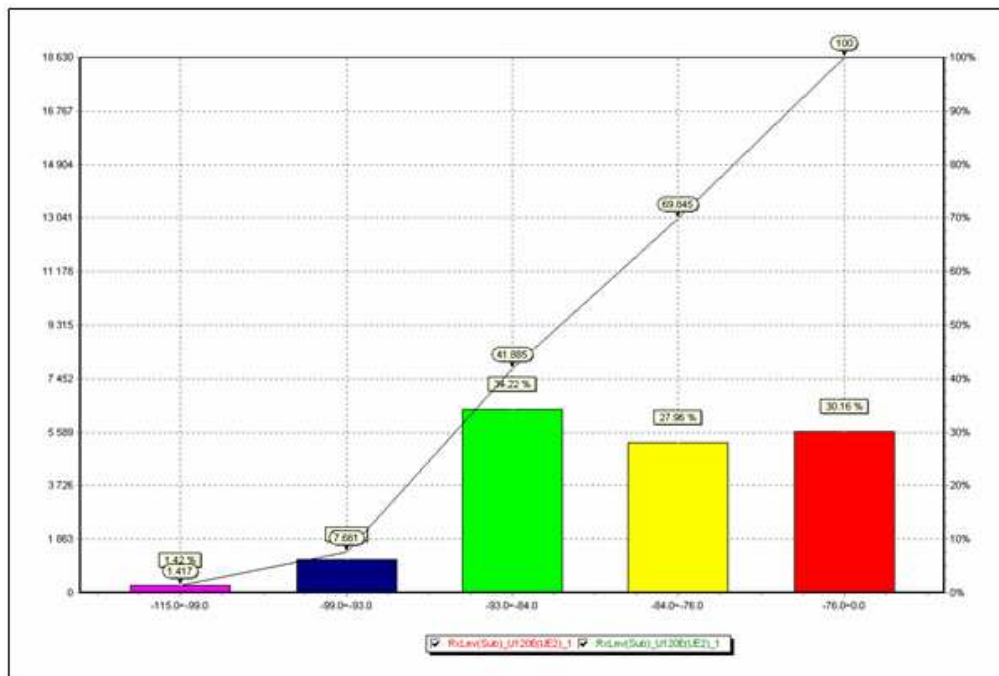
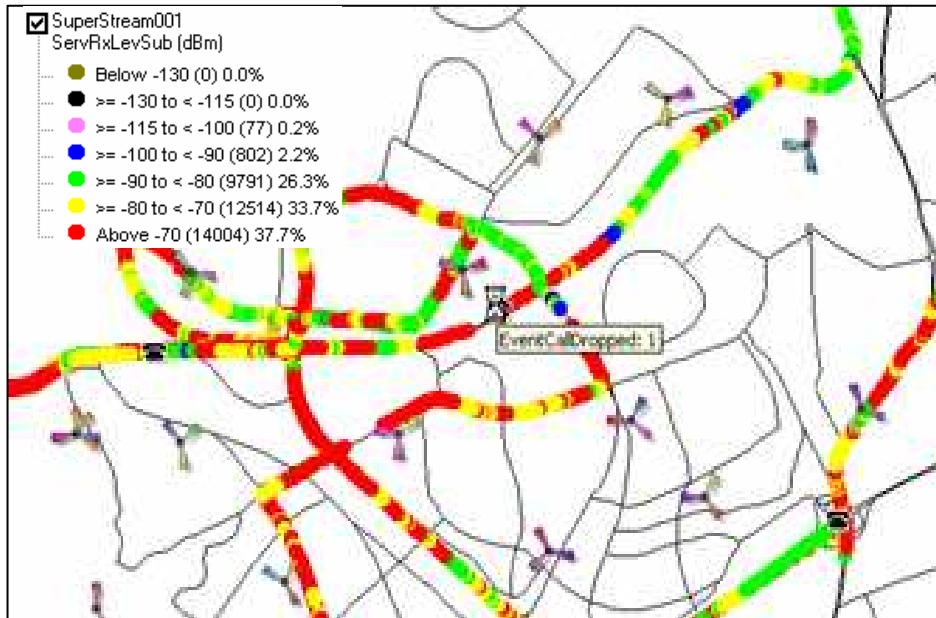




2G Network performance checking & Radio Optimization

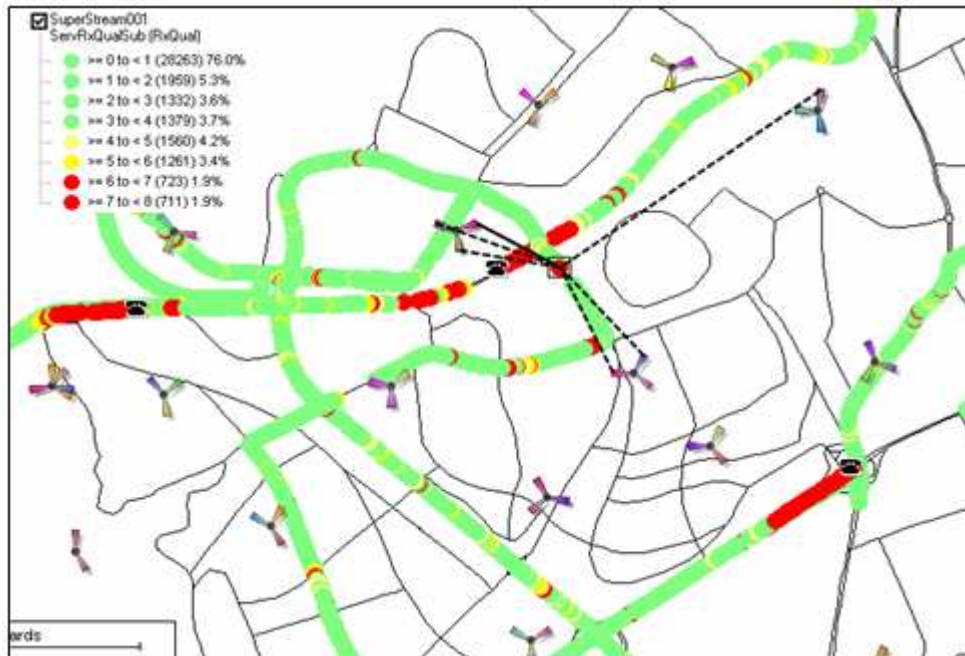


- Coverage Analysis





- **Quality Analysis (in order to detect interference problem)**



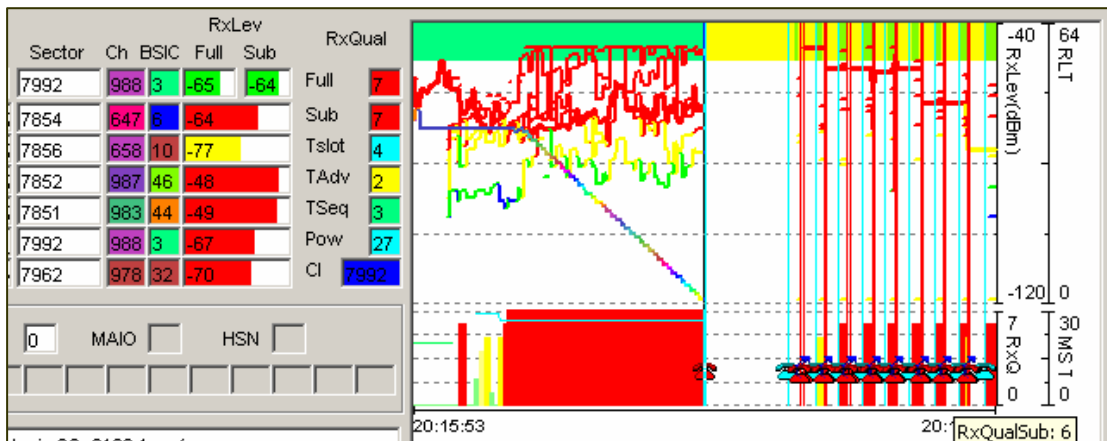
- **KPIs performance**

Event	Target Value	Test Value	Attempts	Conditions
Voice Call Set-up Success Rate	>= 98%	99.86%	710/711	RX LEVEL >= -100 dBm
Voice Dropped Call rate	<=1%	0.00%	0/710	RX LEVEL >= -100 dBm
Voice Call Success Rate	>= 97%	99.86%		RX LEVEL >= -100 dBm
Call Set-up time	<=7s	2.85		
PS Throughput				
Downlink EDGE Data Throughput (DT)	132.5kbps/4slots/EDGE	117.06		Rx_lev>-85dBm & C/I>12, 4 timeslots and IP layer
Downlink EDGE Data Throughput (CGT)	213kbps/4slots/EDGE	199.24		Rx_lev>-85dBm & C/I>12, 4 timeslots and IP layer
PS activation				
PDP activation Success Rate	>= 97%	98.18%	108/110	
PS Attach Success Rate	>= 97%	100.00%	109/109	
File transfers				
Successful Transfers	>= 96%	99.05%	104/105	



CC Messages		Count
CC Setup		5
CC Call Confirmed		0
CC Connect		5
CC Alerting		5
The Events		Count
Outgoing Call Starts		5
Outgoing Call Setup OK		5
Outgoing Call Setup Failure		0
Incoming Call Starts		0
Incoming Call Setup OK		0
Incoming Call Setup Failure		0
Call Completed		4
Call Dropped		0
Handover Ok		217
Handover Failure		0
Location Update OK		0
Location Update Failure		0
MM Messages		Count
MM Location Updating Request		0
MM Location Updating Accept		0
MM Location Updating Reject		0
RR Messages		Count
RR Handover Command		218
RR Handover Complete		217
RR Handover Failure		0

- Call drop analysis and recommendations



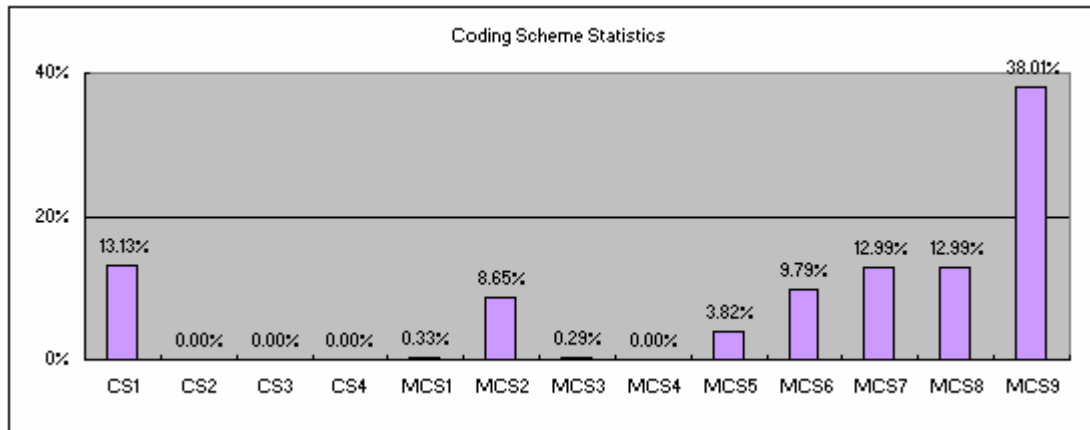
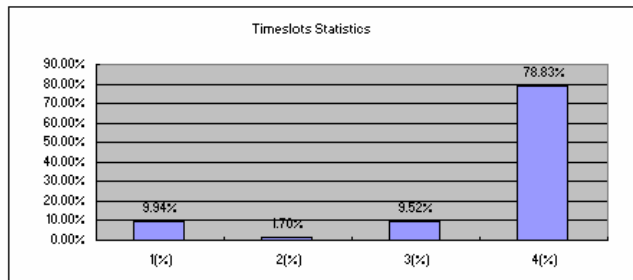
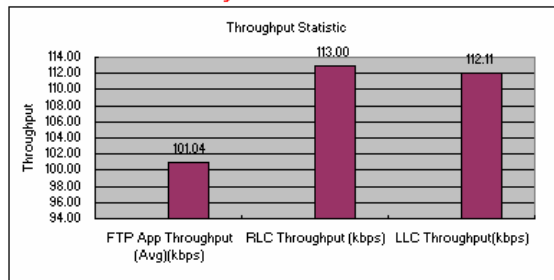
Problem	Reason Analysis	Action
Call Drop	Poor Coverage	Waiting for Site_03 site to be integrated
Coverage Control	Poor Coverage	Uptilt Site_02 Sector 2, to -6
Coverage Control	Poor Coverage	Site_01 is not on air. Putting this site on air will improve coverage
Coverage Control	Poor Coverage	Uptilt to -6 of sector 1 and 2 Site_05
Coverage Control	Poor Coverage	Adding a third sector with an azimuth of 150° to Site_06 with tilt of -6.
Coverage Control	Poor Coverage	Site_07 Sector 2 should be Downtilted to -10.



- 2G data transfer for the whole area

=> Mobile positions

FTP Download Attempt	FTP Download Suc	FTP App Download Time(s)	FTP App Download Size(Bytes)	FTP App Throughput (Avg)(kpbs)	RLC Throughput (kpbs)	LLC Throughput (kpbs)	RLC BLEP(%)	Timeslots (Avg)	Timeslots Used Statistics				Coding Scheme Statistics												
									1(%)	2(%)	3(%)	4(%)	CS1	CS2	CS3	CS4	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
42	35	874	10065424	101.04	113.00	112.11	4.80%	3.57	9.94%	1.70%	9.52%	78.83%	13.13%	0.00%	0.00%	0.00%	0.33%	8.65%	0.29%	0.00%	3.82%	9.79%	12.99%	12.99%	38.01%



=> Static positions

Site1												
FTP Throughput - EDGE - Cell Id 161												
Index	Begin DateTime	End DateTime	FTP Server URL	Load Time(ms)	File Size (KB)	Transmitted Size(KB)	Avg_Rate(kbit/s)	Max_Rate(kbit/s)	Min_Rate(kbit/s)	FTP_Type	FTP_Result	
1	2010-03-04 12:58:51.374	2010-03-04 13:02:33.374	10.12.4.5	223015	5120	5120	188.07	283.88	0.11	Download	Completed	
2	2010-03-04 13:02:52.390	2010-03-04 13:06:18.390	10.12.4.5	207015	5120	5120	202.61	329.98	0.29	Download	Completed	
3	2010-03-04 13:06:37.218	2010-03-04 13:10:03.234	10.12.4.5	207000	5120	5120	202.62	270.89	0.18	Download	Completed	
TotalAvg Rate (DL)							197.77					
FTP Throughput - EDGE - Cell Id 162												
Index	Begin DateTime	End DateTime	FTP Server URL	Load Time(ms)	File Size (KB)	Transmitted Size(KB)	Avg_Rate(kbit/s)	Max_Rate(kbit/s)	Min_Rate(kbit/s)	FTP_Type	FTP_Result	
1	2010-03-04 12:42:57.984	2010-03-04 12:46:30.984	10.12.4.5	214031	5120	5120	195.97	233.89	54.22	Download	Completed	
2	2010-03-04 12:46:50.984	2010-03-04 12:50:13.968	10.12.4.5	204000	5120	5120	205.6	276.45	0	Download	Completed	
3	2010-03-04 12:50:31.437	2010-03-04 12:53:59.453	10.12.4.5	209016	5120	5120	200.67	301.86	0.11	Download	Completed	
TotalAvg Rate (DL)							200.75					
FTP Throughput - EDGE - Cell Id 163												
Index	Begin DateTime	End DateTime	FTP Server URL	Load Time(ms)	File Size (KB)	Transmitted Size(KB)	Avg_Rate(kbit/s)	Max_Rate(kbit/s)	Min_Rate(kbit/s)	FTP_Type	FTP_Result	
1	2010-03-04 12:24:28.171	2010-03-04 12:27:56.187	10.12.4.5	209016	5120	5120	200.67	295.12	0	Download	Completed	
2	2010-03-04 12:28:16.994	2010-03-04 12:31:45.968	10.12.4.5	210016	5120	5120	199.71	307.72	0.27	Download	Completed	
3	2010-03-04 12:32:04.078	2010-03-04 12:35:41.140	10.12.4.5	218063	5120	5120	192.34	299.76	16.59	Download	Completed	
TotalAvg Rate (DL)							197.57					



Site 2

FTP Throughput - EDGE - Cell Id 381												
Index	Begin DateTime	End DateTime	FTP Server URL	Load Time(ms)	File Size (KB)	Transmitted Size(KB)	Avg_Rate(kbit/s)	Max_Rate(kbit/s)	Min_Rate(kbit/s)	FTP_Type	FTP_Result	
1	2010-03-04 21:08:08.547	2010-03-04 21:11:28.547	10.12.4.5	201000	5120	5120	208.67	285.79	24.15	Download	Completed	
2	2010-03-04 21:11:50.285	2010-03-04 21:15:14.281	10.12.4.5	205000	5120	5120	204.6	307.78	0.36	Download	Completed	
3	2010-03-04 21:15:36.640	2010-03-04 21:19:04.609	10.12.4.5	209000	5120	5120	200.68	285.79	1.96	Download	Completed	
TotalAvg Rate (DL)							204.65					

FTP Throughput - EDGE - Cell Id 382												
Index	Begin DateTime	End DateTime	FTP Server URL	Load Time(ms)	File Size (KB)	Transmitted Size(KB)	Avg_Rate(kbit/s)	Max_Rate(kbit/s)	Min_Rate(kbit/s)	FTP_Type	FTP_Result	
1	2010-03-04 20:55:47.687	2010-03-04 20:59:10.719	10.12.4.5	204015	5120	5120	205.59	285.79	1.45	Download	Completed	
2	2010-03-04 20:59:33.484	2010-03-04 21:03:13.500	10.12.4.5	221000	5120	5120	189.79	234.37	0.77	Download	Completed	
3	2010-03-04 21:03:35.828	2010-03-04 21:06:57.875	10.12.4.5	203000	5120	5120	206.62	252.82	0.77	Download	Completed	
TotalAvg Rate (DL)							200.67					