9979101515	7.9973876240	7.9976960978	7.9991562147	99.6215277778	33.2120898012
24	0.0230946454	0.0028794117	0.0125420663	7.9976477413	7.9977205924	7.9974740688	7.9992044269	99.5911458333	33.2051759940
25	-0.0066773555	-0.0054957390	0.0148458290	7.9974645325	7.9976673404	7.9976189986	7.9992224837	99.6037326389	33.2111621732
26	-0.0133662859	-0.0136557557	0.0468464019	7.9977419113	7.9975660859	7.9979147265	7.9992704212	99.6006944444	33.2347562636
27	0.0199404066	-0.0092730995	-0.0148418929	7.9973898758	7.9976341512	7.9978584760	7.9992633277	99.6072048611	33.2380106209
28	-0.0088362434	-0.0042236976	-0.0258040785	7.9977289534	7.9977143151	7.9976627981	7.9992869411	99.6067708333	33.2504306236
29	-0.0055293354	-0.0680474217	0.0297674220	7.9975969830	7.9979523364	7.9977692291	7.9992831986	99.6167534722	33.1593324483
30	-0.0038049585	0.0247257802	0.0467600827	7.9976440028	7.9978991596	7.9977375216	7.9992633549	99.6163194444	33.1725575300
31	-0.0128042177	0.0023215083	0.0802027935	7.9974996540	7.9974110661	7.9976013018	7.9991363572	99.6046006944	33.2020084423
32	0.0088911331	-0.0213568049	0.0202575725	7.9977761252	7.9975333791	7.9978196271	7.9991589157	99.6046006944	33.1757165714
33	-0.0209858770	0.0152467846	0.0215632178	7.9976167704	7.9977149594	7.9975543010	7.9992262595	99.6245659722	33.2614634395
34	0.0129822950	-0.0342877632	-0.0222533432	7.9979725295	7.9973180837	7.9977100767	7.9992295350	99.6106770833	33.2496340550

35	0.0170553916	-0.0179794987	-0.0239771513	7.9974926836	7.9978646454	7.9976196097	7.9991936450	99.5954861111	33.2279990468
36	0.0157528728	0.0131230483	0.0130557883	7.9977051434	7.9978524172	7.9977467478	7.9993495237	99.6024305556	33.2067997685
37	0.0250000326	0.0258904251	-0.0408235017	7.9972060416	7.9976160583	7.9972019537	7.9991759307	99.6085069444	33.1878761574
38	-0.0188124699	-0.0082644903	0.0563093995	7.9973764794	7.9979229507	7.9973909643	7.9991321232	99.5941840278	33.1863289760
39	0.0036148845	0.0416475483	-0.0189067712	7.9978316963	7.9975491451	7.9974272099	7.9992351481	99.6289062500	33.2615315223
40	-0.0133317390	0.0266745817	-0.0212911067	7.9979140159	7.9974518884	7.9977149864	7.9991701708	99.6371527778	33.1903373502
41	-0.0063345490	0.0299005037	0.0158088784	7.9976422505	7.9977468329	7.9977459066	7.9991689833	99.6041666667	33.3566857298
42	-0.0140304233	0.0001636172	-0.0059104830	7.9975749315	7.9975621873	7.9979616440	7.9992602421	99.6028645833	33.2081920615
43	-0.0098571114	-0.0256283249	-0.0424173402	7.9976174085	7.9972699077	7.9973998148	7.9991365956	99.5941840278	33.1852753949
44	0.0052023506	0.0001733452	-0.0409471957	7.9975689735	7.9975315995	7.9974578624	7.9992282362	99.6245659722	33.2966213916
45	-0.0045534495	0.0402073293	0.0710963991	7.9975938643	7.9976428798	7.9974821731	7.9992812594	99.6219618056	33.2672249455
46	-0.0089362631	0.0280872537	-0.0120353622	7.9977041452	7.9973380308	7.9978961733	7.9991497279	99.6132812500	33.1848788126
47	0.0142677344	-0.0249840347	-0.0056409656	7.9978275142	7.9976108374	7.9981067977	7.9992585412	99.6024305556	33.2014586737
48	0.0225881624	0.0240794538	-0.0142984769	7.9976923938	7.9975452180	7.9976446650	7.9992046393	99.5898437500	33.3384157135
49	-0.0260151060	0.0160629164	-0.0190278944	7.9975194826	7.9977711026	7.9978565668	7.9992417761	99.6197916667	33.2550994009
50	-0.0044784626	-0.0126469370	-0.0031525402	7.9974472239	7.9977955755	7.9975446931	7.9991802491	99.5924479167	33.2463609749
Total	48.0545494407	48.1966475985	39.1693808565	399.8815485873	399.8801573904	399.8806765681	399.9605661850	4980.4105902778	1661.0165679466
Average	0.0011930415	0.0012500648	-0.0003622478	7.9976309717	7.9976031478	7.9976135314	7.9992113237	99.6082118056	33.2203313589

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_Basketball_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0266449182	0.0059235065	-0.0475905776	7.9975856719	7.9980945720	7.9977140282	7.9992775364	99.6289062500	33.2109511166
2	0.0167920104	0.0327312236	-0.0458405349	7.9974471090	7.9975612141	7.9975871794	7.9992626277	99.6202256944	33.2378591367
3	-0.0094541258	-0.0130514860	-0.0030771216	7.9974415052	7.9975708422	7.9976412296	7.9991491894	99.6080729167	33.2314099946
4	-0.0281708545	-0.0039273706	0.0131400230	7.9975011891	7.9979999105	7.9973053309	7.9991706991	99.5980902778	33.2658735022
5	0.0148474800	-0.0085420978	0.0037613357	7.9978799941	7.9978687851	7.9977240586	7.9992609017	99.6432291667	33.1951201661
6	0.0124630950	-0.0050445211	0.0143490561	7.9976468712	7.9974608154	7.9974841364	7.9991078066	99.6046006944	33.2225711465
7	0.0116506026	-0.0156145917	0.0666944638	7.9974820534	7.9975297234	7.9974699874	7.9992054792	99.5911458333	33.2200163399
8	-0.0248452774	0.0020717153	0.0424505748	7.9980486010	7.9976757004	7.9972737702	7.9991252209	99.6323784722	33.2081495098
9	0.0076226051	-0.0247365164	-0.0070178405	7.9979060096	7.9974871185	7.9978818013	7.9991269527	99.6011284722	33.2605051743
10	-0.0262942123	0.0015873369	0.0244781061	7.9973624563	7.9979174776	7.9976640215	7.9993028078	99.6093750000	33.2688589325
11	-0.0285323992	-0.0167883862	0.0408225787	7.9973461530	7.9978525298	7.9978008522	7.9991955557	99.6080729167	33.2593715959
12	-0.0170314316	-0.0016163837	-0.0021808640	7.9977480955	7.9974552474	7.9974068822	7.9990912181	99.6072048611	33.2721235022
13	-0.0032521252	-0.0401000394	0.0021124419	7.9974612492	7.9975542851	7.9978900073	7.9992093813	99.6059027778	33.1805215142
14	0.0025991012	-0.0250662459	-0.0343667757	7.9976297794	7.9975499052	7.9976804468	7.9991851964	99.6219618056	33.2027182053
15	-0.0195922125	0.0339332621	-0.0001372736	7.9977921929	7.9978743415	7.9977384598	7.9993197218	99.6128472222	33.1115553513
16	-0.0189878309	-0.0043294884	-0.0234544226	7.9974842918	7.9976315179	7.9976452881	7.9991622328	99.6232638889	33.1362574891
17	0.0244905133	0.0194196968	-0.0178080002	7.9978485340	7.9978219879	7.9974046908	7.9992327397	99.6119791667	33.1835460920
18	0.0232683073	0.0110311795	0.0147110911	7.9975589448	7.9974357992	7.9973536398	7.9991421300	99.6432291667	33.1982706972
19	-0.0230024087	0.0097275871	-0.0119747269	7.9976069655	7.9976771303	7.9974185192	7.9991055559	99.6011284722	33.2890897331
20	-0.0098361751	0.0037189131	0.0086840407	7.9973239830	7.9974776533	7.9976913917	7.9991885637	99.6184895833	33.2888344227
21	-0.0012569148	-0.0026137186	-0.0203646307	7.9974713349	7.9975730721	7.9978171959	7.9992095121	99.5980902778	33.2145254630
22	-0.0374570473	-0.0287744284	0.0664523928	7.9973525924	7.9978496831	7.9977143743	7.9991431394	99.5946180556	33.2273573666
23	-0.0129307938	-0.0121600173	-0.0168476065	7.9978203295	7.9973438611	7.9973968873	7.9991578679	99.6223958333	33.1810610703
24	-0.0031425157	-0.0080459318	0.0012781556	7.9978716863	7.9977042489	7.9976655307	7.9992833690	99.6245659722	33.2109289897
25	-0.0056059271	-0.0050992556	0.0145561487	7.9980523295	7.9972983656	7.9975312453	7.9992541709	99.6193576389	33.2613987609
26	0.0339192155	0.0099685912	-0.0467941952	7.9978290294	7.9975031873	7.9975907730	7.9991705192	99.5976562500	33.1932938453
27	0.0265511640	-0.0028287648	-0.0338693866	7.9977408925	7.9973016374	7.9975210866	7.9991946098	99.6106770833	33.1904581972
28	0.0215256746	0.0118789457	0.0034386132	7.9972840496	7.9978772616	7.9974874985	7.9992204694	99.6111111111	33.2604643246
29	-0.0116297859	-0.0299814968	-0.0289674367	7.9974048379	7.9976825338	7.9978143355	7.9992806127	99.5993923611	33.1675755719
30	0.0077838843	-0.0167346871	0.0147194154	7.9977852639	7.9975887960	7.9977172824	7.9993223039	99.6180555556	33.1454078159
31	0.0352514010	-0.0122048315	0.0180046445	7.9977430136	7.9975391929	7.9975427028	7.9991276562	99.6171875000	33.1761420888
32	-0.0269545260	0.0125252818	0.0073963602	7.9975967852	7.9974078878	7.9975952332	7.9991321173	99.6202256944	33.2516016476
33	-0.0437363151	-0.0150458062	-0.0348842236	7.9979283221	7.9975209592	7.9977082622	7.9992639219	99.6176215278	33.2409296705
34	0.0133140813	-0.0180150818	0.0306025961	7.9974105255	7.9976436824	7.9978040842	7.9992434236	99.6128472222	33.1847937092

35	-0.0161677586	0.0238012307	0.0060620974	7.9974876869	7.9976163942	7.9979526171	7.9992287600	99.6271701389	33.1291904956
36	0.0141872630	-0.0094828910	-0.0272912162	7.9975310994	7.9980459631	7.9973306724	7.9992245735	99.5937500000	33.2579333470
37	-0.0137629187	-0.0232656339	0.0198254941	7.9975110731	7.9973771653	7.9975437321	7.9991947492	99.6028645833	33.2818372141
38	-0.0126439604	0.0306548241	-0.0332506258	7.9975046249	7.9974923496	7.9975713093	7.9990593150	99.5772569444	33.2702512255
39	-0.0146580382	0.0252656519	0.0151587817	7.9968906628	7.9972915424	7.9974614663	7.9990922850	99.6006944444	33.2183517157
40	-0.0048388108	-0.0044268695	-0.0597048460	7.9976415988	7.9977113548	7.9975412440	7.9990888013	99.5985243056	33.2885382625
41	-0.0051003948	0.0078107355	0.0060770550	7.9975369740	7.9975854431	7.9976079279	7.9991429269	99.5915798611	33.2037139161
42	0.0266380566	-0.0102634603	-0.0253025742	7.9971941925	7.9975834986	7.9976638851	7.9991433622	99.5950520833	33.2697457108
43	-0.0051006054	-0.0118315968	0.0084304790	7.9974679353	7.9975842231	7.9979833800	7.9992679340	99.6193576389	33.2544287854
44	0.0130501489	0.0119444000	-0.0162017539	7.9978214396	7.9974717220	7.9976821962	7.9992588759	99.5972222222	33.2148335376
45	0.0326493168	0.0010123301	0.0647753706	7.9975797317	7.9977081456	7.9979972368	7.9993229862	99.6080729167	33.2008799700
46	-0.0143102440	-0.0041551444	0.0317922320	7.9979519239	7.9974627124	7.9978401845	7.9992812429	99.5842013889	33.1268433415
47	-0.0018759223	-0.0067162461	-0.0660523709	7.9976934709	7.9973124975	7.9978453967	7.9992436643	99.6145833333	33.1827886710
48	0.0140580942	-0.0135647982	0.0240130374	7.9974406846	7.9972706352	7.9977098951	7.9991215675	99.5972222222	33.1878982843
49	-0.0016410263	0.0332892701	-0.0169377799	7.9977744459	7.9972413694	7.9972296819	7.9990741771	99.6054687500	33.1352039080
50	-0.0197034262	-0.0070090843	-0.0182300412	7.9976501397	7.9975089392	7.9975154252	7.9992345823	99.6297743056	33.1167790033
Total	49.2674233819	44.2341585872	45.2623584897	399.8800703260	399.8795948816	399.8811584639	399.9598050134	4980.4978298611	1660.6887595316
Average	-0.0027099711	-0.0022548200	-0.0014872037	7.9976014065	7.9975918976	7.9976231693	7.9991961003	99.6099565972	33.2137751906

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BasketballDunk_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	-0.0056881017	0.0169917838	-0.0240442084	7.9979730429	7.9976283058	7.9973887045	7.9992473370	99.6098090278	33.2836788535
2	0.0148854949	0.0058321818	0.0086125806	7.9978062928	7.9976330066	7.9978214450	7.9992401979	99.6002604167	33.1749234069
3	0.0143342358	-0.0075473529	-0.0017395802	7.9977069523	7.9976166096	7.9979059753	7.9993566151	99.6050347222	33.2906369145
4	-0.0122308164	-0.0007465000	0.0028856642	7.9976454318	7.9977100757	7.9977128797	7.9992424407	99.6111111111	33.1819461465
5	0.0344560092	0.0037663185	-0.0155800384	7.9977315920	7.9974561797	7.9974686327	7.9991679936	99.5963541667	33.1923849401
6	-0.0011573939	-0.0024459795	-0.0761116839	7.9976342877	7.9975665435	7.9978453191	7.9993096415	99.6341145833	33.2008442266
7	-0.0042647918	0.0023369758	-0.0266276235	7.9980796617	7.9975950749	7.9974898393	7.9992455042	99.6115451389	33.2068218954
8	-0.0001619748	0.0204978043	0.0033678690	7.9974839059	7.9978931952	7.9974165401	7.9991100232	99.6089409722	33.2131365741
9	0.0257937209	-0.0192177686	-0.0172729248	7.9975526367	7.9976593608	7.9978428425	7.9992996990	99.6115451389	33.1750170207
10	0.0179590678	-0.0349601040	0.0560904575	7.9976419957	7.9976920053	7.9976384056	7.9992908035	99.6219618056	33.2555810866
11	0.0351587609	-0.0081726331	0.0644610037	7.9973603890	7.9975510816	7.9975980879	7.9991402460	99.6163194444	33.2582737609
12	-0.0157312074	-0.0081371185	0.0572778180	7.9978818765	7.9975549651	7.9980726358	7.9992849991	99.6150173611	33.3082226988
13	-0.0220735032	0.0331577230	0.0213149720	7.9974946512	7.9978181523	7.9971929908	7.9991604832	99.6145833333	33.2433023557
14	0.0174752924	0.0167387236	0.0125242567	7.9974001764	7.9977404465	7.9977922047	7.9992233598	99.6063368056	33.2539385893
15	0.0177001805	0.0279605955	0.0082673531	7.9974739324	7.9976413810	7.9977119687	7.9992809154	99.6197916667	33.2110447304
16	0.0338241925	0.0173539585	-0.0411823363	7.9973691791	7.9977070964	7.9977236727	7.9991761294	99.6098090278	33.1959048203
17	-0.0247904723	-0.0098217616	-0.0342541277	7.9975405102	7.9974746724	7.9976128679	7.9991316585	99.5989583333	33.2116557734
18	-0.0116914884	-0.0095430148	-0.0088516870	7.9975969168	7.9979245974	7.9974561487	7.9992771559	99.6102430556	33.1888803785
19	-0.0414122217	-0.0193100713	0.0319304971	7.9978332804	7.9973381325	7.9974137694	7.9991481271	99.6028645833	33.2212945942
20	-0.0022281554	-0.0054394090	-0.0091456335	7.9975981039	7.9972931490	7.9975373939	7.9991320606	99.6098090278	33.2614923747
21	0.0157348209	0.0117488569	-0.0130410111	7.9974419046	7.9974888664	7.9977134985	7.9990158461	99.6050347222	33.1683568219
22	0.0008472486	-0.0242406410	-0.0768659384	7.9972631888	7.9977595228	7.9975041407	7.9991355793	99.6197916667	33.2860004766
23	-0.0232028188	-0.0191528594	-0.0364082631	7.9972823584	7.9978406159	7.9979437573	7.9991771762	99.6046006944	33.1997770289
24	-0.0188343298	0.0101196046	0.0375835687	7.9977624624	7.9975201635	7.9977204620	7.9991711725	99.5959201389	33.2408241422
25	0.0093417982	-0.0044432393	-0.0243359057	7.9976642690	7.9975340436	7.9976516570	7.9990870683	99.6085069444	33.1503897740
26	-0.0215003376	0.0413541140	-0.0027966599	7.9977617485	7.9975014111	7.9975576501	7.9992586219	99.5855034722	33.2414334831
27	0.0024155078	0.0377390256	-0.0184400223	7.9974762322	7.9975217584	7.9977695862	7.9991599867	99.6006944444	33.2001565904
28	0.0101553730	0.0327704449	0.0172734345	7.9976154963	7.9975436251	7.9976763421	7.9991347472	99.6258680556	33.2403016068
29	0.0203471707	-0.0070032500	0.0294313250	7.9976168071	7.9978135606	7.9976991464	7.9991275915	99.6245659722	33.1564985022
30	-0.0106458285	0.0005530077	-0.0125363083	7.9979798109	7.9977502771	7.9977372934	7.9992256325	99.6158854167	33.1315206291
31	0.0612975923	-0.0435743600	-0.0121557990	7.9979832683	7.9975421621	7.9978496573	7.9993441300	99.6154513889	33.2418521923
32	-0.0123666890	-0.0114485422	-0.0129651757	7.9979436314	7.9970400311	7.9975371085	7.9992853041	99.5998263889	33.2326167620
33	-0.0195799469	-0.0100070105	-0.0199814191	7.9976497459	7.9977364451	7.9975455018	7.9992916032	99.6189236111	33.2128438181
34	0.0177902399	-0.0377768877	0.0092353464	7.9974360451	7.9974169364	7.9978884256	7.9992072689	99.5950520833	33.2179006672

35	-0.0241496154	0.0079990704	0.0217446496	7.9975753906	7.9976849603	7.9979241060	7.9992719752	99.5920138889	33.1925687636
36	0.0046762090	0.0242910443	0.0475792846	7.9973304796	7.9979707029	7.9973118573	7.9990544224	99.6085069444	33.2635859205
37	0.0344738964	-0.0135874509	0.0026439618	7.9976397562	7.9973043169	7.9972077894	7.9991941324	99.6067708333	33.2295530365
38	-0.0140277465	0.0163158822	0.0384278936	7.9979149960	7.9973444977	7.9974413154	7.9992575489	99.6028645833	33.1439542484
39	-0.0072682590	0.0072547256	0.0259921667	7.9976245881	7.9977821440	7.9975656082	7.9992496521	99.6132812500	33.2059980937
40	0.0165012584	-0.0080623604	0.0038331176	7.9977059641	7.9975910811	7.9977679953	7.9992350723	99.6380208333	33.1437108524
41	0.0033070270	-0.0040271738	0.0590853943	7.9979298616	7.9976123331	7.9977727370	7.9992485189	99.6241319444	33.2603060321
42	-0.0205702681	0.0235886323	-0.0494470966	7.9978451059	7.9972309880	7.9977402133	7.9992273938	99.6293402778	33.2683466095
43	0.0154763436	-0.0135976754	0.0663504965	7.9976193484	7.9979592408	7.9975233353	7.9992426555	99.6323784722	33.2124557462
44	0.0083217279	-0.0061996041	-0.0106249432	7.9979901161	7.9971063704	7.9975954912	7.9992327858	99.5833333333	33.1755225354
45	-0.0272962726	-0.0218152893	-0.0449785485	7.9975984190	7.9975914617	7.9976752487	7.9992109488	99.5963541667	33.2070618873
46	-0.0358795392	-0.0128640861	0.0026395156	7.9976687715	7.9980025686	7.9978179788	7.9993197300	99.5980902778	33.2643858932
47	0.0003379291	-0.0139114120	-0.0104560678	7.9977028808	7.9976326416	7.9978267202	7.9992894834	99.6128472222	33.1849043437
48	0.0205937484	0.0124742182	-0.0124682949	7.9976415710	7.9977283490	7.9975928395	7.9992425880	99.6063368056	33.1940257353
49	-0.0082097645	0.0377532401	-0.0258959608	7.9973683963	7.9974265909	7.9971637745	7.9991423958	99.6015625000	33.2900786356
50	-0.0105723265	0.0241002189	-0.0044963989	7.9977453226	7.9979190309	7.9977278629	7.9992446172	99.6310763889	33.1946946487
Total	41.1619486555	46.7609615629	43.6301885787	399.8825827521	399.8803907285	399.8820914243	399.9607510396	4980.5069444444	1660.8806066177
Average	0.0011534190	0.0011128914	-0.0002830206	7.9976516550	7.9976078146	7.9976418285	7.9992150208	99.6101388889	33.2176121324

Encryption Algorithm			3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)						
Video Stream			v_BenchPress_g01_c01						
Resolution			240p						
Frame Number	Correlation Coefficient			E(i)				Differential Attacks	
	CC_h	CC_v	CC_d	Red	Green	Blue	Combined	NPCR	UACI
1	0.0132083381	-0.0307073700	0.0296232372	7.9971541273	7.9976143864	7.9978940520	7.9992451804	99.6106770833	33.2771360975
2	0.0011420744	-0.0018257279	-0.0071212094	7.9974881998	7.9974172777	7.9978198417	7.9992631430	99.5946180556	33.3123008578
3	0.0073609451	-0.0174191742	0.0344743142	7.9975820948	7.9974789405	7.9977071582	7.9992332589	99.5980902778	33.1917721950
4	-0.0064700290	-0.0260769295	-0.0761227204	7.9973240399	7.9974311797	7.9976590553	7.9991884045	99.6128472222	33.2319189134
5	-0.0042421513	-0.0219908908	0.0201727057	7.9975688237	7.9974985626	7.9975098905	7.9992567744	99.6059027778	33.2320925245
6	-0.0274747227	-0.0132531108	0.0670657126	7.9977634825	7.9974902307	7.9978055438	7.9991749399	99.5941840278	33.2475932734
7	-0.0415253635	-0.0165899689	0.0075546947	7.9981135716	7.9975700712	7.9976594221	7.9992898229	99.6019965278	33.1851205065
8	0.0067183667	0.0364726699	-0.0225513921	7.9979539121	7.9974787513	7.9977852157	7.9993409733	99.6050347222	33.1704503676
9	0.0152424845	0.0159559241	-0.0052629021	7.9975212399	7.9975614771	7.9976724359	7.9991395806	99.5863715278	33.1836107707
10	0.0043908845	0.0034543889	0.0450975171	7.9972546195	7.9977399977	7.9975131953	7.9991750008	99.6015625000	33.2166087963
11	0.0171579099	-0.0104902619	0.0171894858	7.9974634853	7.9975069324	7.9978807441	7.9991730186	99.5820312500	33.1355494281
12	0.0152065339	0.0301237399	-0.0622986445	7.9976644579	7.9975016790	7.9974218708	7.9990896926	99.6115451389	33.2270526961
13	-0.0161830063	0.0185667062	0.0274089092	7.9975208765	7.9972680280	7.9977595675	7.9991265088	99.6002604167	33.1583741830
14	-0.0180999089	-0.0023861818	0.0440017854	7.9977634546	7.9978992063	7.9978492863	7.9992070463	99.6158854167	33.1524577887
15	0.0152019377	-0.0083454106	0.0286598969	7.9975577436	7.9978895335	7.9974682492	7.9992274984	99.5907118056	33.2100456155
16	0.0121757094	-0.0076201014	0.0351941103	7.9980067927	7.9973917600	7.9976045972	7.9991722461	99.6145833333	33.2056066176
17	0.0111564018	0.0095829738	-0.0297368910	7.9976203266	7.9973971608	7.9969806280	7.9990585263	99.6098090278	33.1897535403
18	-0.0087883414	0.0131939334	-0.0310634270	7.9970742502	7.9974843098	7.9976599558	7.9992059948	99.6163194444	33.2347937092
19	-0.0053868571	-0.0302163215	-0.0161292530	7.9974237049	7.9972966170	7.9976628586	7.9992181178	99.6132812500	33.2902454385
20	-0.0213585892	-0.0033889658	0.0122531174	7.9977140173	7.9976789802	7.9976210975	7.9991780721	99.5911458333	33.0909500953
21	-0.0212203107	-0.0355541695	0.0159529778	7.9979768531	7.9973087257	7.9975619405	7.9991831794	99.6037326389	33.3834780093
22	0.0034335497	0.0233147153	-0.0535996066	7.9976886179	7.9975553165	7.9978076704	7.9992016399	99.6019965278	33.1752859477
23	0.0043270678	-0.0336613556	0.0122111540	7.9968746468	7.9974922547	7.9973292338	7.9991258822	99.6254340278	33.2388956972
24	0.0093795326	0.0051774685	-0.0155176610	7.9973962537	7.9978115577	7.9974995682	7.9992309941	99.5985243056	33.2650973584
25	0.0161128101	0.0126877619	-0.0258602323	7.9976834880	7.9973256642	7.9971027350	7.9990011269	99.5980902778	33.2060780910
26	-0.0017219671	-0.0243434457	-0.0031199250	7.9976839363	7.9976232373	7.9975939988	7.9992286516	99.6093750000	33.2228315632
27	0.0090997479	-0.0226427117	-0.0184823221	7.9979098816	7.9975880385	7.9973584736	7.9992532402	99.6011284722	33.2243174700
28	0.0024728791	-0.0255537713	0.0122785708	7.9971794399	7.9977209948	7.9973817292	7.9990556758	99.6380208333	33.2339818219
29	-0.0381536635	0.0011158124	-0.0247641836	7.9978285201	7.9978254324	7.9975472263	7.9993092524	99.6197916667	33.2792721950
30	0.0159769548	0.0041350888	0.0508109789	7.9971780160	7.9977115281	7.9975223166	7.9992267208	99.5937500000	33.1517088780
31	-0.0034797073	0.0025916273	-0.0055885814	7.9976446875	7.9974421499	7.9978976285	7.9991487006	99.5950520833	33.2117749183
32	0.0210392337	-0.0104275859	-0.0006276890	7.9978254671	7.9972243751	7.9975880780	7.9990960443	99.6232638889	33.2323818764
33	-0.0013555417	-0.0057484478	0.0131359003	7.9972440137	7.9975432464	7.9978128788	7.9992554839	99.6154513889	33.1249285131
34	-0.0024827668	-0.0518013171	-0.0576969246	7.9977230745	7.9977938500	7.9976431038	7.9992907421	99.6293402778	33.2942027505

35	-0.0136991715	0.0028613217	-0.0023576332	7.9975418614	7.9976613748	7.9975089510	7.9991285858	99.6102430556	33.1926896106
36	-0.0111464414	0.0048314299	-0.0253190724	7.9977590063	7.9977640651	7.9979822357	7.9992899481	99.6163194444	33.2183346950
37	0.0303055873	0.0103320516	-0.0029364588	7.9978257727	7.9979831153	7.9976551388	7.9993819640	99.6163194444	33.1802168437
38	-0.0201286310	-0.0279682046	-0.0486685588	7.9974437847	7.9977725334	7.9976362946	7.9992550085	99.5937500000	33.2216605392
39	-0.0145735407	-0.0360198265	0.0363764699	7.9969614867	7.9975563769	7.9973707222	7.9991607450	99.6193576389	33.2242749183
40	-0.0109164460	-0.0264065055	0.0221408405	7.9973752652	7.9978119656	7.9977838983	7.9992305586	99.6141493056	33.2686785131
41	-0.0152000903	0.0097766391	0.0010239321	7.9975255074	7.9978531824	7.9977823727	7.9993186456	99.6163194444	33.2782322304
42	-0.0007256430	-0.0231011239	0.0066422743	7.9975791642	7.9973219067	7.9972651157	7.9992316539	99.6054687500	33.2256076389
43	0.0121243037	-0.0075177891	0.0242039736	7.9974323091	7.9975348361	7.9973763395	7.9990731873	99.6028645833	33.2176845044
44	-0.0076282175	0.0121808916	-0.0027268576	7.9977322155	7.9972719781	7.9974746501	7.9991803827	99.6115451389	33.1908564815
45	0.0103966460	0.0204142851	-0.0233345758	7.9973077468	7.9973492105	7.9976880127	7.9991656485	99.6124131944	33.1852583742
46	0.0119928922	-0.0038337300	-0.0283348916	7.9976374259	7.9973326233	7.9975554925	7.9991794847	99.5898437500	33.1511727260
47	-0.0162520278	0.0192016486	-0.0645737551	7.9973857664	7.9978048923	7.9974551719	7.9992498946	99.6006944444	33.2229251770
48	-0.0041415443	-0.0151315814	0.0277472015	7.9975527654	7.9978009182	7.9975134014	7.9992407556	99.6124131944	33.2635127315
49	0.0216332246	0.0264593564	0.0117654968	7.9975416258	7.9978246781	7.9977566503	7.9991612761	99.5881076389	33.3088609749
50	0.0284759131	-0.0057034803	-0.0654672629	7.9978403227	7.9975794991	7.9976293416	7.9993046944	99.5902777778	33.2681866149
Total	49.6424947033	49.5332597913	46.4679849214	399.8778121431	399.8787846091	399.8800150361	399.9601235681	4980.3098958333	1661.0058210784
Average	-0.0003324550	-0.0052658519	-0.0023255433	7.9975562429	7.9975756922	7.9976003007	7.9992024714	99.6061979167	33.2201164216

DECRYPTION METRICS

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_ApplyEyeMakeup_g01_c01	
Resolution	240p	
Frame Number	**Mean Square Error**	**Peak Signal-to-Noise Ratio**
1	0.0537784057	12.6939207710
2	0.0520930178	12.8322048237
3	0.0538378248	12.6891249519
4	0.0539097750	12.6833248114
5	0.0544693593	12.6384773279
6	0.0537793413	12.6938452157
7	0.0546775611	12.6219086532
8	0.0542691227	12.6544719943
9	0.0537140339	12.6991223136
10	0.0540953774	12.6683984461
11	0.0530707561	12.7514472488
12	0.0535155791	12.7151977029
13	0.0552044447	12.5802595454
14	0.0538018748	12.6920259038
15	0.0533829850	12.7259714575
16	0.0528861702	12.7665788126
17	0.0526580313	12.7853538169
18	0.0531563751	12.7444464274
19	0.0528240222	12.7716853313
20	0.0522807461	12.8165822305
21	0.0522531896	12.8188719443
22	0.0519201040	12.8466444589
23	0.0526321972	12.7874849981
24	0.0519914564	12.8406801672
25	0.0562629389	12.4977758642
26	0.0521391658	12.8283592139
27	0.0522753169	12.8170332615
28	0.0528556602	12.7690849806
29	0.0525235201	12.7964617513
30	0.0518264933	12.8544817512
31	0.0525332610	12.7956563972
32	0.0540688453	12.6705290504
33	0.0545148599	12.6348509993
34	0.0538465909	12.6884178763
35	0.0532649348	12.7355860057
36	0.0546170940	12.6267141110
37	0.0589817707	12.2928219357
38	0.0550638918	12.5913309716
39	0.0547114639	12.6192166498
40	0.0549131958	12.6032328042
41	0.0539471766	12.6803127952
42	0.0567781502	12.4581876092
43	0.0576616003	12.3911330863
44	0.0559835091	12.5193988317
45	0.0560442735	12.5146875618
46	0.0577855670	12.3818062114
47	0.0567253122	12.4622310536
48	0.0564725610	12.4816251653
49	0.0602025271	12.2038527785
50	0.0570728776	12.4357022974
Total	2.7132743087	632.8685203688
Average	0.0542654862	12.6573704074

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_ApplyLipstick_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0993884396	10.0266412773
2	0.0979227445	10.0911642316
3	0.1039472279	9.8318708811
4	0.1042557569	9.8189995424
5	0.1069972351	9.7062744469
6	0.1075631555	9.6833646557
7	0.1131021768	9.4652903650
8	0.1109987347	9.5468197196
9	0.1106579179	9.5601750560
10	0.1099381499	9.5885157576
11	0.1088688194	9.6309648684
12	0.1079519213	9.6676962392
13	0.1193064861	9.2333594530
14	0.1162473522	9.3461693020
15	0.1152225465	9.3846253085
16	0.1153430894	9.3800842045
17	0.1156011770	9.3703774423
18	0.1147167842	9.4037303584
19	0.1139987125	9.4310005355
20	0.1134368239	9.4524594169
21	0.1169335162	9.3206099102
22	0.1137170115	9.4417456221
23	0.1140696794	9.4282977908
24	0.1147360069	9.4030026891
25	0.1212735400	9.1623394501
26	0.1154245025	9.3770198855
27	0.1168938144	9.3220846949
28	0.1154774087	9.3750297009
29	0.1153414767	9.3801449267
30	0.1141436287	9.4254832525
31	0.1144486843	9.4138919548
32	0.1146914665	9.4046889417
33	0.1149449200	9.3951021756
34	0.1131652596	9.4628687614
35	0.1150757645	9.3901613135
36	0.1158528746	9.3609318595
37	0.1180861630	9.2780098864
38	0.1149328081	9.3955598227
39	0.1142365980	9.4219473866
40	0.1145390184	9.4104654294
41	0.1162195104	9.3472095849
42	0.1150041410	9.3928652167
43	0.1148517575	9.3986235481
44	0.1136981993	9.4424641325
45	0.1152604616	9.3831964552
46	0.1159119083	9.3587194424
47	0.1166321516	9.3318171269
48	0.1150900016	9.3896240374
49	0.1211932059	9.1652172593
50	0.1138020391	9.4384995628
Total	5.6711127695	472.8372048823
Average	0.1134222554	9.4567440976

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_Archery_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0002240701	36.4961602234
2	0.0002343590	36.3011827618
3	0.0002108955	36.7593265480
4	0.0002372131	36.2486142049
5	0.0002332295	36.3221644343
6	0.0002449694	36.1088813290
7	0.0002278326	36.4238417611
8	0.0002426838	36.1495926684
9	0.0002499402	36.0216389752
10	0.0002509949	36.0033514369
11	0.0002295101	36.3919822758
12	0.0002791657	35.5413799659
13	0.0002949804	35.3020689459
14	0.0003092147	35.0973990773
15	0.0002722513	35.6503010556
16	0.0002931913	35.3284898915
17	0.0002822569	35.4935544637
18	0.0003280801	34.8402005117
19	0.0003154808	35.0102712446
20	0.0003282066	34.8385273503
21	0.0002639906	35.7841151622
22	0.0002838955	35.4684151651
23	0.0003369250	34.7246680495
24	0.0003332790	34.7719204971
25	0.0003739677	34.2716585467
26	0.0003621746	34.4108200568
27	0.0003846451	34.1493983889
28	0.0003724442	34.2893883260
29	0.0003209190	34.9360451894
30	0.0003823014	34.1759409812
31	0.0003281553	34.8392057246
32	0.0003252247	34.8781642490
33	0.0002988762	35.2450871548
34	0.0003049168	35.1581867684
35	0.0002809202	35.5141703267
36	0.0003123131	35.0540979043
37	0.0002650549	35.7666415159
38	0.0002743685	35.6166575302
39	0.0002624970	35.8087566169
40	0.0002419383	36.1629532082
41	0.0002234936	36.5073497072
42	0.0002500758	36.0192828885
43	0.0002404299	36.1901153127
44	0.0002607353	35.8380013263
45	0.0002368366	36.2555119452
46	0.0002638986	35.7856285766
47	0.0002586561	35.8727734365
48	0.0002691331	35.7003283364
49	0.0002593659	35.8608708581
50	0.0003013650	35.2090719714
Total	0.0141613228	1776.5941548460
Average	0.0002832265	35.5318830969

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BabyCrawling_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.1347567697	8.7044940819
2	0.1345855516	8.7100156131
3	0.1337433488	8.7372780655
4	0.1364392543	8.6506066297
5	0.1360853902	8.6618849699
6	0.1368078393	8.6388901606
7	0.1343232214	8.7184890139
8	0.1340845447	8.7262127823
9	0.1318756456	8.7983540130
10	0.1319553804	8.7957289696
11	0.1302538351	8.8520948091
12	0.1287471971	8.9026221716
13	0.1323234300	8.7836325029
14	0.1290284437	8.8931454095
15	0.1283534282	8.9159252734
16	0.1266031362	8.9755553584
17	0.1268205173	8.9681047972
18	0.1284775370	8.9117279786
19	0.1251119326	9.0270126717
20	0.1262021132	8.9893337283
21	0.1260964674	8.9929708014
22	0.1256596961	9.0080399485
23	0.1259488445	8.9980581242
24	0.1260943838	8.9930425642
25	0.1332410804	8.7536185438
26	0.1259851805	8.9968053742
27	0.1270600096	8.9599111628
28	0.1262217052	8.9886595702
29	0.1270135166	8.9615005968
30	0.1264364972	8.9812754421
31	0.1263435490	8.9844692783
32	0.1265096063	8.9787649586
33	0.1254510897	9.0152556209
34	0.1267494826	8.9705380491
35	0.1268095085	8.9684818074
36	0.1255390041	9.0122132094
37	0.1312684930	8.8183950071
38	0.1255619647	9.0114189746
39	0.1256298881	9.0090702714
40	0.1270017184	8.9619040292
41	0.1273414993	8.9503004102
42	0.1279963330	8.9280247236
43	0.1273729403	8.9492282576
44	0.1274360225	8.9470779218
45	0.1269408208	8.9639869773
46	0.1263235895	8.9851554235
47	0.1257148392	9.0061345563
48	0.1266647849	8.9734411001
49	0.1352299054	8.6892725589
50	0.1280382498	8.9266027109
Total	6.4422591866	445.0447269749
Average	0.1288451837	8.9008945395

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BalanceBeam_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.1113659378	9.5324762125
2	0.1110478601	9.5448980580
3	0.1102903635	9.5746243198
4	0.1119872172	9.5083154716
5	0.1121944999	9.5002843289
6	0.1103404572	9.5726522087
7	0.1117666752	9.5168766809
8	0.1103832759	9.5709672145
9	0.1102102595	9.5777797512
10	0.1087542428	9.6355379119
11	0.1084330648	9.6483826693
12	0.1076094179	9.6814971805
13	0.1091393781	9.6201852532
14	0.1070275966	9.7050422711
15	0.1080031120	9.6656373064
16	0.1061482770	9.7408705103
17	0.1056466465	9.7614428394
18	0.1061462153	9.7409548637
19	0.1061076430	9.7425333236
20	0.1053696446	9.7728448469
21	0.1051330316	9.7826081230
22	0.1052752847	9.7767357551
23	0.1033152146	9.8583571773
24	0.1046231376	9.8037225981
25	0.1082248283	9.6567309470
26	0.1052262878	9.7787575062
27	0.1042298657	9.8200782175
28	0.1048514091	9.7942572861
29	0.1048383825	9.7947968803
30	0.1042298791	9.8200776613
31	0.1046168213	9.8039847999
32	0.1055237776	9.7664966987
33	0.1046986302	9.8005900027
34	0.1035008968	9.8505588708
35	0.1048010452	9.7963438601
36	0.1039460044	9.8319219991
37	0.1086037343	9.6415524154
38	0.1055814623	9.7641232723
39	0.1051243497	9.7829667756
40	0.1068121020	9.7137953826
41	0.1043355263	9.8156778904
42	0.1040455803	9.8277636327
43	0.1038731535	9.8349668342
44	0.1042056608	9.8210868827
45	0.1048518157	9.7942404464
46	0.1050601686	9.7856190672
47	0.1042851084	9.8177770327
48	0.1046570946	9.8023132610
49	0.1077361996	9.6763834820
50	0.1051769801	9.7807930315
Total	5.3293552172	486.2088810123
Average	0.1065871043	9.7241776202

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BandMarching_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0014601881	28.3559120850
2	0.0011073985	29.5569608352
3	0.0010473103	29.7992461311
4	0.0010846056	29.6472815205
5	0.0010904960	29.6237593248
6	0.0009660289	30.1500988490
7	0.0010589839	29.7511063250
8	0.0011187123	29.5128159178
9	0.0009975817	30.0105151497
10	0.0008961276	30.4763016702
11	0.0009503558	30.2211375551
12	0.0008690309	30.6096479369
13	0.0010004909	29.9978684400
14	0.0008598726	30.6556588714
15	0.0009546498	30.2015591979
16	0.0009915286	30.0369476949
17	0.0009749796	30.1100445250
18	0.0010537556	29.7726011807
19	0.0010474855	29.7985199020
20	0.0010575045	29.7571776542
21	0.0011806960	29.2786191065
22	0.0011495837	29.3945940506
23	0.0012238788	29.1226157498
24	0.0011794430	29.2832304182
25	0.0012856712	28.9087007002
26	0.0011922627	29.2362803372
27	0.0011537676	29.3788166804
28	0.0010863873	29.6401531454
29	0.0009335663	30.2985484168
30	0.0008283621	30.8177978571
31	0.0010714217	29.7003955564
32	0.0008924074	30.4943685301
33	0.0009302451	30.3140260360
34	0.0010377847	29.8389271702
35	0.0008843285	30.5338638980
36	0.0009707294	30.1290181380
37	0.0010980854	29.5936388069
38	0.0009877633	30.0534713440
39	0.0010428586	29.8177458027
40	0.0012357750	29.0806060579
41	0.0012088693	29.1762066882
42	0.0010070746	29.9693835631
43	0.0011459575	29.4083149465
44	0.0011510079	29.3892169848
45	0.0011217390	29.5010819297
46	0.0012224727	29.1276082113
47	0.0012780944	28.9343705800
48	0.0011906352	29.2422127756
49	0.0011001631	29.5854293942
50	0.0011276840	29.4781258258
Total	0.0535058021	1486.7725294681
Average	0.0010701160	29.7354505894

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BaseballPitch_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0002089501	36.7995745138
2	0.0002042711	36.8979315688
3	0.0001955569	37.0872693623
4	0.0002329326	36.3276976418
5	0.0002459662	36.0912463630
6	0.0002532968	35.9637028150
7	0.0001945928	37.1087317730
8	0.0002366497	36.2589404291
9	0.0002514881	35.9948260137
10	0.0002370013	36.2524934472
11	0.0002511688	36.0003438793
12	0.0002451957	36.1048716573
13	0.0002530863	35.9673138690
14	0.0002228348	36.5201691873
15	0.0002625667	35.8076038540
16	0.0002827575	35.4858586714
17	0.0002698469	35.6888251223
18	0.0003094648	35.0938877647
19	0.0002245316	36.4872259905
20	0.0002490209	36.0376424337
21	0.0002252712	36.4729433436
22	0.0002811822	35.5101219982
23	0.0002969264	35.2735119326
24	0.0002979328	35.2588175050
25	0.0002920397	35.3455807618
26	0.0002264458	36.4503581045
27	0.0002329207	36.3279191666
28	0.0002684629	35.7111569434
29	0.0002609525	35.8343861882
30	0.0002546962	35.9397757339
31	0.0002294598	36.3929334548
32	0.0002324435	36.3368256023
33	0.0002334680	36.3177270456
34	0.0002613256	35.8281797958
35	0.0002640026	35.7839175127
36	0.0002601916	35.8470673999
37	0.0002506715	36.0089506930
38	0.0002764976	35.5830860087
39	0.0002806283	35.5186851806
40	0.0003105547	35.0786189201
41	0.0002935967	35.3224885940
42	0.0002938709	35.3184334741
43	0.0002353591	36.2826907307
44	0.0002593386	35.8613291217
45	0.0002774246	35.5685500799
46	0.0003232039	34.9052343077
47	0.0002709975	35.6703476963
48	0.0002684968	35.7106095271
49	0.0002513229	35.9976798034
50	0.0002552840	35.9297636071
Total	0.0127961477	1797.3638465904
Average	0.0002559230	35.9472769318

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_Basketball_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0086244771	20.6426722675
2	0.0083714102	20.7720137527
3	0.0084995582	20.7060364817
4	0.0084308858	20.7412679558
5	0.0081600528	20.8830702982
6	0.0081894646	20.8674449063
7	0.0080502189	20.9419231205
8	0.0084018442	20.7562537388
9	0.0081922561	20.8659647869
10	0.0081526488	20.8870126826
11	0.0083370678	20.7898666625
12	0.0079490950	20.9968231091
13	0.0080654408	20.9337189345
14	0.0071756404	21.4413933494
15	0.0073137986	21.3585700028
16	0.0073524279	21.3356922646
17	0.0075101892	21.2434912249
18	0.0074724767	21.2653543250
19	0.0074456380	21.2809808090
20	0.0072108583	21.4201303641
21	0.0067352390	21.7164698976
22	0.0070016232	21.5480126246
23	0.0066750437	21.7554588544
24	0.0068188778	21.6628709100
25	0.0071118322	21.4801849961
26	0.0072692253	21.3851186988
27	0.0069743309	21.5649744996
28	0.0068702135	21.6302976570
29	0.0072531476	21.3947348300
30	0.0070702433	21.5056563805
31	0.0071141236	21.4787859527
32	0.0072186161	21.4154605396
33	0.0071713389	21.4439975444
34	0.0074999128	21.2494378832
35	0.0069658358	21.5702676767
36	0.0075902505	21.1974388835
37	0.0070045715	21.5461842772
38	0.0069659702	21.5701838653
39	0.0069972699	21.5507137531
40	0.0070271604	21.5322013572
41	0.0073287747	21.3496862773
42	0.0071755458	21.4414505939
43	0.0064286063	21.9188317369
44	0.0068789280	21.6247923767
45	0.0067203945	21.7260523446
46	0.0067291759	21.7203812056
47	0.0067176239	21.7278431486
48	0.0068708754	21.6298792809
49	0.0072231986	21.4127044359
50	0.0070742171	21.5032161539
Total	0.3693876158	1066.3829696724
Average	0.0073877523	21.3276593934

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BasketballDunk_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0035863828	24.4534336003
2	0.0031734654	24.9846623232
3	0.0032014468	24.9465371619
4	0.0032033773	24.9439190535
5	0.0033221943	24.7857496841
6	0.0033121438	24.7989081175
7	0.0031953568	24.9548063780
8	0.0030688432	25.1302529431
9	0.0030915129	25.0982893045
10	0.0028183916	25.4999866973
11	0.0030442920	25.1651369467
12	0.0030127147	25.2104198947
13	0.0031998245	24.9487384702
14	0.0031558121	25.0088886747
15	0.0031839235	24.9703738228
16	0.0034091791	24.6735018329
17	0.0031982170	24.9509206824
18	0.0032319629	24.9053362866
19	0.0033463670	24.7542642482
20	0.0032071680	24.9387829229
21	0.0033657566	24.7291729047
22	0.0035454416	24.5032966505
23	0.0033985884	24.6870142710
24	0.0034149348	24.6661758023
25	0.0034321295	24.6443633772
26	0.0033655781	24.7294033002
27	0.0036163325	24.4173165037
28	0.0035773211	24.4644207719
29	0.0035218266	24.5323202972
30	0.0035644558	24.4800676078
31	0.0037438418	24.2668250590
32	0.0032128475	24.9310988950
33	0.0034541719	24.6165604817
34	0.0033223129	24.7855947198
35	0.0031405589	25.0299306367
36	0.0032480171	24.8838169894
37	0.0032636677	24.8629406843
38	0.0029102905	25.3606365637
39	0.0029864900	25.2483893921
40	0.0029885152	25.2454453563
41	0.0028636073	25.4308654220
42	0.0029290925	25.3326691174
43	0.0025002620	26.0201448221
44	0.0034085187	24.6743432002
45	0.0030086866	25.2162305357
46	0.0027571952	25.5953248371
47	0.0038592813	24.1349356646
48	0.0033413083	24.7608345081
49	0.0034838166	24.5794471735
50	0.0034254645	24.6528052919
Total	0.1626128871	1244.6052998827
Average	0.0032522577	24.8921059977

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BenchPress_g01_c01	
Resolution	240p	
Frame Number	Mean Square Error	Peak Signal-to-Noise Ratio
1	0.0032872910	24.8316184762
2	0.0030897282	25.1007972666
3	0.0026606575	25.7501102870
4	0.0027314776	25.6360235504
5	0.0028775953	25.4097028615
6	0.0028709610	25.4197271383
7	0.0025938884	25.8604871834
8	0.0025450836	25.9429794384
9	0.0034816185	24.5821881679
10	0.0033629202	24.7328343237
11	0.0034746908	24.5908383262
12	0.0040663763	23.9079243304
13	0.0047440655	23.2384932186
14	0.0036103046	24.4245615565
15	0.0042790246	23.6865521399
16	0.0045138233	23.4545544833
17	0.0045983574	23.3739727666
18	0.0037059788	24.3109706897
19	0.0032917717	24.8257028914
20	0.0031534045	25.0122032066
21	0.0031843393	24.9698066459
22	0.0031692668	24.9904119494
23	0.0030142667	25.2081831731
24	0.0029578118	25.2902945803
25	0.0031305931	25.0437338076
26	0.0027060352	25.6766655754
27	0.0027912899	25.5419504935
28	0.0028828454	25.4017864614
29	0.0028256655	25.4887924432
30	0.0028372793	25.4709791579
31	0.0030718791	25.1259588485
32	0.0026765142	25.7243044146
33	0.0025432449	25.9461182585
34	0.0025956793	25.8574895857
35	0.0025774200	25.8881480423
36	0.0026769852	25.7235402758
37	0.0026473962	25.7718105330
38	0.0025466291	25.9403430243
39	0.0024282343	26.1470941660
40	0.0024107027	26.1785634910
41	0.0021800832	26.6152692226
42	0.0020979617	26.7820244003
43	0.0026182477	25.8198926556
44	0.0027442191	25.6158121667
45	0.0030678371	25.1316770627
46	0.0027701886	25.5749065978
47	0.0035039087	24.5544722030
48	0.0036355931	24.3942472377
49	0.0046036765	23.3689519829
50	0.0039935020	23.9864609753
Total	0.1558283148	1257.3219317347
Average	0.0031165663	25.1464386347

PROCESSING TIME

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_ApplyEyeMakeup_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5494401455	0.5332367420
2	0.5388383865	0.5316572189
3	0.5379788876	0.5304949284
4	0.5383455753	0.5304684639
5	0.5376119614	0.5303657055
6	0.5373976231	0.5301733017
7	0.5370316505	0.5308189392
8	0.5369586945	0.5305967331
9	0.5383081436	0.5303373337
10	0.5376453400	0.5320475101
11	0.5371758938	0.5306873322
12	0.5377511978	0.5308942795
13	0.5369818211	0.5320765972
14	0.5402770042	0.5313739777
15	0.5437221527	0.5298883915
16	0.5457284451	0.5310590267
17	0.5405788422	0.5302956104
18	0.5410025120	0.5373206139
19	0.5377647877	0.5608308315
20	0.5386271477	0.5596115589
21	0.5434136391	0.5603353977
22	0.5444869995	0.5603120327
23	0.5439012051	0.5452370644
24	0.5439529419	0.5300748348
25	0.5449185371	0.5311119556
26	0.5437223911	0.5295519829
27	0.5443227291	0.5305991173
28	0.5439541340	0.5307323933
29	0.5445373058	0.5303752422
30	0.5442152023	0.5297133923
31	0.5436179638	0.5306074619
32	0.5457851887	0.5296034813
33	0.5450990200	0.5302226543
34	0.5438208580	0.5303421021
35	0.5438416004	0.5314416885
36	0.5472912788	0.5307092667
37	0.5429697037	0.5307114124
38	0.5428891182	0.5306189060
39	0.5432798862	0.5309336185
40	0.5445411205	0.5296947956
41	0.5426726341	0.5304524899
42	0.5433971882	0.5337016582
43	0.5428924561	0.5288796425
44	0.5428256989	0.5302805901
45	0.5430610180	0.5297544003
46	0.5427150726	0.5306708813
47	0.5427963734	0.5300097466
48	0.5437002182	0.5303359032
49	0.5420503616	0.5298485756
50	0.5430061817	0.5296304226
Total	27.1028442383	26.6707282066
Average	0.5420568848	0.5334145641

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_ApplyLipstick_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5624759197	0.5323505402
2	0.5379030704	0.5303556919
3	0.5383324623	0.5297052860
4	0.5383014679	0.5297660828
5	0.5374107361	0.5305831432
6	0.5378983021	0.5349206924
7	0.5372822285	0.5313928127
8	0.5379254818	0.5302333832
9	0.5387163162	0.5292789936
10	0.5373525620	0.5294675827
11	0.5372359753	0.5300257206
12	0.5379021168	0.5288627148
13	0.5394999981	0.5284726620
14	0.5399413109	0.5291528702
15	0.5407350063	0.5301580429
16	0.5464310646	0.5302956104
17	0.5403602123	0.5299611092
18	0.5405664444	0.5315001011
19	0.5371308327	0.5299396515
20	0.5385184288	0.5298650265
21	0.5441493988	0.5299477577
22	0.5450294018	0.5297715664
23	0.5438539982	0.5294537544
24	0.5444345474	0.5287735462
25	0.5451099873	0.5287947655
26	0.5438015461	0.5293562412
27	0.5443308353	0.5301289558
28	0.5454506874	0.5288476944
29	0.5440270901	0.5295433998
30	0.5437984467	0.5293745995
31	0.5478513241	0.5288178921
32	0.5444405079	0.5295999050
33	0.5429286957	0.5294508934
34	0.5444676876	0.5290715694
35	0.5451784134	0.5299406052
36	0.5435783863	0.5300242901
37	0.5454142094	0.5318968296
38	0.5444214344	0.5306639671
39	0.5451893806	0.5309057236
40	0.5436031818	0.5285418034
41	0.5440599918	0.5295500755
42	0.5444395542	0.5288443565
43	0.5452618599	0.5293912888
44	0.5445895195	0.5286374092
45	0.5441761017	0.5298635960
46	0.5440566540	0.5286240578
47	0.5605995655	0.5296308994
48	0.5442523956	0.5291643143
49	0.5439140797	0.5293414593
50	0.5435531139	0.5286002159
Total	27.1518819332	26.4908411503
Average	0.5430376387	0.5298168230

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_Archery_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5417377949	0.5310518742
2	0.5366058350	0.5297920704
3	0.5367431641	0.5295424461
4	0.5374436378	0.5295343399
5	0.5372104645	0.5300903320
6	0.5366299152	0.5342488289
7	0.5366771221	0.5293071270
8	0.5369641781	0.5293300152
9	0.5383436680	0.5291662216
10	0.5370545387	0.5297656059
11	0.5364732742	0.5295855999
12	0.5375220776	0.5296368599
13	0.5375599861	0.5292263031
14	0.5390543938	0.5294060707
15	0.5381739140	0.5299654007
16	0.5453200340	0.5295126438
17	0.5399756432	0.5289916992
18	0.5398998260	0.5299456120
19	0.5378193855	0.5290853977
20	0.5373291969	0.5290400982
21	0.5431363583	0.5297362804
22	0.5433962345	0.5291013718
23	0.5459635258	0.5298299789
24	0.5441420078	0.5310950279
25	0.5425488949	0.5292363167
26	0.5434699059	0.5287024975
27	0.5426478386	0.5292527676
28	0.5449085236	0.5298092365
29	0.5427756310	0.5292441845
30	0.5431215763	0.5298614502
31	0.5433638096	0.5288226604
32	0.5433902740	0.5288825035
33	0.5421223640	0.5296320915
34	0.5430898666	0.5288228989
35	0.5428566933	0.5292613506
36	0.5430555344	0.5282578468
37	0.5443212986	0.5289280415
38	0.5427548885	0.5297880173
39	0.5427567959	0.5293769836
40	0.5432851315	0.5288586617
41	0.5436563492	0.5298833847
42	0.5423116684	0.5291497707
43	0.5428385735	0.5329391956
44	0.5433194637	0.5287592411
45	0.5421879292	0.5286419392
46	0.5420613289	0.5285525322
47	0.5428836346	0.5287418365
48	0.5423257351	0.5290203094
49	0.5416617393	0.5410189629
50	0.5425455570	0.5286705494
Total	27.0574371815	26.4881024361
Average	0.5411487436	0.5297620487

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BabyCrawling_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5515284538	0.5328428745
2	0.5399971008	0.5295913219
3	0.5387291908	0.5302984715
4	0.5396542549	0.5293338299
5	0.5396165848	0.5296115875
6	0.5388271809	0.5292110443
7	0.5381107330	0.5292952061
8	0.5382082462	0.5294687748
9	0.5371451378	0.5296471119
10	0.5389037132	0.5294070244
11	0.5391643047	0.5311064720
12	0.5393655300	0.5280961990
13	0.5380849838	0.5280561447
14	0.5409066677	0.5279219151
15	0.5397036076	0.5285778046
16	0.5474574566	0.5285534859
17	0.5406985283	0.5279984474
18	0.5406584740	0.5276718140
19	0.5406501293	0.5282790661
20	0.5369584560	0.5279693604
21	0.5438327789	0.5279498100
22	0.5459342003	0.5284476280
23	0.5448524952	0.5284097195
24	0.5444953442	0.5278966427
25	0.5482380390	0.5294940472
26	0.5474216938	0.5287504196
27	0.5426015854	0.5284657478
28	0.5431618690	0.5284454823
29	0.5429031849	0.5283641815
30	0.5437982082	0.5311756134
31	0.5431132317	0.5283987522
32	0.5434467793	0.5279643536
33	0.5444943905	0.5277159214
34	0.5427286625	0.5282046795
35	0.5429515839	0.5284187794
36	0.5437030792	0.5300073624
37	0.5435473919	0.5295677185
38	0.5431914330	0.5287055969
39	0.5437240601	0.5284397602
40	0.5433757305	0.5280430317
41	0.5431361198	0.5281610489
42	0.5428848267	0.5285668373
43	0.5439488888	0.5280971527
44	0.5433423519	0.5275571346
45	0.5435414314	0.5281653404
46	0.5425283909	0.5278301239
47	0.5429785252	0.5280594826
48	0.5431585312	0.5286612511
49	0.5430610180	0.5287611485
50	0.5442287922	0.5282683372
Total	27.1186933517	26.4379310608
Average	0.5423738670	0.5287586212

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BalanceBeam_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5451860428	0.5405261517
2	0.5387818813	0.5314202309
3	0.5390074253	0.5316956043
4	0.5390973091	0.5285029411
5	0.5372874737	0.5281274319
6	0.5375933647	0.5284440517
7	0.5381145477	0.5345468521
8	0.5382692814	0.5281901360
9	0.5393266678	0.5285277367
10	0.5382804871	0.5285577774
11	0.5374884605	0.5281679630
12	0.5384855270	0.5282640457
13	0.5387725830	0.5280206203
14	0.5406949520	0.5285668373
15	0.5383479595	0.5289764404
16	0.5455551147	0.5280942917
17	0.5395591259	0.5282065868
18	0.5417594910	0.5325684547
19	0.5393538475	0.5280745029
20	0.5376057625	0.5281901360
21	0.5449433327	0.5286152363
22	0.5440285206	0.5278389454
23	0.5439305305	0.5283100605
24	0.5447659492	0.5279378891
25	0.5450322628	0.5298006535
26	0.5441069603	0.5300033092
27	0.5444359779	0.5300829411
28	0.5439589024	0.5285553932
29	0.5447020531	0.5294137001
30	0.5445423126	0.5291991234
31	0.5480043888	0.5281701088
32	0.5452690125	0.5283958912
33	0.5454473495	0.5288648605
34	0.5455925465	0.5290141106
35	0.5444114208	0.5289678574
36	0.5447781086	0.5318472385
37	0.5448198318	0.5278451443
38	0.5446326733	0.5457448959
39	0.5445117950	0.5289182663
40	0.5446834564	0.5279927254
41	0.5449235439	0.5289139748
42	0.5456426144	0.5287611485
43	0.5452604294	0.5281589031
44	0.5440239906	0.5273673534
45	0.5446999073	0.5295083523
46	0.5443186760	0.5297491550
47	0.5454139709	0.5294198990
48	0.5456118584	0.5289394855
49	0.5453543663	0.5291810036
50	0.5443243980	0.5285451412
Total	27.1347384453	26.4797315598
Average	0.5426947689	0.5295946312

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BandMarching_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5458366871	0.5318520069
2	0.5414028168	0.5294911861
3	0.5404226780	0.5299842358
4	0.5413141251	0.5302166939
5	0.5409688950	0.5299530029
6	0.5387783051	0.5301389694
7	0.5402388573	0.5304551125
8	0.5406298637	0.5296127796
9	0.5399534702	0.5332641602
10	0.5412011147	0.5296840668
11	0.5408463478	0.5307104588
12	0.5409920216	0.5299620628
13	0.5405757427	0.5294251442
14	0.5426967144	0.5294322968
15	0.5396599770	0.5300309658
16	0.5482311249	0.5295047760
17	0.5409862995	0.5293292999
18	0.5413477421	0.5291817188
19	0.5387048721	0.5289204121
20	0.5397336483	0.5290098190
21	0.5458395481	0.5287463665
22	0.5466580391	0.5293576717
23	0.5457701683	0.5289549828
24	0.5467078686	0.5290117264
25	0.5463430882	0.5307004452
26	0.5452778339	0.5290155411
27	0.5446493626	0.5296108723
28	0.5443654060	0.5298347473
29	0.5447862148	0.5307433605
30	0.5441617966	0.5317125320
31	0.5451133251	0.5299172401
32	0.5450279713	0.5295076370
33	0.5440294743	0.5299193859
34	0.5446486473	0.5285923481
35	0.5450658798	0.5291001797
36	0.5445406437	0.5294551849
37	0.5449767113	0.5290358067
38	0.5445022583	0.5299358368
39	0.5446348190	0.5293717384
40	0.5451564789	0.5296025276
41	0.5490310192	0.5293982029
42	0.5448496342	0.5289669037
43	0.5661809444	0.5295736790
44	0.5467977524	0.5292887688
45	0.5442063808	0.5294737816
46	0.5441608429	0.5291759968
47	0.5443804264	0.5298788548
48	0.5451071262	0.5289590359
49	0.5446922779	0.5305814743
50	0.5436327457	0.5296909809
Total	27.1998159885	26.4872729778
Average	0.5439963198	0.5297454596

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BaseballPitch_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5452246666	0.5383470058
2	0.5367169380	0.5299754143
3	0.5374755859	0.5280582905
4	0.5374245644	0.5277237892
5	0.5375432968	0.5297522545
6	0.5373635292	0.5305309296
7	0.5368690491	0.5339670181
8	0.5369758606	0.5304651260
9	0.5369448662	0.5291526318
10	0.5372486115	0.5286710262
11	0.5378859043	0.5303816795
12	0.5377070904	0.5325803757
13	0.5375237465	0.5296385288
14	0.5400872231	0.5291249752
15	0.5389456749	0.5306665897
16	0.5457792282	0.5296571255
17	0.5397872925	0.5290718079
18	0.5398089886	0.5295827389
19	0.5365397930	0.5286216736
20	0.5383148193	0.5292088985
21	0.5434961319	0.5294973850
22	0.5436115265	0.5292005539
23	0.5435171127	0.5298652649
24	0.5439152718	0.5276868343
25	0.5434386730	0.5300495625
26	0.5473361015	0.5288221836
27	0.5432991982	0.5296797752
28	0.5434944630	0.5313086510
29	0.5434575081	0.5284740925
30	0.5437009335	0.5301048756
31	0.5439043045	0.5326621532
32	0.5430724621	0.5284423828
33	0.5433068275	0.5303864479
34	0.5432481766	0.5284042358
35	0.5428814888	0.5298361778
36	0.5436174870	0.5287864208
37	0.5439233780	0.5298826694
38	0.5433216095	0.5297336578
39	0.5444869995	0.5287902355
40	0.5432679653	0.5282373428
41	0.5435569286	0.5285968781
42	0.5434327126	0.5295898914
43	0.5433883667	0.5284106731
44	0.5435118675	0.5279488564
45	0.5442807674	0.5285072327
46	0.5432682037	0.5288219452
47	0.5432155132	0.5298829079
48	0.5429151058	0.5297276974
49	0.5431795120	0.5284781456
50	0.5429718494	0.5277457237
Total	27.0801851749	26.4827387333
Average	0.5416037035	0.5296547747

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_Basketball_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5415649414	0.5320527554
2	0.5381095409	0.5295472145
3	0.5381269455	0.5286056995
4	0.5378649235	0.5294816494
5	0.5372211933	0.5284709930
6	0.5372991562	0.5296058655
7	0.5372068882	0.5293719769
8	0.5383946896	0.5290243626
9	0.5440881252	0.5288617611
10	0.5383563042	0.5293982029
11	0.5385720730	0.5285596848
12	0.5376341343	0.5284755230
13	0.5383162498	0.5288026333
14	0.5402395725	0.5296888351
15	0.5391533375	0.5289840698
16	0.5448858738	0.5364575386
17	0.5416786671	0.5294706821
18	0.5409204960	0.5302679539
19	0.5375576019	0.5298585892
20	0.5395267010	0.5294570923
21	0.5442721844	0.5290522575
22	0.5450706482	0.5286617279
23	0.5451302528	0.5291333199
24	0.5435476303	0.5307078362
25	0.5433299541	0.5322966576
26	0.5434505939	0.5289959908
27	0.5443997383	0.5291342735
28	0.5428886414	0.5293860435
29	0.5440225601	0.5279886723
30	0.5430471897	0.5424599648
31	0.5437788963	0.5285260677
32	0.5440471172	0.5295162201
33	0.5439133644	0.5426921844
34	0.5447387695	0.5292630196
35	0.5442090034	0.5289673805
36	0.5439674854	0.5288228989
37	0.5443165302	0.5291912556
38	0.5449674129	0.5290479660
39	0.5446584225	0.5285162926
40	0.5451323986	0.5283031464
41	0.5440933704	0.5284004211
42	0.5434463024	0.5285696983
43	0.5442738533	0.5299131870
44	0.5458099842	0.5321955681
45	0.5439810753	0.5288996696
46	0.5440788269	0.5287473202
47	0.5443320274	0.5285775661
48	0.5444300175	0.5284187794
49	0.5447752476	0.5281767845
50	0.5431253910	0.5282788277
Total	27.1119523048	26.4952840805
Average	0.5422390461	0.5299056816

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BasketballDunk_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5997462273	0.5318930149
2	0.5406212807	0.5296845436
3	0.5386316776	0.5338275433
4	0.5396325588	0.5306503773
5	0.5391466618	0.5292711258
6	0.5401787758	0.5302500725
7	0.5385448933	0.5297462940
8	0.5397875309	0.5292003155
9	0.5383956432	0.5293636322
10	0.5379960537	0.5294232368
11	0.5397729874	0.5297122002
12	0.5397949219	0.5294632912
13	0.5391979218	0.5299284458
14	0.5411367416	0.5297608376
15	0.5399279594	0.5291709900
16	0.5483720303	0.5294079781
17	0.5423004627	0.5304710865
18	0.5403864384	0.5306835175
19	0.5413320065	0.5324113369
20	0.5405421257	0.5289154053
21	0.5470404625	0.5292632580
22	0.5472872257	0.5296018124
23	0.5470824242	0.5289885998
24	0.5476422310	0.5294957161
25	0.5473556519	0.5291943550
26	0.5467021465	0.5291337967
27	0.5482668877	0.5300099850
28	0.5474529266	0.5296857357
29	0.5484073162	0.5287845135
30	0.5463922024	0.5296983719
31	0.5475554466	0.5285198689
32	0.5504529476	0.5290312767
33	0.5451552868	0.5292921066
34	0.5453262329	0.5292987823
35	0.5453860760	0.5294094086
36	0.5456357002	0.5304329395
37	0.5462145805	0.5292105675
38	0.5453796387	0.5316658020
39	0.5466272831	0.5289299488
40	0.5459041595	0.5291016102
41	0.5458962917	0.5292847157
42	0.5464434624	0.5292887688
43	0.5464460850	0.5293295383
44	0.5452566147	0.5293955803
45	0.5453460217	0.5285966396
46	0.5453970432	0.5296618938
47	0.5457587242	0.5291945934
48	0.5457420349	0.5286777020
49	0.5451133251	0.5289394855
50	0.5454084873	0.5288240910
Total	27.2595198154	26.4831767082
Average	0.5451903963	0.5296635342

Encryption Algorithm	3D Chaotic Map-Cosine Transformation Based Approach to Video Encryption and Decryption (Dua et al., 2022)	
Video Stream	v_BenchPress_g01_c01	
Resolution	240p	
Frame Number	Encryption (In seconds)	Decryption (In seconds)
1	0.5425536633	0.5331616402
2	0.5385298729	0.5308828354
3	0.5388538837	0.5292870998
4	0.5383143425	0.5312831402
5	0.5387034416	0.5312125683
6	0.5380542278	0.5306479931
7	0.5374681950	0.5306396484
8	0.5381665230	0.5299124718
9	0.5390253067	0.5311696529
10	0.5397570133	0.5293147564
11	0.5392937660	0.5297541618
12	0.5380358696	0.5295639038
13	0.5391526222	0.5300524235
14	0.5412561893	0.5304253101
15	0.5395720005	0.5301735401
16	0.5478205681	0.5337707996
17	0.5402631760	0.5302224159
18	0.5436065197	0.5297236443
19	0.5370860100	0.5297420025
20	0.5380234718	0.5364921093
21	0.5442819595	0.5313773155
22	0.5448904037	0.5296816826
23	0.5439600945	0.5293092728
24	0.5458364487	0.5298902988
25	0.5448839664	0.5303153992
26	0.5449159145	0.5308654308
27	0.5455541611	0.5309863091
28	0.5467758179	0.5301723480
29	0.5460009575	0.5298731327
30	0.5470416546	0.5304024220
31	0.5468392372	0.5300867558
32	0.5449795723	0.5299155712
33	0.5445942879	0.5300068855
34	0.5439260006	0.5295884609
35	0.5455856323	0.5294959545
36	0.5436294079	0.5302181244
37	0.5459425449	0.5299515724
38	0.5440695286	0.5297348499
39	0.5466954708	0.5298137665
40	0.5455029011	0.5296032429
41	0.5437724590	0.5298078060
42	0.5454137325	0.5294146538
43	0.5451085567	0.5304384232
44	0.5439531803	0.5293550491
45	0.5445442200	0.5303099155
46	0.5449414253	0.5292694569
47	0.5453691483	0.5296158791
48	0.5459170341	0.5300812721
49	0.5449702740	0.5311059952
50	0.5452241898	0.5294408798
Total	27.1486568451	26.5175602436
Average	0.5429731369	0.5303512049