viSer solution data sheet

Version 1.2

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1. Introduction

viSer solution gathers 3 main features :

- Generation of Smartphone usage through :
  - User Actions integrated into some scenario
  - Replay of User Interactions sequences (recorded with viSer Replay)

- Continuous Monitoring of Smartphone environment :
  - Network condition
  - Device status

- Computing and visualisation of KPI and trends

2. User Actions

Call Related tests	Main parameters
MO Call	Number to call, call duration, csfb/fr2lte detection, hangup condition, sim
MT Call	Call filter, Call duration, hangup call condition, sim
End Call	Call id
Call Hold	Call id
Call Swap	NA
Merge calls	NA
Split Calls	Call id
Reject Call	Call filter, time to reject, sim
Hold calls	Hold/Unhold, Call Id
Send DTMF	DTMF sequence
USSD	USSD sequence

Data related tests	Main parameters
Web browsing	URL, loading timeout, scroll, screenshot
FTP transfer UL/DL/BiDir	Server, direction, files, timeout, end condition
http transfer UL/DL/BiDir	Server, direction, files, timeout, end condition
FTP speedtest	Server, direction, files, timeout, end condition
http speedtest	Server, direction, files, timeout, end condition
Ping	URL, count, timeout, Packet size
Iperf3	Server, duration, port, stream, udp, tpc, options, timeout
Get Ip Status	NA
http request	Label, method, URL
Open URL	URL
Video streaming	Source URI, Loop, Playing time, screen orientation, Loading timeout
Youtube	Source URI, Loop, Playing time, screen orientation, Loading timeout, KPI's

Messaging related tests	Main parameters
MO SMS	Phone number, text, sim, timeout
MT SMS	Phone number filter, sim, timeout, number to receive
MO MMS	Phone number, text, content, sim, timeout
MT MMS	Phone number filter, sim, timeout, number to receive
MO email	Email addresses, timeout, content
MT email	Timeout, number to receive

Multimedia related tests	Main parameters
Video Game	Game quality, duration
Music Player	Play, Stop, Pause, file to play
Video Player	File, Loop, Playing time, screen orientation
Picture capture	Front, Rear, capture delay, number of pictures
Video Capture	Front, Rear, duration
Screen record	Start, Stop, Name
Screenshot	Name
Media controller	Start, Stop, Pause, Seek to, Backward…..

Connectivity related tests	Main Parameters
Wifi control	Enable, Disable
Wifi scan	NA
Wifi connect/disconnect	SSID, WEP/WPA, Password
Bluetooth control	Enable, Disable
Bluetooth connect/disconnect	Time, bluetooth Id
Wifi Hotspot control *	Enable, Disable
Tethering control *	Enable, Disable, bearer
NFC control *	Enable, Disable

Device related test	Main Parameters
Create contact	Contact parameters
Delete contact	Contact Id
Run Installed application	Application name
Check/wait property	Network operator, operator name, product name, software version, modem version, hardware version, IMEI, IMSI, MSISDN, PS RAT, CS RAT, network interface, service state, long cell id, LAC, mobile data, bluetooth connection, SMS center, signal strength, RSRQ, GPS speed, Call state, precise call state, Alarm, ringtone, Band, Cell Id, battery level, visible sats, used sats, gps accuracy, data activity, data connection state, media player state, RF band, data bearer, IMS registration status, 5G info, NR state
Tap & Swipe	Tap, Swipe, X/Y Coordinates
Change settings	Volumes, Brightness, Screen timeout
Clear notification	NA
SIM Card management *	Data, Call & Messaging
Data control *	Enable, Disable
Airplane mode control *	Enable, Disable
Set preferred network *	2G, 3G, 3G Preferred, 4G/3G/2G, 5G…
APN management *	Create, Delete, Check
Sleep *	Duration
Reboot device *	NA
Inject Key *	Key ID (for instance : up, down, camera, power, line feed….)
Set the system language *	Language ID

Memory related tests	Main Parameters
Get Memory info	NA
Check Memory info	Maximum allocation
Copy/Delete files	Files
Fill the ROM	Target %, Files
Read Write file	File size, buffer size, content
Run Viser Speed Apps	SpeedApp Id, RAM buffer size

Other	Main Parameters
Record a User Sequence	tap, swipe, run application, open panel
Replay a User Sequence	tap, swipe, run application, open panel
Run a program	Command line
Send Intent	Intent parameters

Scheduling	Main Parameters
Pause	Duration, Type
Idle	Duration, Type
Show a message	Message, use as a marker
Set/wait flag	Name, value
If	Flag, User Action status, action
Stop Test Suite	NA
Wait for a battery change	NA

**User Actions which are available upon specific agrement with manufacturer*

3. Continuous monitoring

Network information	2G	3G	4G	5G NSA	Wifi
MCC/MNC	X	X	X	X	
Data Connectivity	X	X	X	X	
Service State	X	X	X	X	
CS RAT	X	X	X	X	
PS RAT	X	X	X	X	
Data Bearer	X	X	X	X	
LAC/TAC	X	X	X		
Long Cell Id	X	X	X		
Cell Id	X	X	X		
RNC		X			
eNodeB id			X		
PSC		X			
PCI			X		
BSIC	X				
RXLev	X				
RSCP		X			
RSRP			X		
RSRQ			X		
CQI			X		
RSSNR			X		
SS RSRP				X	
SS RSRQ				X	
SS SINR				X	
ARFCN	X	X	X	X (Anchor)	
Carrier Agregation		X	X		
NR available				X	
ENDC available				X	
DCRN restricted				X	
NR States				X	
IP throughput UL/DL	X	X	X	X	
Wifi BSSID					X
Wifi signal strength					X
Wifi Channel					X
Wifi band					X

Device information
Call states
Battery level %
Battery voltage
Battery temperature
Location provider
Location (long, lat, altitude, speed, bearing, accuracy,)
Location detected satellites, used satellites
Brightness level
Brightness mode
Ram Max
Ram Used
Screen status
Volumes
Storage Max
Storage Used
Additional information: software version, modem version, number of cores, camera specs, screen size….

4. KPI's

Overall KPI's
Overall Pass Rate %
Pass rate per User Action %
Number of Passed User Actions
Number of Failed User Actions
Execution time
Delta Battery

Call KPI's	2G	3G	4G	5G NSA	Wifi
Call Setup Time (min, max, avg)	X	X	X	X	X
Call Drops (number)	X	X	X	X	X
Call Establishment Failures (numbers)	X	X	X	X	X
Call Failure cause	X	X	X	X	X
Call Distribution	X	X	X	X	X
Audio MOS (Polqa)	X	X	X	X	X
CSFB distribution (3G/2G)			X		
CSFB time			X		
Fast Return to LTE			X		
SRVCC detection (3G/2G)			X		
Fallback to LTE					X
Network KPI's	**2G**	**3G**	**4G**	**5G NSA**	**Wifi**
CS/PS RAT Distribution	X	X	X	X	X
RAT changes	X	X	X		
Data bearer	X	X	X	X	X
Signal strength (min, max, avg)	X	X	X	X	X
Signal quality (min, max, avg)			X	X	
LAC distribution	X	X	X	X (anchor)	
Cell Id distribution	X	X	X	X (anchor	
Data KPI's	**2G**	**3G**	**4G**	**5G NSA**	**Wifi**
Web loading time (min, max, avg)	X	X	X	X	X
Streaming loading time (min, max avg)	X	X	X	X	X
Streaming buffering time (min, max, avg)	X	X	X	X	X
Streaming buffering stops	X	X	X	X	X
Youtube loading time (min, max avg)	X	X	X	X	X
Youtube buffering time (min, max, avg)	X	X	X	X	X
Youtube buffering stops	X	X	X	X	X
Youtube video quality	X	X	X	X	X
Ping RTT	X	X	X	X	X
Ping Packet loss	X	X	X	X	X
FTP DL throughput (min, max, avg)	X	X	X	X	X
FTP UL throughput (min, max, avg)	X	X	X	X	X
http DL throughput (min, max, avg)	X	X	X	X	X
http UL throughput (min, max, avg)	X	X	X	X	X
Time to send SMS	X	X	X	X	X
Time to send MMS	X	X	X	X	X
Time to send mail	X	X	X	X	X
Iperf TCP average throughput	X	X	X	X	X

Iperf UDP average throughput	X	X	X	X	X
Iperf UDP Packet loss	X	X	X	X	X
Iperf UDP Jitter	X	X	X	X	X
Data Stall Rx/Tx (min, max, average)	X	X	X	X	X

Device KPI
Battery delta %
Battery temperature (min, max, average)
Battery voltage (min, max, average)
Gaming FPS (min, max, average)
GPS accuracy (min, max, average)
GPS velocity (min, max, average)
GPS Time to first fix (min, max, average)
GPS Detected sats (min, max, average)
GPS Used sats (min, max, average)
Available memory (min, max, average)
Memory Write Speed (min, max, average)
Memory Read Speed (min, max, average)