



## **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 Perseverance**





# **Static Point Location 1 - Farish Family Mart**





#### **4G PREFERRED DATA TEST – EXECUTIVE SUMMARY**

#### **4G Preferred Data Findings:**

- Airtel SFTP DL is (6.86 Mbps), while SFTP UL is (7.65 Mbps), CWS SFTP DL is (8.78 Mbps), while SFTP UL is (2.87 Mbps)
- Airtel HTTP DL is (9.36 Mbps), HTTP Capacity DL is (7.50 Mbps), HTTP UL is (12.49 Mbps), and HTTP Capacity UL is (19.70 Mbps).
- CWS HTTP DL is (9.93 Mbps), HTTP Capacity DL is (34.70 Mbps), HTTP UL is (3.72 Mbps), and HTTP Capacity UL is (9.89 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (7.56s), <u>www.nbs.gov.sc</u> took (17.37s), and <u>www.sbc.sc</u> took (16.32s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (6.01s), <u>www.nbs.gov.sc</u> took (16.65s), and <u>www.sbc.sc</u> took (13.01s) on CWS.
- On static browsing, Kepler Webpage took (4.10s), and Kepler Mobile took (1.70s) on Airtel.
- On static browsing, Kepler Webpage took (4.28s), and Kepler Mobile took (2.66s) on CWS.
- YouTube average resolution in Airtel is (1005.45) pixels.
- YouTube average resolution in CWS is (1040.05) pixels.
- Airtel scored 25.00% in Carrier Aggregation (CA).
- CWS scored 25.00% in Carrier Aggregation (CA).



#### **3G PREFERRED DATA TEST - EXECUTIVE SUMMARY**

#### **3G Preferred Data Test Findings:**

- Airtel SFTP DL is (6.22 Mbps), while SFTP UL is (2.36 Mbps), CWS SFTP DL is (4.02 Mbps), while SFTP UL is (1.03 Mbps)
- Airtel HTTP DL is (6.58 Mbps), HTTP Capacity DL is (9.69 Mbps), HTTP UL is (3.61 Mbps), and HTTP Capacity UL is (6.65 Mbps).
- CWS HTTP DL is (2.90 Mbps), HTTP Capacity DL is (6.98 Mbps), HTTP UL is (1.73 Mbps), and HTTP Capacity UL is (4.69 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (8.66s), <u>www.nbs.gov.sc</u> took (10.59s), and <u>www.sbc.sc</u> took (8.56s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (8.38s), <u>www.nbs.gov.sc</u> took (7.92s), and <u>www.sbc.sc</u> took (8.50s) on CWS.
- On static browsing, Kepler Webpage took (3.10s), and Kepler Mobile took (1.43s) on Airtel.
- On static browsing, Kepler Webpage took (4.79s), and Kepler Mobile took (2.24s) on CWS.
- YouTube average resolution in Airtel is (1047.27) pixels.
- YouTube average resolution in CWS is (1032.44) 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)	6.22	4.02	1	2	6.86	8.78	2	1
<b>K</b>	SFTP UL(Mbps)	2.36	1.03	1	2	7.65	2.87	1	2
ANSFI	HTTP DL(Mbps)	6.58	2.90	1	2	9.36	9.93	2	1
FILE TRANSFER	HTTP UL(Mbps)	3.61	1.73	1	2	12.49	3.72	1	2
置	HTTP Capacity DL(Mbps)	9.69	6.98	1	2	7.50	34.70	2	1
	HTTP Capacity UL(Mbps)	6.65	4.69	1	2	19.70	9.89	1	2
	Overall Browser DL Time (s)	6.46	6.36	2	1	9.49	8.52	2	1
	Kepler Webpage DL Time (s)	3.10	4.79	1	2	4.10	4.28	1	2
BROWSER	Mobile Kepler Webpage DL Time (s)	1.43	2.24	1	2	1.70	2.66	1	2
BROV	www.shein.com Webpage DL Time (s)	8.66	8.38	2	1	7.56	6.01	2	1
	www.nbs.gov.sc Webpage DL Time (s)	10.59	7.92	2	1	17.37	16.65	2	1
	www.sbc.sc Webpage DL Time (s)	8.56	8.50	2	1	16.32	13.01	2	1
LATENCY	Avg Latency (ms)	276.56	179.37	2	1	262.25	173.05	2	1
LATE	Median Latency (ms)	392	193	2	1	266	191	2	1
BE	YouTube Access Time (s)	3.13	1.85	2	1	5.50	1.47	2	1
YOUTUBE	YouTube Average Resolution (pixels)	1047.27	1032.44	1	2	1005.45	1040.05	2	1
YO	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 (%)
CETP DI	Success	12	12	100.00	100.00
SFTP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	12	12	100.00	100.00
SFIP OL	Failure	0	0	0.00	0.00
HTTP DL	Success	12	12	100.00	100.00
HIIP DL	Failure	0	0	0.00	0.00
HTTP UL	Success	12	12	100.00	100.00
HIIPOL	Failure	0	0	0.00	0.00
HTTP Capacity DL	Success	12	12	100.00	100.00
HITE Capacity DE	Failure	0	0	0.00	0.00
HTTD Canacity III	Success	12	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)	6.86	8.78	2	1
	SFTP UL(Mbps)	7.65	2.87	1	2
ANSFER	HTTP DL(Mbps)	9.36	9.93	2	1
FILE TRANSFER	HTTP UL(Mbps)	12.49	3.72	1	2
	HTTP Capacity DL(Mbps)	7.50	34.70	2	1
	HTTP Capacity UL(Mbps)	19.70	9.89	1	2



#### **4G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Vanlar	Success	11	12	91.67	100.00
Kepler	Failure	1	0	8.33	0.00
Mahila Kanlar	Success	12	12	100.00	100.00
Mobile Kepler	Failure	0	0	0.00	0.00
	Success	12	12	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	12	12	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
	Success	12	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)	9.49	8.52	2	1
	Kepler Webpage DL Time (s)	4.10	4.28	1	2
BROWSER	Mobile Kepler Webpage DL Time (s)	1.70	2.66	1	2
	www.shein.com Webpage DL Time (s)	7.56	6.01	2	1
	www.nbs.gov.sc Webpage DL Time (s)	17.37	16.65	2	1
	www.sbc.sc Webpage DL Time (s)	16.32	13.01	2	1



#### **4G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	24	24
	Average Latency [ms]	256.67	175.29
	Median Latency [ms]	256	191
Overall Latency	Average Latency [ms]  Median Latency [ms]  Ping session status: Successful  Ping session status: Failed [Socket error]  Ping session status: Failed [Protocol error timeout]  Packet Loss<1%  Average Latency [ms]  Median Latency [ms]  Ping session status: Successful  Ping session status: Failed [Socket error]  Ping session status: Failed [Protocol error timeout]  Packet Loss<1%  Average Latency [ms]  Median Latency [ms]  Median Latency [ms]  Median Latency [ms]  Ping session status: Successful  Ping session status: Successful  Ping session status: Successful  Ping session status: Failed [Socket error]	24	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]	391.17	150.25
	Median Latency [ms]	390	146
	Ping session status: Successful	12	12
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]	122.17	200.33
	Median Latency [ms]	124	195
102 122 176 104	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 Data 4G	CWS Data 4G					
Attempt(Count)	14	10					
Success(Count)	14	10					
Failure(Count)	0	0					
YouTube Access Time (s)	5.50	1.47					
YouTube Average Resolution (pixels)	1005.45	1040.05					
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	11	11	100.00	100.00
SFIP DL	Failure	0	0	0.00	0.00
CETD III	Success	11	11	100.00	100.00
SFTP UL	Failure	0	0	0.00	0.00
HTTP DL	Success	11	11	100.00	100.00
HITPDL	Failure	0	0	0.00	0.00
HTTP UL	Success	11	11	100.00	100.00
HIIPOL	Failure	0	0	0.00	0.00
LITTO Consoits DI	Success	11	10	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
LITTE Compains III	Success	10	10	100.00	100.00
HTTP Capacity UL	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	SFTP DL (Mbps)	6.22	4.02	1	2
FILE TRANSFER	SFTP UL(Mbps)	2.36	1.03	1	2
	HTTP DL(Mbps)	6.58	2.90	1	2
	HTTP UL(Mbps)	3.61	1.73	1	2
	HTTP Capacity DL(Mbps)	9.69	6.98	1	2
	HTTP Capacity UL(Mbps)	6.65	4.69	1	2



## **3G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Vanlor	Success	11	10	100.00	100.00
Kepler	Failure	0	0	0.00	0.00
Mobile Kepler	Success	11	10	100.00	100.00
	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.sbc.sc	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	Overall Browser DL Time (s)	6.46	6.36	2	1
	Kepler Webpage DL Time (s)	3.10	4.79	1	2
VSER	Mobile Kepler Webpage DL Time (s)	1.43	2.24	1	2
BROWSER	www.shein.com Webpage DL Time (s)	8.66	8.38	2	1
	www.nbs.gov.sc Webpage DL Time (s)	10.59	7.92	2	1
	www.sbc.sc Webpage DL Time (s)	8.56	8.50	2	1



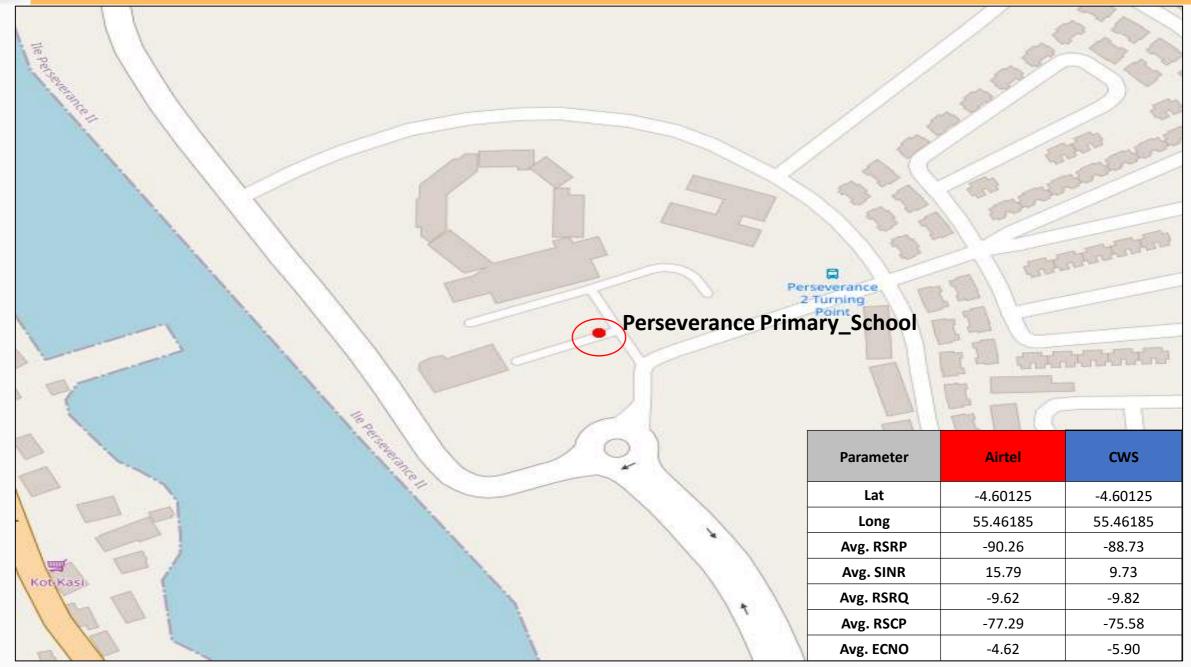
#### **3G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	12	18
	Average Latency [ms]	388.50	176.89
	Median Latency [ms]	404	155
Overall Latency	Ping session status: Successful	12	18
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	10	3
	Packet Loss<1%	45.45	14.29
	Average Latency [ms]	404.27	142.90
	Median Latency [ms]	404	139
www.google.com	Ping session status: Successful	11	10
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]	215.00	219.38
	Median Latency [ms]	215	199
102.133.176.104	Ping session status: Successful	1	8
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	10	3
	Packet Loss<1%	90.91	27.27

UMTS YOUTUBE Success Ratio					
KPIs	Airtel 3G	CWS 3G			
Attempt(Count)	12	11			
Success(Count)	12	11			
Failure(Count)	0	0			
YouTube Access Time (s)	3.13	1.85			
YouTube Average Resolution (pixels)	1047.27	1032.44			
YouTube Success Ratio [%]	100.00	100.00			



## **Static Point Location 2 - Perseverance Primary\_School**





#### **4G PREFERRED DATA TEST – EXECUTIVE SUMMARY**

#### **4G Preferred Data Findings:**

- Airtel SFTP DL is (11.99 Mbps), while SFTP UL is (7.78 Mbps), CWS SFTP DL is (4.06 Mbps), while SFTP UL is (3.28 Mbps)
- Airtel HTTP DL is (13.54 Mbps), HTTP Capacity DL is (18.48 Mbps), HTTP UL is (13.36 Mbps), and HTTP Capacity UL is (21.44 Mbps).
- CWS HTTP DL is (4.21 Mbps), HTTP Capacity DL is (4.93 Mbps), HTTP UL is (5.58 Mbps), and HTTP Capacity UL is (16.06 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (7.03s), <u>www.nbs.gov.sc</u> took (16.92s), and <u>www.sbc.sc</u> took (15.11s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (14.18s), <u>www.nbs.gov.sc</u> took (18.32s), and <u>www.sbc.sc</u> took (15.40s) on CWS.
- On static browsing, Kepler Webpage took (3.80s), and Kepler Mobile took (1.63s) on Airtel.
- On static browsing, Kepler Webpage took (5.43s), and Kepler Mobile took (2.86s) on CWS.
- YouTube average resolution in Airtel is (1048.83) pixels.
- YouTube average resolution in CWS is (910.59) pixels.
- Airtel scored 100.00% in Carrier Aggregation (CA).
- CWS scored 15.79% in Carrier Aggregation (CA).



#### **3G PREFERRED DATA TEST - EXECUTIVE SUMMARY**

#### **3G Preferred Data Test Findings:**

- Airtel SFTP DL is (7.95 Mbps), while SFTP UL is (2.32 Mbps), CWS SFTP DL is (3.29 Mbps), while SFTP UL is (0.83 Mbps)
- Airtel HTTP DL is (8.33 Mbps), HTTP Capacity DL is (12.81 Mbps), HTTP UL is (3.56 Mbps), and HTTP Capacity UL is (6.59 Mbps).
- CWS HTTP DL is (3.26 Mbps), HTTP Capacity DL is (13.11 Mbps), HTTP UL is (1.30 Mbps), and HTTP Capacity UL is (4.39 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (7.56s), <u>www.nbs.gov.sc</u> took (10.36s), and <u>www.sbc.sc</u> took (8.34s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (7.52s), <u>www.nbs.gov.sc</u> took (7.74s), and <u>www.sbc.sc</u> took (8.30s) on CWS.
- On static browsing, Kepler Webpage took (3.11s), and Kepler Mobile took (1.38s) on Airtel.
- On static browsing, Kepler Webpage took (4.85s), and Kepler Mobile took (2.30s) on CWS.
- YouTube average resolution in Airtel is (1046.32) pixels.
- YouTube average resolution in CWS is (1047.18) pixels.



## **DRIVE TEST KPI STATISTICS**

		3G Preferred					4G Pre	eferred	
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)	7.95	3.29	1	2	11.99	4.06	1	2
<b>8</b>	SFTP UL(Mbps)	2.32	0.83	1	2	7.78	3.28	1	2
ANSFI	HTTP DL(Mbps)	8.33	3.26	1	2	13.54	4.21	1	2
FILE TRANSFER	HTTP UL(Mbps)	3.56	1.30	1	2	13.36	5.58	1	2
置	HTTP Capacity DL(Mbps)	12.81	13.11	2	1	18.48	4.93	1	2
	HTTP Capacity UL(Mbps)	6.59	4.39	1	2	21.44	16.06	1	2
	Overall Browser DL Time (s)	6.23	6.14	2	1	8.97	11.17	1	2
	Kepler Webpage DL Time (s)	3.11	4.85	1	2	3.80	5.43	1	2
BROWSER	Mobile Kepler Webpage DL Time (s)	1.38	2.30	1	2	1.63	2.86	1	2
BROV	www.shein.com Webpage DL Time (s)	7.56	7.52	2	1	7.03	14.18	1	2
	www.nbs.gov.sc Webpage DL Time (s)	10.36	7.74	2	1	16.92	18.32	1	2
	www.sbc.sc Webpage DL Time (s)	8.34	8.30	2	1	15.11	15.40	1	2
LATENCY	Avg Latency (ms)	275.89	175.13	2	1	251.90	301.67	1	2
LATE	Median Latency (ms)	392	195	2	1	132	251	1	2
3E	YouTube Access Time (s)	2.93	1.74	2	1	5.19	2.55	2	1
YOUTUBE	YouTube Average Resolution (pixels)	1046.32	1047.18	2	1	1048.83	910.59	1	2
Α	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 (%)
	Success	14	11	100.00	100.00
SFTP DL	Failure	0	0	0.00	0.00
SFTP UL	Success	14	11	100.00	100.00
SFIP OL	Failure	0	0	0.00	0.00
HTTP DL	Success	14	10	100.00	90.91
	Failure	0	1	0.00	9.09
HTTP UL	Success	14	10	100.00	100.00
HIIPOL	Failure	0	0	0.00	0.00
HTTD Canacity DI	Success	13	10	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
HTTD Composite III	Success	13	10	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)	11.99	4.06	1	2
	SFTP UL(Mbps)	7.78	3.28	1	2
FILE TRANSFER	HTTP DL(Mbps)	13.54	4.21	1	2
FILE TR/	HTTP UL(Mbps)	13.36	5.58	1	2
	HTTP Capacity DL(Mbps)	18.48	4.93	1	2
	HTTP Capacity UL(Mbps)	21.44	16.06	1	2



## **4G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Kepler	Success	12	10	92.31	100.00
	Failure	1	0	7.69	0.00
Mobile Kepler	Success	13	10	100.00	100.00
	Failure	0	0	0.00	0.00
	Success	13	9	100.00	90.00
www.shein.com	Failure	0	1	0.00	10.00
	Success	13	10	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
www.sbc.sc	Success	13	10	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)	8.97	11.17	1	2
	Kepler Webpage DL Time (s)	3.80	5.43	1	2
VSER	Mobile Kepler Webpage DL Time (s)	1.63	2.86	1	2
BROWSER	www.shein.com Webpage DL Time (s)	7.03	14.18	1	2
	www.nbs.gov.sc Webpage DL Time (s)	16.92	18.32	1	2
	www.sbc.sc Webpage DL Time (s)	15.11	15.40	1	2



#### **4G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	27	19
	Average Latency [ms]	248.74	303.00
	Median Latency [ms]	135	251
Overall Latency	Ping session status: Successful	27	19
	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]	387.62	277.11
	Median Latency [ms]	387	231
	Ping session status: Successful	13	9
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]	119.79	326.30
	Median Latency [ms]	118	290
102.133.176.104	Ping session status: Successful	14	10
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00

Latency	250ms

LTE YOUTUBE Success Ratio					
KPIs	Airtel Data 4G	CWS Data 4G			
Attempt(Count)	14	10			
Success(Count)	14	10			
Failure(Count)	0	0			
YouTube Access Time (s)	5.19	2.55			
YouTube Average Resolution (pixels)	1048.83	910.59			
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	12	11	100.00	100.00
SFIP DL	Failure	0	0	0.00	0.00
CETD III	Success	12	11	100.00	100.00
SFTP UL	Failure	0	0	0.00	0.00
HTTP DL	Success	12	11	100.00	100.00
	Failure	0	0	0.00	0.00
LITTO LIL	Success	12	11	100.00	100.00
HTTP UL	Failure	0	0	0.00	0.00
LITTO Compains DI	Success	11	11	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
	Success	11	11	100.00	100.00
HTTP Capacity UL	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	SFTP DL (Mbps)	7.95	3.29	1	2
	SFTP UL(Mbps)	2.32	0.83	1	2
ANSFER	HTTP DL(Mbps)	8.33	3.26	1	2
FILE TRANSFER	HTTP UL(Mbps)	3.56	1.30	1	2
	HTTP Capacity DL(Mbps)	12.81	13.11	2	1
	HTTP Capacity UL(Mbps)	6.59	4.39	1	2



## **3G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Vanlas	Success	12	11	100.00	100.00
Kepler	Failure	0	0	0.00	0.00
Mobile Kepler	Success	11	11	100.00	100.00
	Failure	0	0	0.00	0.00
	Success	12	11	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	12	11	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
www.sbc.sc	Success	12	11	100.00	100.00
	Failure	0	0	0.00	0.00

	DATA Scenario	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
	Overall Browser DL Time (s)	6.23	6.14	2	1
BROWSER	Kepler Webpage DL Time (s)	3.11	4.85	1	2
	Mobile Kepler Webpage DL Time (s)	1.38	2.30	1	2
	www.shein.com Webpage DL Time (s)	7.56	7.52	2	1
	www.nbs.gov.sc Webpage DL Time (s)	10.36	7.74	2	1
	www.sbc.sc Webpage DL Time (s)	8.34	8.30	2	1



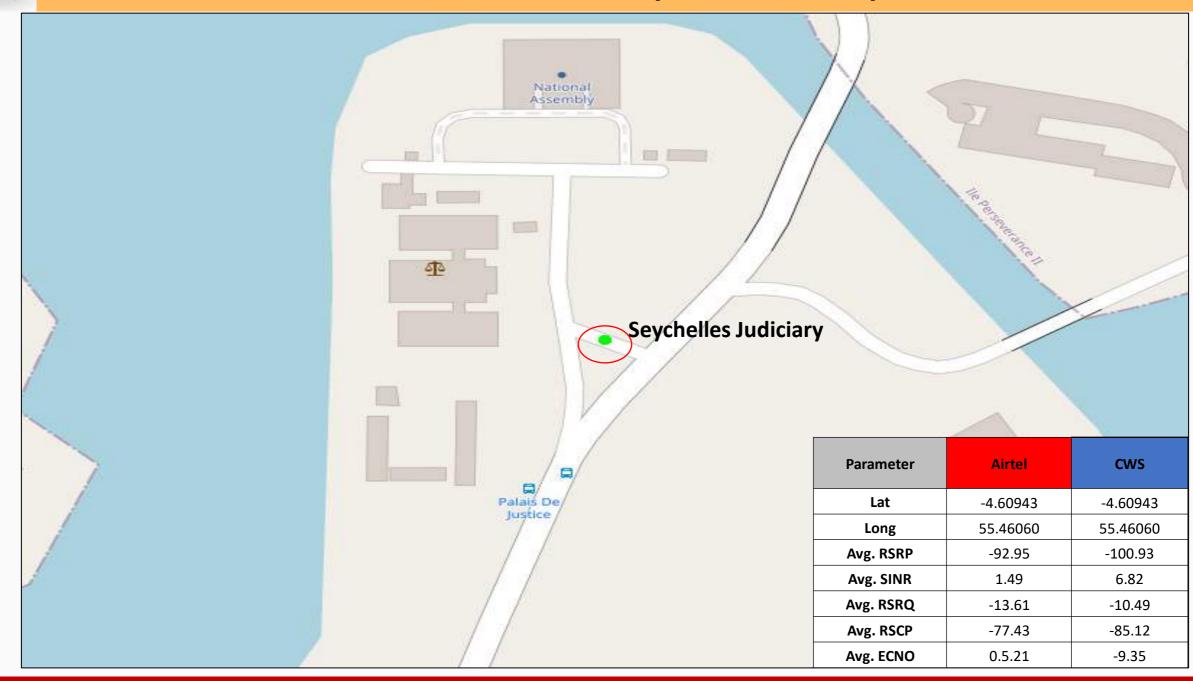
#### **3G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	12	22
	Average Latency [ms]	393.00	176.59
	Median Latency [ms]	407	182
Overall Latency	Ping session status: Successful	12	22
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	11	0
	Packet Loss<1%	47.83	0.00
	Average Latency [ms]	416.64	144.55
	Median Latency [ms]	414	140
www.google.com	Ping session status: Successful	11	11
	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]	133.00	208.64
	Median Latency [ms]	133	211
102.133.176.104	Ping session status: Successful	1	11
102.133.170.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	11	0
	Packet Loss<1%	91.67	0.00

UMTS YOUTUBE Success Ratio					
KPIs	Airtel 3G	CWS 3G			
Attempt(Count)	12	11			
Success(Count)	12	11			
Failure(Count)	0	0			
YouTube Access Time (s)	2.93	1.74			
YouTube Average Resolution (pixels)	1046.32	1047.18			
YouTube Success Ratio [%]	100.00	100.00			



# **Static Point Location 3 - Seychelles Judiciary**





#### **4G PREFERRED DATA TEST – EXECUTIVE SUMMARY**

#### **4G Preferred Data Findings:**

- Airtel SFTP DL is (3.29 Mbps), while SFTP UL is (5.27 Mbps), CWS SFTP DL is (8.19 Mbps), while SFTP UL is (2.52 Mbps)
- Airtel HTTP DL is (5.06 Mbps), HTTP Capacity DL is (8.17 Mbps), HTTP UL is (8.02 Mbps), and HTTP Capacity UL is (11.54 Mbps).
- CWS HTTP DL is (8.94 Mbps), HTTP Capacity DL is (24.53 Mbps), HTTP UL is (3.25 Mbps), and HTTP Capacity UL is (8.29 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (7.91s), <u>www.nbs.gov.sc</u> took (17.80s), and <u>www.sbc.sc</u> took (18.27s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (6.64s), <u>www.nbs.gov.sc</u> took (15.86s), and <u>www.sbc.sc</u> took (11.84s) on CWS.
- On static browsing, Kepler Webpage took (4.42s), and Kepler Mobile took (1.77s) on Airtel.
- On static browsing, Kepler Webpage took (4.34s), and Kepler Mobile took (2.62s) on CWS.
- YouTube average resolution in Airtel is (1034.44) pixels.
- YouTube average resolution in CWS is (1040.96) pixels.
- Airtel scored 50.00% in Carrier Aggregation (CA).
- CWS scored 100.00% in Carrier Aggregation (CA).



#### **3G PREFERRED DATA TEST - EXECUTIVE SUMMARY**

#### **3G Preferred Data Test Findings:**

- Airtel SFTP DL is (6.75 Mbps), while SFTP UL is (2.30 Mbps), CWS SFTP DL is (3.82 Mbps), while SFTP UL is (1.14 Mbps)
- Airtel HTTP DL is (6.35 Mbps), HTTP Capacity DL is (9.86 Mbps), HTTP UL is (3.50 Mbps), and HTTP Capacity UL is (6.29 Mbps).
- CWS HTTP DL is (2.91 Mbps), HTTP Capacity DL is (8.63 Mbps), HTTP UL is (2.37 Mbps), and HTTP Capacity UL is (5.36 Mbps).
- On live web page testing for browsing, <u>www.shein.com</u> took (8.40s), <u>www.nbs.gov.sc</u> took (10.48s), and <u>www.sbc.sc</u> took (9.15s) on Airtel.
- On live web page testing for browsing, <u>www.shein.com</u> took (8.97s), <u>www.nbs.gov.sc</u> took (8.02s), and <u>www.sbc.sc</u> took (8.22s) on CWS.
- On static browsing, Kepler Webpage took (3.16s), and Kepler Mobile took (1.52s) on Airtel.
- On static browsing, Kepler Webpage took (5.49s), and Kepler Mobile took (2.42s) on CWS.
- YouTube average resolution in Airtel is (1046.28) pixels.
- YouTube average resolution in CWS is (1044.30) 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)	6.75	3.82	1	2	3.29	8.19	2	1
<b>~</b>	SFTP UL(Mbps)	2.30	1.14	1	2	5.27	2.52	1	2
ANSFI	HTTP DL(Mbps)	6.35	2.91	1	2	5.06	8.94	2	1
FILE TRANSFER	HTTP UL(Mbps)	3.50	2.37	1	2	8.02	3.25	1	2
臣	HTTP Capacity DL(Mbps)	9.86	8.63	1	2	8.17	24.53	2	1
	HTTP Capacity UL(Mbps)	6.29	5.36	1	2	11.54	8.29	1	2
	Overall Browser DL Time (s)	6.54	6.62	1	2	10.40	8.25	2	1
	Kepler Webpage DL Time (s)	3.16	5.49	1	2	4.42	4.34	2	1
BROWSER	Mobile Kepler Webpage DL Time (s)	1.52	2.42	1	2	1.77	2.62	1	2
BROV	www.shein.com Webpage DL Time (s)	8.40	8.97	1	2	7.91	6.64	2	1
	www.nbs.gov.sc Webpage DL Time (s)	10.48	8.02	2	1	17.80	15.86	2	1
	www.sbc.sc Webpage DL Time (s)	9.15	8.22	2	1	18.27	11.84	2	1
LATENCY	Avg Latency (ms)	275.06	199.90	2	1	268.68	170.73	2	1
LATE	Median Latency (ms)	392	195	2	1	345	179	2	1
3E	YouTube Access Time (s)	3.14	1.81	2	1	5.61	1.49	2	1
YOUTUBE	YouTube Average Resolution (pixels)	1046.28	1044.30	1	2	1034.44	1040.96	2	1
λ	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	11	12	100.00	100.00
SEIP DE	Failure	0	0	0.00	0.00
SFTP UL	Success	11	12	100.00	100.00
SFIP OL	Failure	0	0	0.00	0.00
HTTP DL	Success	11	12	100.00	100.00
HIIP DL	Failure	0	0	0.00	0.00
HTTPHH	Success	11	12	100.00	100.00
HTTP UL	Failure	0	0	0.00	0.00
HTTP Capacity DL	Success	10	12	100.00	100.00
HITP Capacity DE	Failure	0	0	0.00	0.00
HTTD Consider III	Success	10	10	100.00	90.91
HTTP Capacity UL	Failure	0	1	0.00	9.09

	DATA Scenario	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
	SFTP DL (Mbps)	3.29	8.19	2	1
	SFTP UL(Mbps)	5.27	2.52	1	2
FILE TRANSFER	HTTP DL(Mbps)	5.06	8.94	2	1
FILE TR/	HTTP UL(Mbps)	8.02	3.25	1	2
	HTTP Capacity DL(Mbps)	8.17	24.53	2	1
	HTTP Capacity UL(Mbps)	11.54	8.29	1	2



#### **4G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Vanlar	Success	9	12	81.82	100.00
Kepler	Failure	2	0	18.18	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
www.sbc.sc	Success	11	12	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)	10.40	8.25	2	1
	Kepler Webpage DL Time (s)	4.42	4.34	2	1
VSER	Mobile Kepler Webpage DL Time (s)	1.77	2.62	1	2
BROWSER	www.shein.com Webpage DL Time (s)	7.91	6.64	2	1
	www.nbs.gov.sc Webpage DL Time (s)	17.80	15.86	2	1
	www.sbc.sc Webpage DL Time (s)	18.27	11.84	2	1



#### **4G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 4G	CWS 4G
	Sample Count [32 bytes]	20	24
	Average Latency [ms]	263.05	171.63
	Median Latency [ms]	265	176
Overall Latency	Ping session status: Successful	20	24
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	0
	Packet Loss<1%	4.76	0.00
	Average Latency [ms]	400.00	146.33
	Median Latency [ms]	401	143
	Ping session status: Successful	10	12
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]	126.10	196.92
	Median Latency [ms]	126	194
102.133.176.104	Ping session status: Successful	10	12
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	0
	Packet Loss<1%	9.09	0.00

Latency 250ms

LTE YOUTUBE Success Ratio						
KPIs	Airtel Data 4G	CWS Data 4G				
Attempt(Count)	11	12				
Success(Count)	11	12				
Failure(Count)	0	0				
YouTube Access Time (s)	5.61	1.49				
YouTube Average Resolution (pixels)	1034.44	1040.96				
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	11	11	100.00	100.00
SFIP DL	Failure	0	0	0.00	0.00
CETD III	Success	11	10	100.00	90.91
SFTP UL	Failure	0	1	0.00	9.09
	Success	11	11	100.00	100.00
HTTP DL	Failure	0	0	0.00	0.00
11770 111	Success	11	11	100.00	100.00
HTTP UL	Failure	0	0	0.00	0.00
LITTO Compains DI	Success	11	10	100.00	100.00
HTTP Capacity DL	Failure	0	0	0.00	0.00
LITTO Compains III	Success	10	10	100.00	100.00
HTTP Capacity UL	Failure	0	0	0.00	0.00

DATA Scenario		Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
FILE TRANSFER	SFTP DL (Mbps)	6.75	3.82	1	2
	SFTP UL(Mbps)	2.30	1.14	1	2
	HTTP DL(Mbps)	6.35	2.91	1	2
	HTTP UL(Mbps)	3.50	2.37	1	2
	HTTP Capacity DL(Mbps)	9.86	8.63	1	2
	HTTP Capacity UL(Mbps)	6.29	5.36	1	2



## **3G PREFERRED BROWSING COMPARISON**

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Vanlor	Success	11	10	100.00	90.91
Kepler	Failure	0	1	0.00	9.09
Mahila Kanlan	Success	11	10	100.00	100.00
Mobile Kepler	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.shein.com	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.nbs.gov.sc	Failure	0	0	0.00	0.00
	Success	11	10	100.00	100.00
www.sbc.sc	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)	6.54	6.62	1	2
	Kepler Webpage DL Time (s)	3.16	5.49	1	2
	Mobile Kepler Webpage DL Time (s)	1.52	2.42	1	2
	www.shein.com Webpage DL Time (s)	8.40	8.97	1	2
	www.nbs.gov.sc Webpage DL Time (s)	10.48	8.02	2	1
	www.sbc.sc Webpage DL Time (s)	9.15	8.22	2	1



#### **3G PREFERRED LATENCY & YOUTUBE COMPARISON**

	Latency KPIs	Airtel 3G	CWS 3G
	Sample Count [32 bytes]	15	21
	Average Latency [ms]	335.47	207.19
	Median Latency [ms]	404	197
Overall Latency	Ping session status: Successful	15	21
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	7	0
	Packet Loss<1%	31.82	0.00
	Average Latency [ms]	406.18	140.30
	Median Latency [ms]	409	139
	Ping session status: Successful	11	10
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]	141.00	268.00
	Median Latency [ms]	144	212
102.133.176.104	Ping session status: Successful	4	11
102.133.176.104	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	7	0
	Packet Loss<1%	63.64	0.00

UMTS YOUTUBE Success Ratio				
KPIs	Airtel 3G	CWS 3G		
Attempt(Count)	11	11		
Success(Count)	11	11		
Failure(Count)	0	0		
YouTube Access Time (s)	3.14	1.81		
YouTube Average Resolution (pixels)	1046.28	1044.30		
YouTube Success Ratio [%]	100.00	100.00		



# **THANKS**