



VOICE TEST METHODOLOGY

DATA	Test Type and Timeout	Technology 3G Preferred	Technology 4G Preferred
	POP always o	n. ICMP PAYLOAD PING 800 BYTES	
1	FILE TRANSFER DOWNLOAD	FTP DL (3MB)	FTP DL (5MB)
	135s	wait 10s	wait 10s
2	FILE TRANSFER UPLOAD	FTP UL (1MB)	FTP UL (3MB)
	135s	wait 10s	wait 10s
3	FILE TRANSFER DOWNLOAD	HTTP Get (3MB)	HTTP Get (5MB)
	135s	wait 10s	wait 10s
4	FILE TRANSFER UPLOAD	HTTP Put (1MB)	HTTP Put (3MB)
	135s	wait 10s	wait 10s
5	ICMP PING 32 BYTES	Ping (32 bytes) *5	Ping (32 bytes) *5
		wait 10s	wait 10s
6	YOUTUBE STREAMING	Video: YouTube 60sec	Video: YouTube 60sec
	95 seconds	wait 10s	wait 10s
7	KEPLER WEB BROWSING	HTTPS Browsing: Kepler	HTTPS Browsing: Kepler
	45s	wait 10s	wait 10s
8	LIVE WEB BROWSING	www.shein.com, www.nbs.gov.sc, www.sbc.sc	www.shein.com, www.nbs.gov.sc, www.sbc.sc
	45s	wait 10s	wait 10s
9	KEPLER MOBILE WEB BROWSING	HTTPS Browsing: Kepler Mobile	HTTPS Browsing: Kepler Mobile
	45s	wait 10s	wait 10s
10	ICMP PING 32 BYTES	Ping (32 bytes) 5 www.google.com	Ping (32 bytes) 5 www.google.com
		wait 10s	wait 10s
11	FILE TRANSFER-CAPACITY DOWNLOAD	HTTP Get (500MB) Multiple files	HTTP Get (500MB) Multiple files
	10s fixed duration	wait 10s	wait 10s
12	FILE TRANSFER-CAPACITY UPLOAD	HTTP Put (500MB)-Multiple Files	HTTP Put (500MB)-Multiple Files
	10s fixed duration	wait 10s	wait 10s

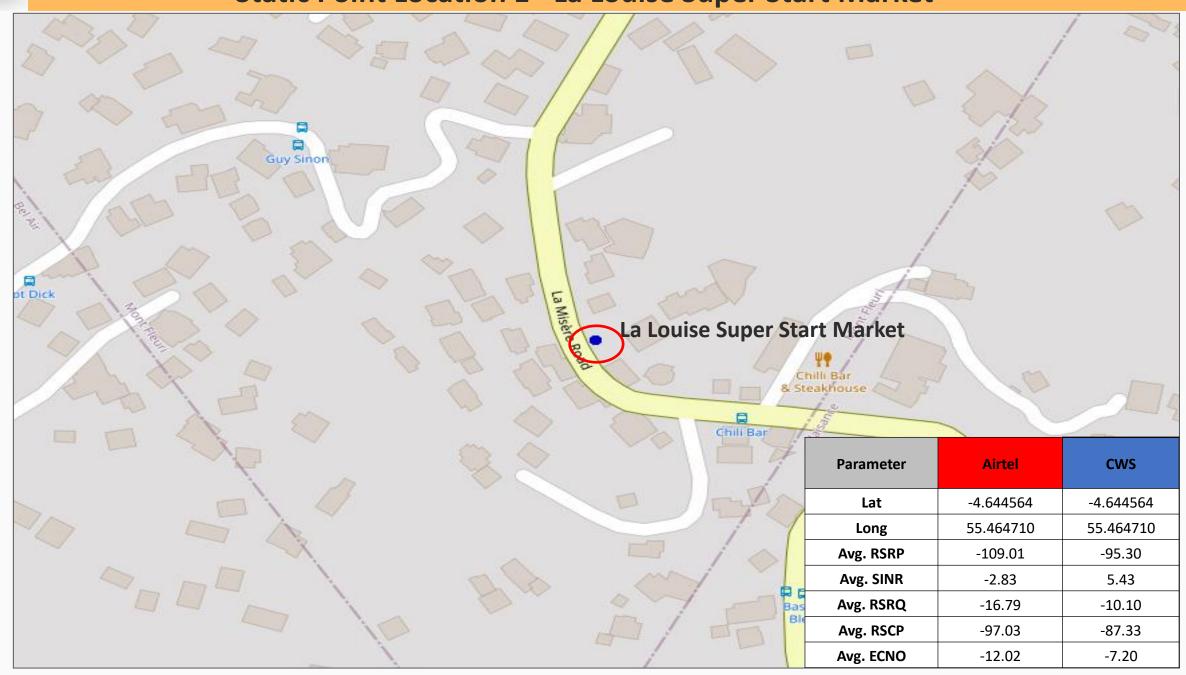


Static Points Location – Cluster Les Mamelles





Static Point Location 1 - La Louise Super Start Market





4G PREFERRED DATA TEST – EXECUTIVE SUMMARY

4G Preferred Data Findings:

- Airtel SFTP DL is (3.94 Mbps), while SFTP UL is (1.54 Mbps), CWS SFTP DL is (2.93 Mbps), while SFTP UL is (2.08 Mbps)
- Airtel HTTP DL is (4.64 Mbps), HTTP Capacity DL is (5.33 Mbps), HTTP UL is (1.64 Mbps), and HTTP Capacity UL is (6.57 Mbps).
- CWS HTTP DL is (4.34 Mbps), HTTP Capacity DL is (9.27 Mbps), HTTP UL is (7.37 Mbps), and HTTP Capacity UL is (6.39 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (7.49s), <u>www.nbs.gov.sc</u> took (20.64s), and <u>www.sbc.sc</u> took (24.46s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (9.39s), <u>www.nbs.gov.sc</u> took (16.87s), and <u>www.sbc.sc</u> took (16.96s) on CWS.
- On static browsing, Kepler Webpage took (6.94s), and Kepler Mobile took (2.27s) on Airtel.
- On static browsing, Kepler Webpage took (11.17s), and Kepler Mobile took (5.96s) on CWS.
- YouTube average resolution in Airtel is (1034.73) pixels.
- YouTube average resolution in CWS is (1024.02) pixels.
- Airtel scored 62.71% in Carrier Aggregation (CA).
- CWS scored 6.25% in Carrier Aggregation (CA).



3G PREFERRED DATA TEST - EXECUTIVE SUMMARY

3G Preferred Data Test Findings:

- Airtel SFTP DL is (2.10 Mbps), while SFTP UL is (0.70 Mbps), CWS SFTP DL is (1.62 Mbps), while SFTP UL is (0.48 Mbps)
- Airtel HTTP DL is (2.22 Mbps), HTTP Capacity DL is (2.90 Mbps), HTTP UL is (0.87 Mbps), and HTTP Capacity UL is (3.29 Mbps).
- CWS HTTP DL is (2.14 Mbps), HTTP Capacity DL is (4.83 Mbps), HTTP UL is (1.15 Mbps), and HTTP Capacity UL is (2.79 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (13.40s), <u>www.nbs.gov.sc</u> took (14.16s), and <u>www.sbc.sc</u> took (21.67s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (10.13s), <u>www.nbs.gov.sc</u> took (8.14s), and <u>www.sbc.sc</u> took (11.80s) on CWS.
- On static browsing, Kepler Webpage took (5.87s), and Kepler Mobile took (2.94s) on Airtel.
- On static browsing, Kepler Webpage took (11.63s), and Kepler Mobile took (6.67s) on CWS.
- YouTube average resolution in Airtel is (907.25) pixels.
- YouTube average resolution in CWS is (1047.20) pixels.



DRIVE TEST KPI STATISTICS

		3G Preferred			4G Preferred				
DATA Scenario		Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	2.10	1.62	1	2	3.94	2.93	1	2
<u> </u>	SFTP UL(Mbps)	0.70	0.48	1	2	1.54	2.08	2	1
ANSFI	HTTP DL(Mbps)	2.22	2.14	1	2	4.64	4.34	1	2
FILE TRANSFER	HTTP UL(Mbps)	0.87	1.15	2	1	1.64	7.37	2	1
	HTTP Capacity DL(Mbps)	2.90	4.83	2	1	5.33	9.27	2	1
	HTTP Capacity UL(Mbps)	3.29	2.79	1	2	6.57	6.39	1	2
	Overall Browser DL Time (s)	10.58	9.76	2	1	12.93	12.25	2	1
	Kepler Webpage DL Time (s)	5.87	11.63	1	2	6.94	11.17	1	2
/SER	Mobile Kepler Webpage DL Time (s)	2.94	6.67	1	2	2.27	5.96	1	2
BROWSER	www.shein.com Webpage DL Time (s)	13.40	10.13	2	1	7.49	9.39	1	2
	www.nbs.gov.sc Webpage DL Time (s)	14.16	8.14	2	1	20.64	16.87	2	1
	www.sbc.sc Webpage DL Time (s)	21.67	11.80	2	1	24.46	16.96	2	1
NCY	Avg Latency (ms)	303.00	214.50	2	1	282.73	329.02	1	2
LATENCY	Median Latency (ms)	400.0	152.0	2	1	273.0	326.0	1	2
36	YouTube Access Time (s)	4.34	2.18	2	1	5.54	1.77	2	1
YOUTUBE	YouTube Average Resolution (pixels)	907.25	1047.20	2	1	1034.73	1024.02	1	2
) V	YouTube Success Ratio [%]	100.00	100.00	1	1	100.00	100.00	1	1



4G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
SFTP DL	Success	8	7	100.00	100.00
SFIF DE	Failure	0	0	0.00	0.00
SFTP UL	Success	9	1	90.00	14.29
SFIPUL	Failure	1	6	10.00	85.71
HTTP DL	Success	10	7	100.00	100.00
HIIPDL	Failure	0	0	0.00	0.00
HTTP UL	Success	10	1	100.00	14.29
HITPOL	Failure	0	6	0.00	85.71
HTTP Capacity DL	Success	9	7	100.00	100.00
HITT Capacity DL	Failure	0	0	0.00	0.00
HTTP Canacity III	Success	6	6	66.67	100.00
HTTP Capacity UL	Failure	3	0	33.33	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	3.94	2.93	1	2
FILE TRANSFER	SFTP UL(Mbps)	1.54	2.08	2	1
	HTTP DL(Mbps)	4.64	4.34	1	2
	HTTP UL(Mbps)	1.64	7.37	2	1
	HTTP Capacity DL(Mbps)	5.33	9.27	2	1
	HTTP Capacity UL(Mbps)	6.57	6.39	1	2



4G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Wanla	Success	7	7	70.00	100.00
Kepler	Failure	3	0	30.00	0.00
Mahila Kanlan	Success	9	6	100.00	85.71
Mobile Kepler	Failure	0	1	0.00	14.29
	Success	10	7	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	10	7	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
www.sbc.sc	Success	10	7	100.00	100.00
	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	Overall Browser DL Time (s)	12.93	12.25	2	1
	Kepler Webpage DL Time (s)	6.94	11.17	1	2
BROWSER	Mobile Kepler Webpage DL Time (s)	2.27	5.96	1	2
	www.shein.com Webpage DL Time (s)	7.49	9.39	1	2
	www.nbs.gov.sc Webpage DL Time (s)	20.64	16.87	2	1
	www.sbc.sc Webpage DL Time (s)	24.46	16.96	2	1



4G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	19	10
	Average Latency [ms]	286.89	386.60
	Median Latency [ms]	297	434
Overall Latency	Ping session status: Successful	19	10
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	4
Pack Aver Med	Packet Loss<1%	0.00	28.57
	Average Latency [ms]	412.00	361.00
	Median Latency [ms]	403	427
Overall Latency Ping sessi Ping sessi Packet Lo Average L Median L Ping sessi Ping sessi Ping sessi Packet Lo Average L Median L Ping sessi Packet Lo Average L Median L Ping sessi Packet Lo Average L Median L Ping sessi Ping sessi Ping sessi Ping sessi	Ping session status: Successful	9	7
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	174.30	446.33
m 102.133.176.104	Median Latency [ms]	137	440
	Ping session status: Successful	10	3
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	4
	Packet Loss<1%	0.00	57.14

LTE YOUTUBE Success Ratio					
KPIs	Airtel 4G	CWS 4G			
Attempt(Count)	10	7			
Success(Count)	10	7			
Failure(Count)	0	0			
YouTube Access Time (s)	5.54	1.77			
YouTube Average Resolution (pixels)	1034.73	1024.02			
YouTube Success Ratio [%]	100.00	100.00			



3G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 3G	CWS 3G	Airtel 3G (%)	CWS 3G (%)
SFTP DL	Success	7	7	100.00	100.00
SFIP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	8	2	100.00	33.33
SFIPUL	Failure	0	4	0.00	66.67
	Success	9	6	100.00	85.71
HTTP DL	Failure	0	1	0.00	14.29
UTTOLU	Success	9	1	100.00	14.29
HTTP UL	Failure	0	6	0.00	85.71
LITTO Como situs DI	Success	9	7	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
LITTE Conneits: LII	Success	7	7	77.78	100.00
HTTP Capacity UL	Failure	2	0	22.22	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	SFTP DL (Mbps)	2.10	1.62	1	2
FILE TRANSFER	SFTP UL(Mbps)	0.70	0.48	1	2
	HTTP DL(Mbps)	2.22	2.14	1	2
	HTTP UL(Mbps)	0.87	1.15	2	1
	HTTP Capacity DL(Mbps)	2.90	4.83	2	1
	HTTP Capacity UL(Mbps)	3.29	2.79	1	2



3G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Wanlau	Success	7	7	87.50	100.00
Kepler	Failure	1	0	12.50	0.00
Mahila Kanlar	Success	9	6	100.00	85.71
Mobile Kepler	Failure	0	1	0.00	14.29
www.shein.com	Success	9	7	100.00	100.00
www.snein.com	Failure	0	0	0.00	0.00
	Success	9	7	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
.1	Success	4	7	44.44	100.00
www.sbc.sc	Failure	5	0	55.56	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	Overall Browser DL Time (s)	10.58	9.76	2	1
	Kepler Webpage DL Time (s)	5.87	11.63	1	2
/SER	Mobile Kepler Webpage DL Time (s)	2.94	6.67	1	2
BROWSER	www.shein.com Webpage DL Time (s)	13.40	10.13	2	1
	www.nbs.gov.sc Webpage DL Time (s)	14.16	8.14	2	1
	www.sbc.sc Webpage DL Time (s)	21.67	11.80	2	1



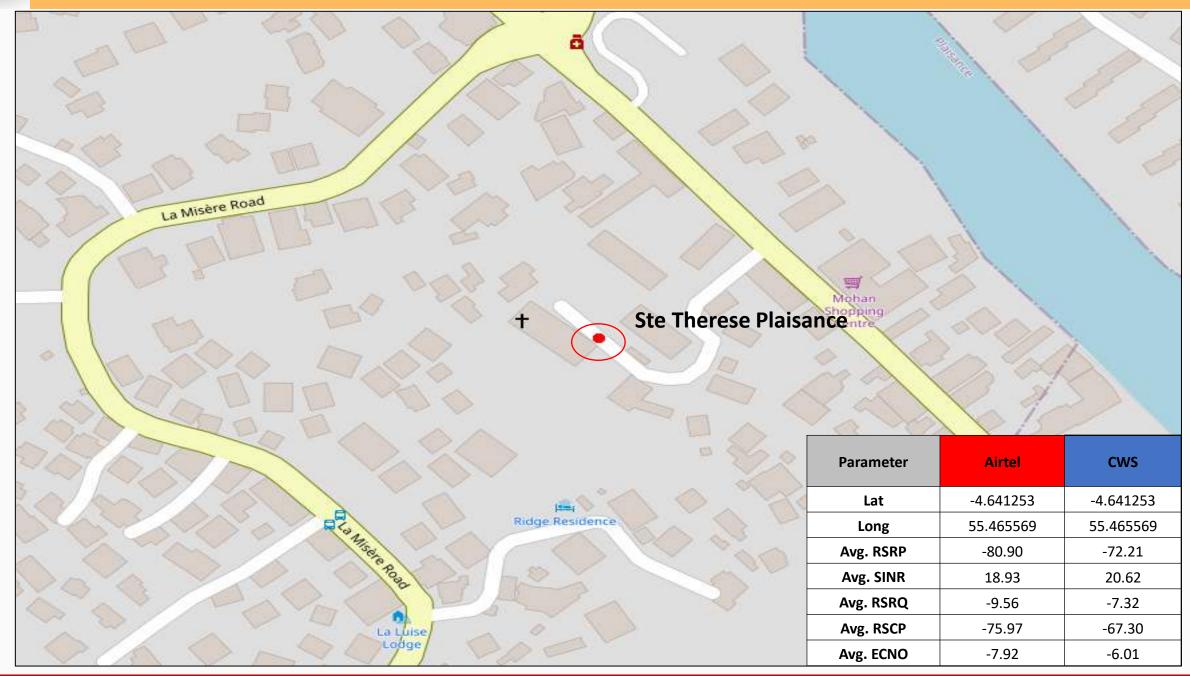
3G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	18	11
	Average Latency [ms]	309.50	198.45
	Median Latency [ms]	402	151
Overall Latency	Ping session status: Successful	18	11
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	3
	Packet Loss<1%	0.00	21.43
	Average Latency [ms]	414.78	142.71
	Median Latency [ms]	414	140
www.google.com	Ping session status: Successful	9	7
www.googie.com	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	204.22	296.00
	Median Latency [ms]	137	318
102 122 176 104	Ping session status: Successful	9	4
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	3
	Packet Loss<1%	0.00	42.86

UMTS YOUTUBE Success Ratio						
KPIs	Airtel 3G	CWS 3G				
Attempt(Count)	9	7				
Success(Count)	9	7				
Failure(Count)	0	0				
YouTube Access Time (s)	4.34	2.18				
YouTube Average Resolution (pixels)	907.25	1047.20				
YouTube Success Ratio [%]	100.00	100.00				



Static Point Location 2 - Ste Therese Plaisance





4G PREFERRED DATA TEST – EXECUTIVE SUMMARY

4G Preferred Data Findings:

- All tests for HTTP UL failed for the 4G CWS operator. The issue may be related to network performance.
- Airtel SFTP DL is (10.71 Mbps), while SFTP UL is (6.30 Mbps), CWS SFTP DL is (2.99 Mbps), while SFTP UL is (0.46 Mbps)
- Airtel HTTP DL is (14.24 Mbps), HTTP Capacity DL is (23.30 Mbps), HTTP UL is (10.99 Mbps), and HTTP Capacity UL is (29.87 Mbps).
- CWS HTTP DL is (5.70 Mbps), HTTP Capacity DL is (73.59 Mbps), HTTP UL is (0.00 Mbps), and HTTP Capacity UL is (6.38 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (6.27s), <u>www.nbs.gov.sc</u> took (16.96s), and <u>www.sbc.sc</u> took (17.56s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (7.92s), <u>www.nbs.gov.sc</u> took (14.80s), and <u>www.sbc.sc</u> took (12.63s) on CWS.
- On static browsing, Kepler Webpage took (5.41s), and Kepler Mobile took (2.39s) on Airtel.
- On static browsing, Kepler Webpage took (9.36s), and Kepler Mobile took (5.51s) on CWS.
- YouTube average resolution in Airtel is (1028.01) pixels.
- YouTube average resolution in CWS is (1047.27) pixels.
- Airtel scored 40.00% in Carrier Aggregation (CA).
- CWS scored 25.00% in Carrier Aggregation (CA).



3G PREFERRED DATA TEST - EXECUTIVE SUMMARY

3G Preferred Data Test Findings:

- All tests for HTTP UL failed for the 3G CWS operator. The issue may be related to network performance.
- Airtel SFTP DL is (4.44 Mbps), while SFTP UL is (1.09 Mbps), CWS SFTP DL is (1.72 Mbps), while SFTP UL is (0.05 Mbps)
- Airtel HTTP DL is (4.80 Mbps), HTTP Capacity DL is (6.44 Mbps), HTTP UL is (1.75 Mbps), and HTTP Capacity UL is (3.90 Mbps).
- CWS HTTP DL is (2.06 Mbps), HTTP Capacity DL is (10.94 Mbps), HTTP UL is (0.00 Mbps), and HTTP Capacity UL is (2.85 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (8.65s), <u>www.nbs.gov.sc</u> took (10.43s), and <u>www.sbc.sc</u> took (12.89s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (10.56s), <u>www.nbs.gov.sc</u> took (7.59s), and <u>www.sbc.sc</u> took (12.52s) on CWS.
- On static browsing, Kepler Webpage took (4.54s), and Kepler Mobile took (2.07s) on Airtel.
- On static browsing, Kepler Webpage took (12.06s), and Kepler Mobile took (6.42s) on CWS.
- YouTube average resolution in Airtel is (1050.21) pixels.
- YouTube average resolution in CWS is (1047.27) pixels.



DRIVE TEST KPI STATISTICS

		3G Preferred			4G Preferred				
	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	4.44	1.72	1	2	10.71	2.99	1	2
ER	SFTP UL(Mbps)	1.09	0.05	1	2	6.30	0.46	1	2
ANSF	HTTP DL(Mbps)	4.80	2.06	1	2	14.24	5.70	1	2
FILE TRANSFER	HTTP UL(Mbps)	1.75	0.00	1	2	10.99	0.00	1	2
표	HTTP Capacity DL(Mbps)	6.44	10.94	2	1	25.30	73.59	2	1
	HTTP Capacity UL(Mbps)	3.90	2.85	1	2	29.87	6.38	1	2
	Overall Browser DL Time (s)	7.72	9.76	1	2	9.79	10.04	1	2
	Kepler Webpage DL Time (s)	4.54	12.06	1	2	5.41	9.36	1	2
SER	Mobile Kepler Webpage DL Time (s)	2.07	6.42	1	2	2.39	5.51	1	2
BROWSER	www.shein.com Webpage DL Time (s)	8.65	10.56	1	2	6.27	7.92	1	2
&	www.nbs.gov.sc Webpage DL Time (s)	10.43	7.59	2	1	16.96	14.80	2	1
	www.sbc.sc Webpage DL Time (s)	12.89	12.52	2	1	17.56	12.63	2	1
LATENCY	Avg Latency (ms)	285.02	247.82	2	1	286.51	207.19	2	1
LAT	Median Latency (ms)	253.5	163.5	2	1	256.0	143.5	2	1
BE	YouTube Access Time (s)	3.27	2.24	2	1	5.33	1.37	2	1
YOUTUBE	YouTube Average Resolution (pixels)	1050.21	1047.27	1	2	1028.01	1047.27	2	1
Λ	YouTube Success Ratio [%]	100.00	85.71	1	2	100.00	100.00	1	1



4G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
CETP DI	Success	13	8	100.00	100.00
SFTP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	13	1	100.00	14.29
SFIPUL	Failure	0	6	0.00	85.71
HTTP DL	Success	13	7	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP UL	Success	13	7	100.00	100.00
HITPOL	Failure	0	0	0.00	0.00
UTTD Canacity DI	Success	12	7	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
	Success	12	7	100.00	100.00
HTTP Capacity UL	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	10.71	2.99	1	2
	SFTP UL(Mbps)	6.30	0.46	1	2
FILE TRANSFER	HTTP DL(Mbps)	14.24	5.70	1	2
	HTTP UL(Mbps)	10.99	0.00	1	2
	HTTP Capacity DL(Mbps)	25.30	73.59	2	1
	HTTP Capacity UL(Mbps)	29.87	6.38	1	2



4G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Kanlar	Success	11	7	91.67	100.00
Kepler	Failure	1	0	8.33	0.00
Mahila Kanlar	Success	12	7	100.00	100.00
Mobile Kepler	Failure	0	0	0.00	0.00
	Success	12	7	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	12	7	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
www.sbc.sc	Success	12	7	100.00	100.00
	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	Overall Browser DL Time (s)	9.79	10.04	1	2
Kepler Webpage DL Time (s)		5.41	9.36	1	2
BROWSER	Mobile Kepler Webpage DL Time (s)	2.39	5.51	1	2
	www.shein.com Webpage DL Time (s)	6.27	7.92	1	2
	www.nbs.gov.sc Webpage DL Time (s)	16.96	14.80	2	1
	www.sbc.sc Webpage DL Time (s)	17.56	12.63	2	1



4G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	25	9
	Average Latency [ms]	284.84	175.78
	Median Latency [ms]	256	145
Overall Latency	Ping session status: Successful	25	9
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	4
	Packet Loss<1%	0.00	30.77
	Average Latency [ms]	394.58	143.14
	Median Latency [ms]	395	144
www.google.co	Ping session status: Successful	12	7
m	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	183.54	290.00
	Median Latency [ms]	140	290
102.133.176.104	Ping session status: Successful	13	2
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	4
	Packet Loss<1%	0.00	66.67

LTE YOUTUBE Success Ratio					
KPIs	Airtel Data 4G	CWS Data 4G			
Attempt(Count)	13	7			
Success(Count)	13	7			
Failure(Count)	0	0			
YouTube Access Time (s)	5.33	1.37			
YouTube Average Resolution (pixels)	1028.01	1047.27			
YouTube Success Ratio [%]	100.00	100.00			

Latency 250ms



3G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 3G	CWS 3G	Airtel 3G (%)	CWS 3G (%)
CETD DI	Success	11	6	100.00	100.00
SFTP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	11	1	100.00	14.29
SFIP OL	Failure	0	6	0.00	85.71
	Success	11	7	100.00	100.00
HTTP DL	Failure	0	0	0.00	0.00
HTTP UL	Success	11	0	100.00	0.00
HITPOL	Failure	0	7	0.00	100.00
HTTD Conneity DI	Success	10	7	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
HTTD Conneity III	Success	10	5	100.00	71.43
HTTP Capacity UL	Failure	0	2	0.00	28.57

DATA Scenario		Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	SFTP DL (Mbps)	4.44	1.72	1	2
	SFTP UL(Mbps)	1.09	0.05	1	2
	HTTP DL(Mbps)	4.80	2.06	1	2
	HTTP UL(Mbps)	1.75	0.00	1	2
	HTTP Capacity DL(Mbps)	6.44	10.94	2	1
	HTTP Capacity UL(Mbps)	3.90	2.85	1	2



3G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
	Success	11	6	100.00	85.71
Kepler	Failure	0	1	0.00	14.29
Malella Karda	Success	10	7	100.00	100.00
Mobile Kepler	Failure	0	0	0.00	0.00
	Success	11	7	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	11	7	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
www.sbc.sc	Success	10	7	90.91	100.00
	Failure	1	0	9.09	0.00

DATA Scenario		Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	Overall Browser DL Time (s)	7.72	9.76	1	2
BROWSER	Kepler Webpage DL Time (s)	4.54	12.06	1	2
	Mobile Kepler Webpage DL Time (s)	2.07	6.42	1	2
	www.shein.com Webpage DL Time (s)	8.65	10.56	1	2
	www.nbs.gov.sc Webpage DL Time (s)	10.43	7.59	2	1
	www.sbc.sc Webpage DL Time (s)	12.89	12.52	2	1



3G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	20	10
	Average Latency [ms]	292.15	221.00
	Median Latency [ms]	326	157
Overall Latency	Ping session status: Successful	20	10
ŕ	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	3
	Packet Loss<1%	4.76	23.08
	Average Latency [ms]	412.30	149.86
	Median Latency [ms]	409	154
	Ping session status: Successful	10	7
www.google.com	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	172.00	387.00
	Median Latency [ms]	129	344
	Ping session status: Successful	10	3
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	3
	Packet Loss<1%	9.09	50.00

UMTS YOUTUBE Success Ratio					
KPIs	Airtel 3G	CWS 3G			
Attempt(Count)	11	7			
Success(Count)	11	6			
Failure(Count)	0	1			
YouTube Access Time (s)	3.27	2.24			
YouTube Average Resolution (pixels)	1050.21	1047.27			
YouTube Success Ratio [%]	100.00	85.71			



Static Point Location 3 - Les Mamelles Health Centre





4G PREFERRED DATA TEST – EXECUTIVE SUMMARY

4G Preferred Data Findings:

- Airtel SFTP DL is (7.38 Mbps), while SFTP UL is (4.90 Mbps), CWS SFTP DL is (8.98 Mbps), while SFTP UL is (2.90 Mbps)
- Airtel HTTP DL is (7.25 Mbps), HTTP Capacity DL is (7.55 Mbps), HTTP UL is (8.55 Mbps), and HTTP Capacity UL is (15.21 Mbps).
- CWS HTTP DL is (11.10 Mbps), HTTP Capacity DL is (38.68 Mbps), HTTP UL is (3.99 Mbps), and HTTP Capacity UL is (9.43 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (6.49s), <u>www.nbs.gov.sc</u> took (17.61s), and <u>www.sbc.sc</u> took (19.44s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (5.23s), <u>www.nbs.gov.sc</u> took (15.17s), and <u>www.sbc.sc</u> took (14.87s) on CWS.
- On static browsing, Kepler Webpage took (4.85s), and Kepler Mobile took (1.93s) on Airtel.
- On static browsing, Kepler Webpage took (4.44s), and Kepler Mobile took (2.68s) on CWS.
- YouTube average resolution in Airtel is (1080.00) pixels.
- YouTube average resolution in CWS is (1080.00) pixels.
- Airtel scored 38.68% in Carrier Aggregation (CA).
- CWS scored 35.29% in Carrier Aggregation (CA).



3G PREFERRED DATA TEST - EXECUTIVE SUMMARY

3G Preferred Data Test Findings:

- Airtel SFTP DL is (4.90 Mbps), while SFTP UL is (1.45 Mbps), CWS SFTP DL is (3.61 Mbps), while SFTP UL is (1.19 Mbps)
- Airtel HTTP DL is (4.83 Mbps), HTTP Capacity DL is (6.94 Mbps), HTTP UL is (2.05 Mbps), and HTTP Capacity UL is (5.05 Mbps).
- CWS HTTP DL is (3.00 Mbps), HTTP Capacity DL is (7.96 Mbps), HTTP UL is (1.92 Mbps), and HTTP Capacity UL is (4.76 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (8.86s), <u>www.nbs.gov.sc</u> took (10.47s), and <u>www.sbc.sc</u> took (17.50s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (9.12s), <u>www.nbs.gov.sc</u> took (7.77s), and <u>www.sbc.sc</u> took (13.60s) on CWS.
- On static browsing, Kepler Webpage took (3.53s), and Kepler Mobile took (1.72s) on Airtel.
- On static browsing, Kepler Webpage took (6.14s), and Kepler Mobile took (2.87s) on CWS.
- YouTube average resolution in Airtel is (1080.00) pixels.
- YouTube average resolution in CWS is (1072.66) pixels.



DRIVE TEST KPI STATISTICS

		3G Preferred			4G Preferred				
	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	4.90	3.61	1	2	7.38	8.98	2	1
~	SFTP UL(Mbps)	1.45	1.19	1	2	4.90	2.90	1	2
ANSFI	HTTP DL(Mbps)	4.83	3.00	1	2	7.25	11.10	2	1
FILE TRANSFER	HTTP UL(Mbps)	2.05	1.92	1	2	8.55	3.99	1	2
置	HTTP Capacity DL(Mbps)	6.94	7.96	2	1	7.55	38.68	2	1
	HTTP Capacity UL(Mbps)	5.05	4.76	1	2	15.21	9.43	1	2
	Overall Browser DL Time (s)	8.42	7.90	2	1	10.21	8.47	2	1
	Kepler Webpage DL Time (s)	3.53	6.14	1	2	4.85	4.44	2	1
BROWSER	Mobile Kepler Webpage DL Time (s)	1.72	2.87	1	2	1.93	2.68	1	2
BRO\	www.shein.com Webpage DL Time (s)	8.86	9.12	1	2	6.49	5.23	2	1
	www.nbs.gov.sc Webpage DL Time (s)	10.47	7.77	2	1	17.61	15.17	2	1
	www.sbc.sc Webpage DL Time (s)	17.50	13.60	2	1	19.44	14.87	2	1
NCY	Avg Latency (ms)	283.00	192.93	2	1	281.06	173.22	2	1
LATENCY	Median Latency (ms)	386.0	194.0	2	1	262.0	182.5	2	1
8E	YouTube Access Time (s)	3.95	1.91	2	1	5.52	1.47	2	1
YOUTUBE	YouTube Average Resolution (pixels)	1080.00	1072.66	1	2	1080.00	1080.00	1	1
γ	YouTube Success Ratio [%]	88.89	80.00	1	2	100.00	100.00	1	1



4G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
CETP DI	Success	12	13	100.00	100.00
SFTP DL	Failure	0	0	0.00	0.00
CETPLII	Success	12	12	100.00	92.31
SFTP UL	Failure	0	1	0.00	7.69
	Success	12	12	100.00	100.00
HTTP DL	Failure	0	0	0.00	0.00
UTTO III	Success	12	12	100.00	100.00
HTTP UL	Failure	0	0	0.00	0.00
UTTD Consoity DI	Success	11	12	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
HTTD Conneith: III	Success	11	12	100.00	100.00
HTTP Capacity UL	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	7.38	8.98	2	1
	SFTP UL(Mbps)	4.90	2.90	1	2
INSFER	HTTP DL(Mbps)	7.25	11.10	2	1
FILE TRANSFER	HTTP UL(Mbps)	8.55	3.99	1	2
	HTTP Capacity DL(Mbps)	7.55	38.68	2	1
	HTTP Capacity UL(Mbps)	15.21	9.43	1	2



4G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Wanla	Success	11	12	100.00	100.00
Kepler	Failure	0	0	0.00	0.00
Mahila Kaulan	Success	10	12	100.00	100.00
Mobile Kepler	Failure	0	0	0.00	0.00
	Success	11	12	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	11	12	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
	Success	11	12	100.00	100.00
www.sbc.sc	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	Overall Browser DL Time (s)	10.21	8.47	2	1
	Kepler Webpage DL Time (s)	4.85	4.44	2	1
VSER	Mobile Kepler Webpage DL Time (s)	1.93	2.68	1	2
BROV	Mobile Kepler Webpage DL Time (s) www.shein.com Webpage DL Time (s)		5.23	2	1
	www.nbs.gov.sc Webpage DL Time (s)	17.61	15.17	2	1
	www.sbc.sc Webpage DL Time (s)	19.44	14.87	2	1



4G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	23	24
	Average Latency [ms]	283.43	176.13
	Median Latency [ms]	276	183
Overall Latency	Ping session status: Successful	23	24
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	415.91	152.75
	Median Latency [ms]	412	153
www.google.co	Ping session status: Successful	11	12
m	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
	Average Latency [ms]	162.00	199.50
	Median Latency [ms]	133	200
102.133.176.104	Ping session status: Successful	12	12
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00

LTE YOUTUBE Success Ratio					
KPIs	Airtel 4G	CWS 4G			
Attempt(Count)	12	12			
Success(Count)	12	12			
Failure(Count)	0	0			
YouTube Access Time (s)	5.52	1.47			
YouTube Average Resolution (pixels)	1080.00	1080.00			
YouTube Success Ratio [%]	100.00	100.00			



3G PREFERRED THROUGHPUT COMPARISON

Test Type	Status	Airtel 3G	CWS 3G	Airtel 3G (%)	CWS 3G (%)
SFTP DL	Success	9	8	100.00	100.00
SFIP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	8	7	88.89	87.50
SFIP OL	Failure	1	1	11.11	12.50
	Success	9	8	100.00	88.89
HTTP DL	Failure	0	1	0.00	11.11
HTTP UL	Success	9	8	90.00	80.00
HITPOL	Failure	1	2	10.00	20.00
UTTD Conneity DI	Success	8	9	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
HTTD Canacity III	Success	8	6	88.89	66.67
HTTP Capacity UL	Failure	1	3	11.11	33.33

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	SFTP DL (Mbps)	4.90	3.61	1	2
	SFTP UL(Mbps)	1.45	1.19	1	2
INSFER	HTTP DL(Mbps)	4.83	3.00	1	2
FILE TRANSFER	HTTP UL(Mbps)	2.05	1.92	1	2
_	HTTP Capacity DL(Mbps)	6.94	7.96	2	1
	HTTP Capacity UL(Mbps)	5.05	4.76	1	2



3G PREFERRED BROWSING COMPARISON

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Waylay	Success	8	10	100.00	100.00
Kepler	Failure	0	0	0.00	0.00
Mobile Kepler	Success	8	10	100.00	100.00
	Failure	0	0	0.00	0.00
www.shein.com	Success	9	10	100.00	100.00
	Failure	0	0	0.00	0.00
www.nbs.gov.sc	Success	8	10	100.00	100.00
	Failure	0	0	0.00	0.00
www.sbc.sc	Success	8	10	100.00	100.00
	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
BROWSER	Overall Browser DL Time (s)	8.42	7.90	2	1
	Kepler Webpage DL Time (s)	3.53	6.14	1	2
	Mobile Kepler Webpage DL Time (s)	1.72	2.87	1	2
	www.shein.com Webpage DL Time (s)	8.86	9.12	1	2
	www.nbs.gov.sc Webpage DL Time (s)	10.47	7.77	2	1
	www.sbc.sc Webpage DL Time (s)	17.50	13.60	2	1



3G PREFERRED LATENCY & YOUTUBE COMPARISON

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	12	15
Overall Latency	Average Latency [ms]	372.25	190.73
	Median Latency [ms]	405	195
	Ping session status: Successful	12	15
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	5	3
	Packet Loss<1%	29.41	16.67
www.google.com	Average Latency [ms]	418.13	143.14
	Median Latency [ms]	409	138
	Ping session status: Successful	8	7
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	2
	Packet Loss<1%	0.00	22.22
102.133.176.104	Average Latency [ms]	280.50	232.38
	Median Latency [ms]	245	208
	Ping session status: Successful	4	8
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	5	1
	Packet Loss<1%	55.56	11.11

UMTS YOUTUBE Success Ratio				
KPIs	Airtel 3G	CWS 3G		
Attempt(Count)	9	10		
Success(Count)	8	8		
Failure(Count)	1	2		
YouTube Access Time (s)	3.95	1.91		
YouTube Average Resolution (pixels)	1080.00	1072.66		
YouTube Success Ratio [%]	88.89	80.00		



THANKS