APPROVED
By Thilanka Weerasekara at 11:42 am, Jul 05, 2022

Check & improve Abnormal releases in Cluster Optimization (pg 5)

Test Introduction

Test Cases for Drive

No.	Test cases
1	5G FTP and Speedtest DL/UL,Ping,Attach and Deattach,Web Broswing,Voice Call,Idle Mode

Test UE

Test Software	Huawei PHU,Assistant
Test Device	Huawei Mate30 Pro

Test Case Introduction

No.	Type	Content
1	DT FTP/ST Speedtest Download Test	File size is at lease 10GB
2	DT FTP/ST Speedtest Download Test	File size is at lease 10GB
3	ST Ping Test	Confirm Ping test to the local sever succeed in 5 times
4	ST Attach and Deattach Test	Confirm attach and deattach succeed in 5 times
5	ST Web Broswing Test	Confirm web browsing succeed in 5 times
6	ST VoLTE Short Call	Succeed in 5 time
7	Idle Mode Test	Auto mode

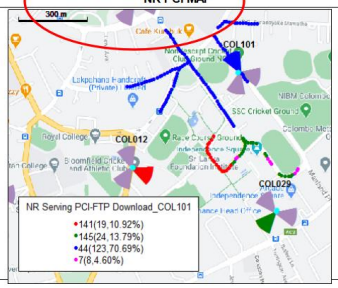
Customer Feedback_V1

Sheet	Section	Parameter	Remark	Feedback
SSV Checklist Report	Site Information	All		Okay
	Site Location on Map	Location		Okay
	Parameter Verification	All		Okay
	Throughput Verification (Static Test)	Sector 3 Parameters		Okay
SSV Test Result	PCI Distribution	NR PCI MAP	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		LTE PCI MAP	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	Static Speed Test Result Distribution	Sector 3 Test Location		Okay
		Sector 3 Throughput		Okay
	DT SSB Result Distribution	SSB Average RSRP	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average RSRP Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average SINR	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average SINR Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	DT MCS Distribution	DL Average MCS	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		DL Average MCS Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Average MCS	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Average MCS Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	DT BLER Distribution	DL Initial BLER	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		DL Initial BLER Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Initial BLER	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Initial BLER Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	DT Rank Distribution	DL Average RANK	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		DL Average RANK Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Average RANK	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		UL Average RANK Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	DT MAC Throughput Distribution	NR DL MAC Throughput	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		NR DL MAC Throughput Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		NR UL MAC Throughput	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		NR UL MAC Throughput Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	Idle Plot	SSB Average RSRP	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average RSRP Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average SINR	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Average SINR Chart	Not enough DT routes in serving sector 3 direction.	Re-DT Required
	Event on Map	NRScellAdd Event	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		NRScellAbnormalRelease	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		NRScellChange Event	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		Normal Release	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		4G Handover Event	Not enough DT routes in serving sector 3 direction.	Re-DT Required
		SSB Distribution	Not enough DT routes in serving sector 3 direction to identify SSB distribution.	Re-DT Required
Speed test Result and Ping	Sector 2	Speedtest Result		Okay
ST Attach and Deattach Test	Sector 2	Attach & Detach Results	Check Attach Detach Average Delay and improve	Optimization Required
Voice Call_VoLTE	Sector 2	Voice Call Parameters	Check Call setup Average Delay. Check for both MOC and MTC scenarios.	Optimization Required
Http Broswing	Sector 2	Browing Parameters		Okay

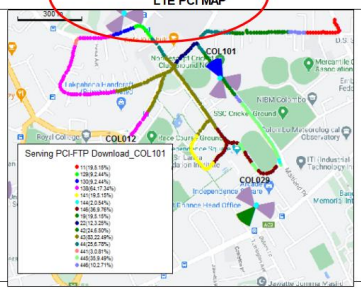
Test Result

PCI Distribution

NR PCI MAP



LTE PCI MAP



NR Single-Site Verification Report

Site Information:

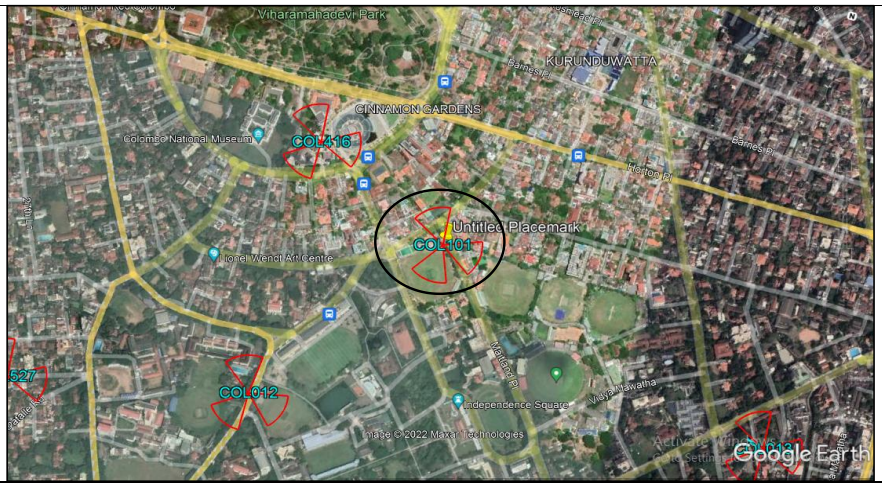
Site Name:	Colombo_Cricket_Club_COL101	Operator:	Mobitel	Date:	2022.06.20
gNodeB ID:	101	Antenna Type:	AAU5639	UE type:	Huawei Mate 30 Pro
eNodeB ID:	101	Antenna hight:	30m		
		Antenna Tilt:	M Tilt: 2/2/2 E Tilt: 8/8/8		

SSV Result Summary

Verification Conclusion	
SSV Result	Pass

Detail Item	Pass or not
DT FTP/ST Speedtest Download Test	Pass
DT FTP/ST Speedtest Download Test	Pass
ST Ping Test Funtion Test	Pass
ST Attach and Deattach Test	Pass
ST Web Broswing Funtion Test	Pass
ST VoLTE	Pass
Idle Mode Test	Pass
4G to 5G NrScell ADD	Pass
5G to 4G SCG Normal Relese	Pass
NR Intra-RAT Handover Funtion Test(NrScellChange event)	Pass

Site Location on Map



Parameter Verification

Item	Planning Data	Actual Configured	Pass or Not
Longitude	79.866002	79.866002	Pass
Latitude	6.908507	6.908507	Pass
PCI	42/43/44	44	Pass (only 1 Sector commission)

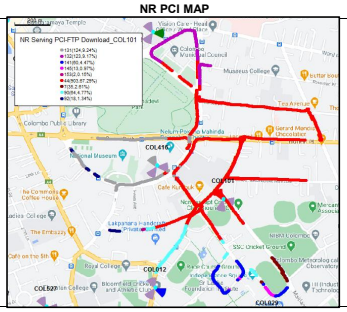
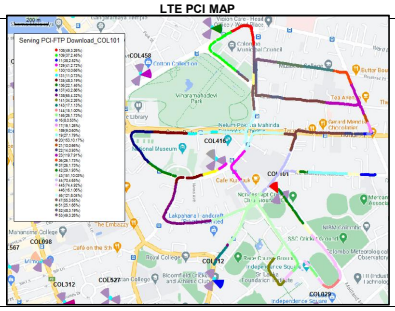
Throughput Verification (Static Test)

Sector	FTP DLThroughput(Gbps)	FTP UL Throughput(Mbps)	Pass or Not	Speed Test Result DL/UL
Target	800	60		
Sector1				
Sector2				
Sector3	1.4516	80.76	Pass	1.3Gbps/83.4Mbps
Sector4				

Test Engineer Name	Contact Phone	Test Date
Yashan Kalhara	768211714	6/16/2022

Test Result

PCI Distribution

NR PCI MAP	LTE PCI MAP
	

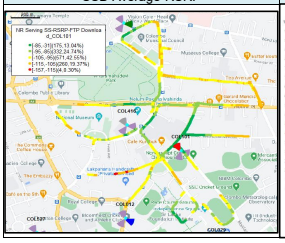
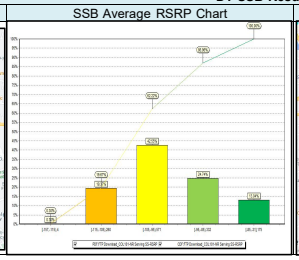
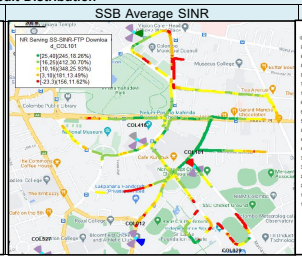
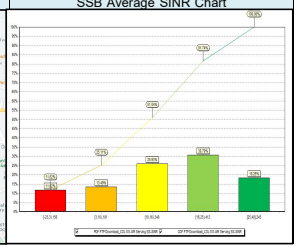
Main KPI on Map

Static Speed Test Result Distribution

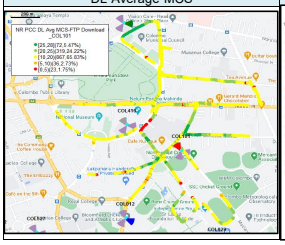
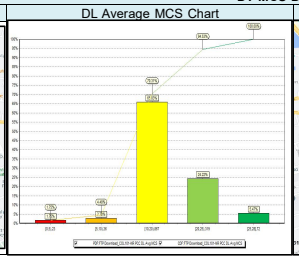
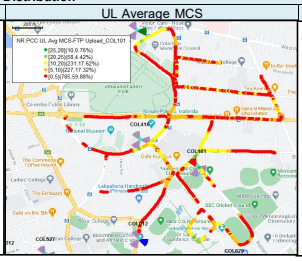
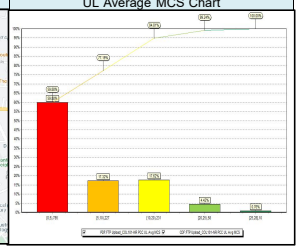
Sector 1 Test Location	Sector 1 Throughput			Sector 2 Test Location	Sector 2 Throughput		
	Sample	DL (Mbps)	UL (Mbps)		Sample	DL (Mbps)	UL (Mbps)
	1				1		
	2				2		
	3				3		
	4				4		
	5				5		
	Average	#DIV/0!	#DIV/0!		Average		

Sector 3 Test Location	Sector 3 Throughput			Sector 4 Test Location	Sector 4 Throughput		
	Sample	DL (Mbps)	UL (Mbps)		Sample	DL (Mbps)	UL (Mbps)
	1	1204	63.3		1		
	2	1364	83.4		2		
	3	1430	73.2		3		
	4	1438	70.6		4		
	5	1113	77.6		5		
	Average	1309.8	73.62		Average		

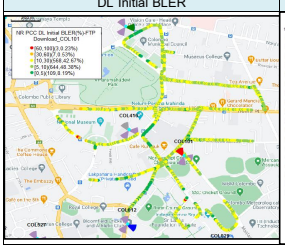
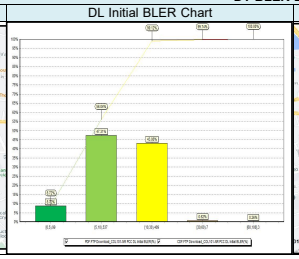
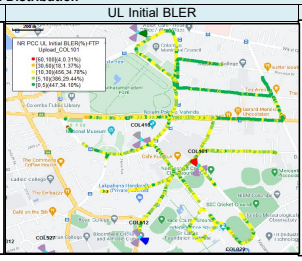
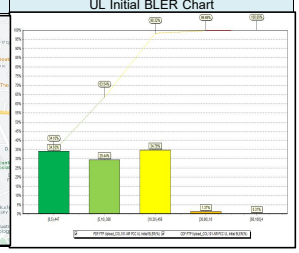
DT SSB Result Distribution

SSB Average RSRP	SSB Average RSRP Chart	SSB Average SINR	SSB Average SINR Chart
			

DT MCS Distribution

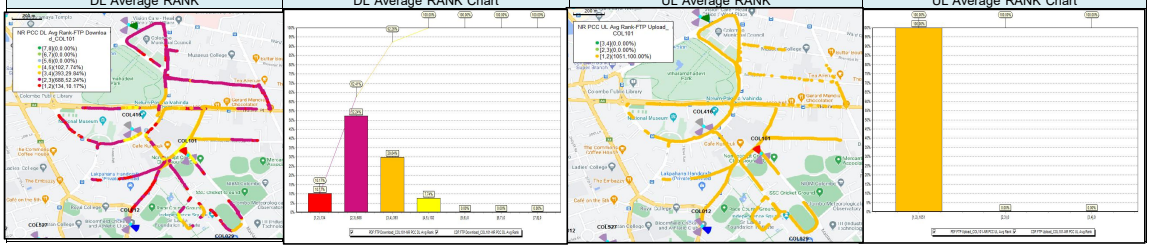
DL Average MCS	DL Average MCS Chart	UL Average MCS	UL Average MCS Chart
			

DT BLER Distribution

DL Initial BLER	DL Initial BLER Chart	UL Initial BLER	UL Initial BLER Chart
			

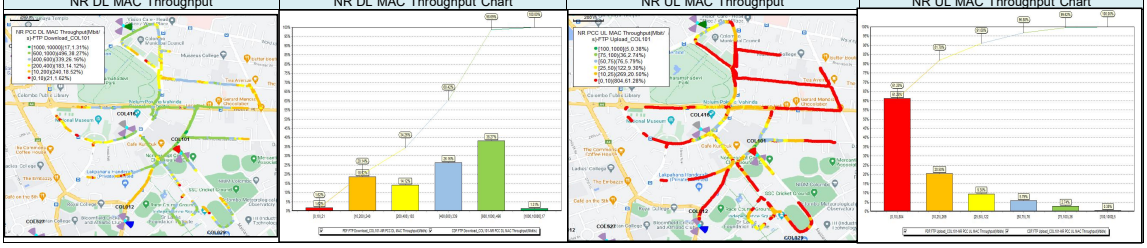
DT Rank Distribution

DL Average RANK	DL Average RANK Chart	UL Average RANK	UL Average RANK Chart



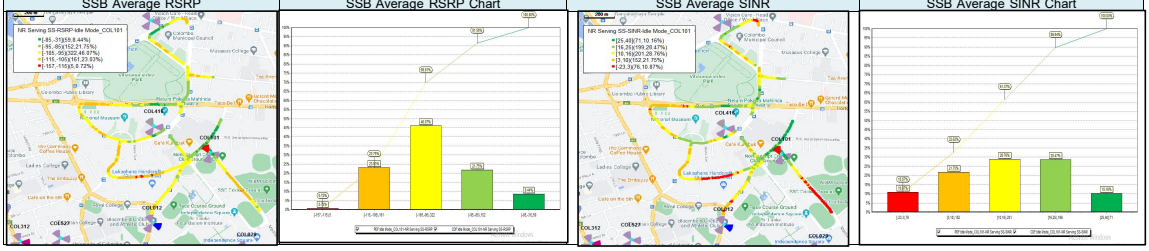
DT MAC Throughput Distribution

NR DL MAC Throughput	NR DL MAC Throughput Chart	NR UL MAC Throughput	NR UL MAC Throughput Chart



Idle Plot

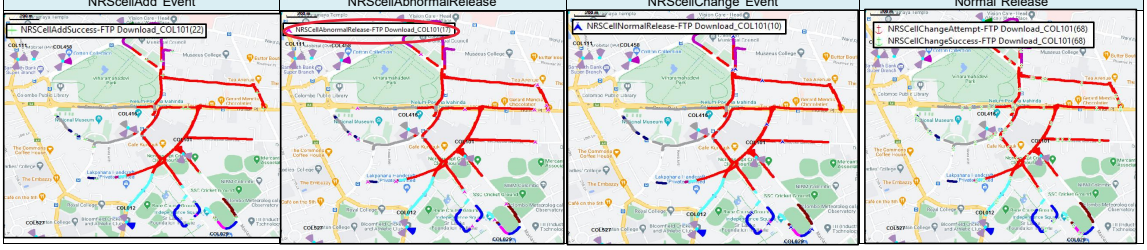
SSB Average RSRP	SSB Average RSRP Chart	SSB Average SINR	SSB Average SINR Chart



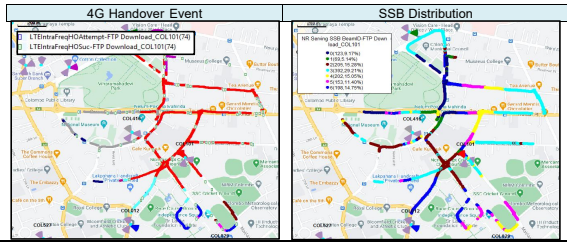
Event on Map

Event

NRScellAdd Event	NRScellAbnormalRelease	NRScellChange Event	Normal Release



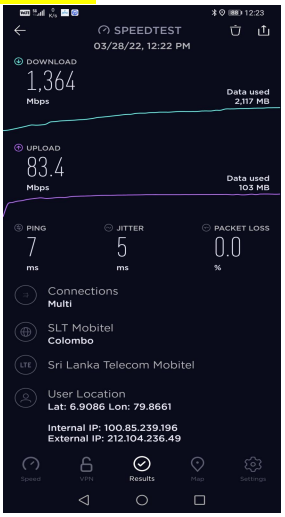
4G Handover Event	SSB Distribution



Check & improve Abnormal releases in Cluster Optimization

Speed test Result and Ping

Sector1:



Sector2:

Sector3:

ST Attach and Deattach Test

Sector1:

12:34

Sector 3 (In Site)

	NARFCN	PCI	SS-RSRP	SS-SINR	CellID
N	640704	44	-81.38	36.38	N/A

	EARFCN	PCI	RSRP	SINR	CellID
L	1275	44	-79.13	2	3

Detach&Attach (D@A)

Count 5/5 Duration 00:01:36

Detach

	LTE	UMTS	GSM
Success Rate(%)	100.00 (2/2)	100.00 (3/3)	--
AVG Delay(ms)	123.00	352.00	--

Attach

	LTE	UMTS	GSM
Success Rate(%)	--	100.00 (5/5)	--
AVG Delay(ms)	--	2707.80	--

KPI	Test Value	Standard Value
AVG RSRP	-78.80 dBm	-100 dBm
AVG SINR	-0.11 dB	0 dB
LTE Setup Success Rate	100.00 %	90 %
LTE Drop Rate	--	5 %
LTE HO Success Rate	--	90 %
LTE Detach Success Rate	100.00 %	90 %
LTE Detach AVG Delay	123.00 ms	50 ms
LTE Attach Success Rate	--	90 %
LTE Attach AVG Delay	--	50 ms

NO.	Time	Status	Type	RTT(ms)
5	12:33:48.411	Success	Attach(U)	2639
5	12:33:47.405	Success	Detach(U)	177
4	12:33:29.398	Success	Attach(U)	2749
4	12:33:28.395	Success	Detach(L)	107
3	12:33:10.385	Success	Attach(U)	2613
3	12:33:09.382	Success	Detach(U)	322
2	12:32:51.376	Success	Attach(U)	2684
2	12:32:50.368	Success	Detach(U)	557
1	12:32:31.362	Success	Attach(U)	2854
1	12:32:30.360	Success	Detach(L)	139

Sector2:

Sector3:

Voice Call_VoLTE

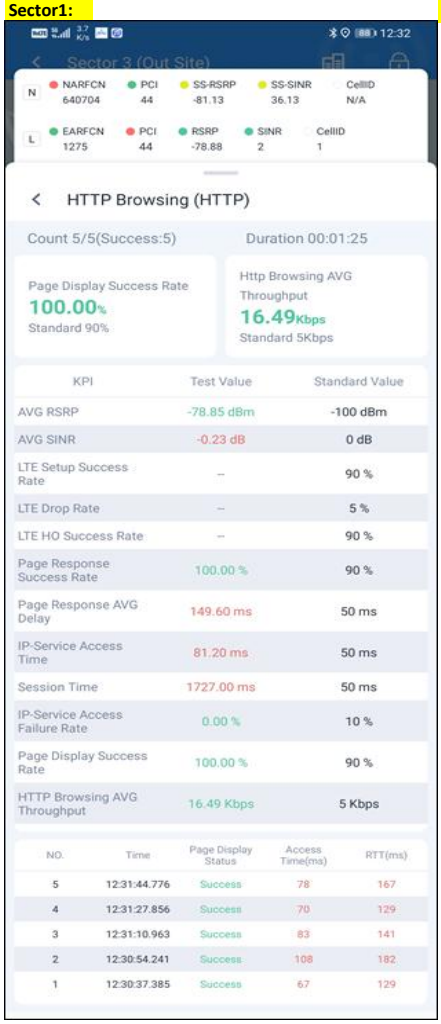
Sector1:

Sector2:

Sector3:

Http Broswing

Sector1:



KPI	Test Value	Standard Value
AVG RSRP	-78.85 dBm	-100 dBm
AVG SINR	-0.23 dB	0 dB
LTE Setup Success Rate	--	90 %
LTE Drop Rate	--	5 %
LTE HO Success Rate	--	90 %
Page Response Success Rate	100.00 %	90 %
Page Response AVG Delay	149.60 ms	50 ms
IP-Service Access Time	81.20 ms	50 ms
Session Time	1727.00 ms	50 ms
IP-Service Access Failure Rate	0.00 %	10 %
Page Display Success Rate	100.00 %	90 %
HTTP Browsing AVG Throughput	16.49 Kbps	5 Kbps

NO.	Time	Page Display Status	Access Time(ms)	RTT(ms)
5	12:31:44.776	Success	78	167
4	12:31:27.856	Success	70	129
3	12:31:10.963	Success	83	141
2	12:30:54.241	Success	108	182
1	12:30:37.385	Success	67	129

Sector2:

Sector3: