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Quality of Service Report:

Western Cape 2012

Quarter 3

1. Introduction

1.1 Executive Summary

In Quarter 3 the Authority conducted Quality of Service (QoS) monitoring of the GSM Telephony service offered by Cell-C, MTN and Vodacom in the Western Cape region. The Monitoring period commenced on 26/11/2012 and concluded on 30/11/2012 and was limited to George CBD, Thembaletu, Cape Town CBD, Khayelitsha and Stellenbosch.

QoS is defined as the collective effect of service performances which determine the degree of satisfaction of a user of the service. QoS provides an indication of what the customer experiences when using the mobile network and is evaluated in terms of retainability and accessibility. Retainability is defined as the ability for a call to stay connected, complete through to a normal call tear down process, without abnormally disconnecting on a cell site of interest¹. Accessibility is defined as the percentage of time a user is rejected due to the unavailability of system resources when attempting to place a call². The KPI parameters used to measure retainability and accessibility were Drop Call Rate (DCR) and Call Setup Success Rate (CSSR), respectively. THE DCR parameter is regulated by the End-User and Subscriber Service charter regulations of 2009 whilst the CSSR parameter is not regulated by End-User and Subscriber Service charter regulations of 2009; however, it has been incorporated as per ITU recommendations E.800 and G.1000.

2. Results and Analysis

The summary of the operators' overall performance arising from the specific quality of service parameters and the measured data is shown in tables 1 and 2 below:

Table 1: Western Accessibility Measurement Data

Region	Network Operator	CSSR	Target (%)
Western Cape region	Vodacom	98.78%	95%
	MTN	91.93%	95%
	Cell-C	94.42%	95%

¹ Annexure B.2 of ETSI EG 202 057-3

² GSM 12.04, ETS 300 615.

Table 2: Retainability: Measurement Data

Region	Network Operator	DCR	Target (%)
Western Cape region	Vodacom	1.20%	3%
	MTN	1.12%	3%
	Cell-C	1.90%	3%

2.1.1 Accessibility

Accessibility statistics for the test area are given in figures 1 below.

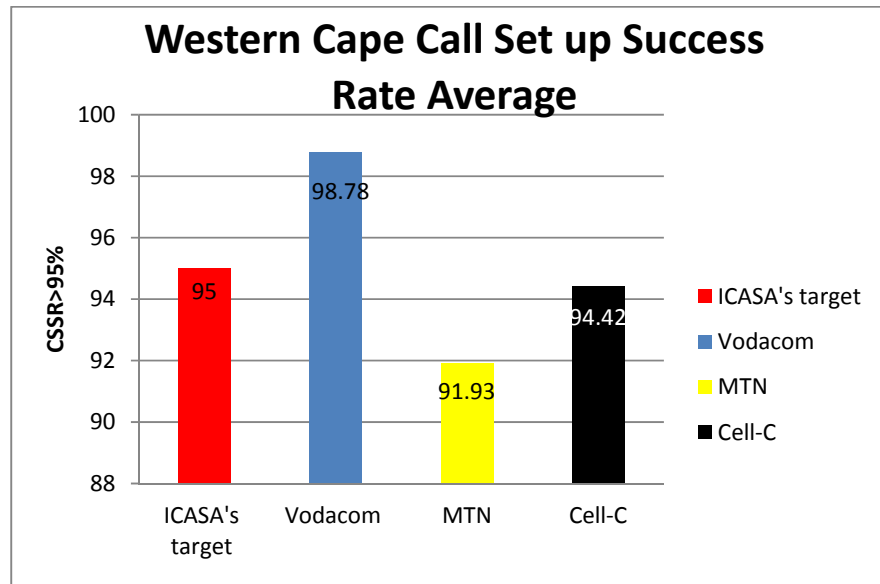


Figure 1: Accessibility Statistics

Based on the results above Vodacom met the target, while MTN and Cell-C are below the target. Ideally the Call setup Success Rate should be greater than 95%.

2.1.2 Retainability

Retainability for voice is measured in terms of dropped calls. The dropped call statistics on Eastern Cape's network in the test area are reflected in Figure 2 below.

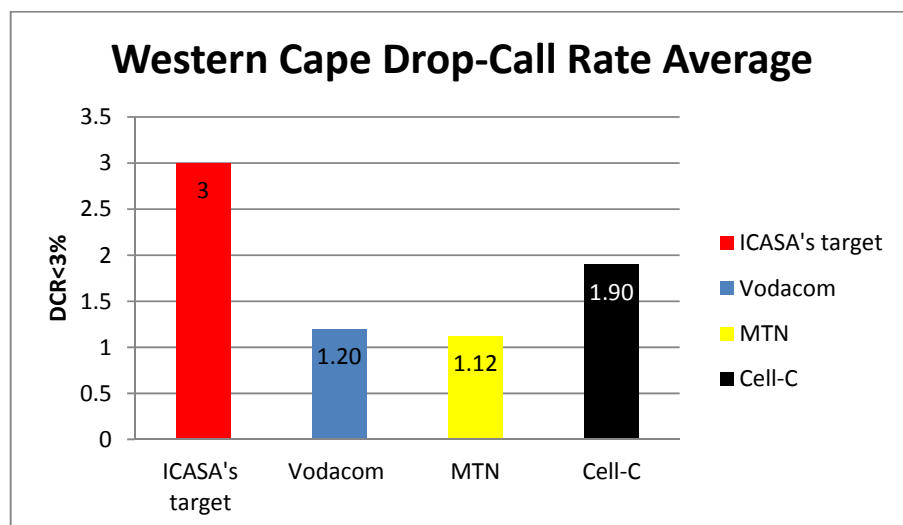


Figure 2: Retainability Statistics

The Drop Call Rate should be less than 3% over 6 months. Based on the results above the operators have met the target.

3. Conclusion

The Western Cape QoS monitoring focused on the following KPI's; Call Set-up Success Rate (CSSR) and Dropped Call Rate (DCR) in the tested areas. All operators attained the QoS target in terms of Retainability. However, whilst Vodacom met the Accessibility KPI's, MTN and Cell-C did not do so.

The test methodology adopted provides a snapshot view of the operators Quality of Service, giving a realistic picture of network performance from a user's point of view. The drive test results do not represent the mobile service provider's overall network performance, and is based on specified routes, time of day and particular type of handset.

4. Appendix A (coverage maps)

Western Cape: Maps of Signal Level

Retainability

(i) George CBD 1 Route

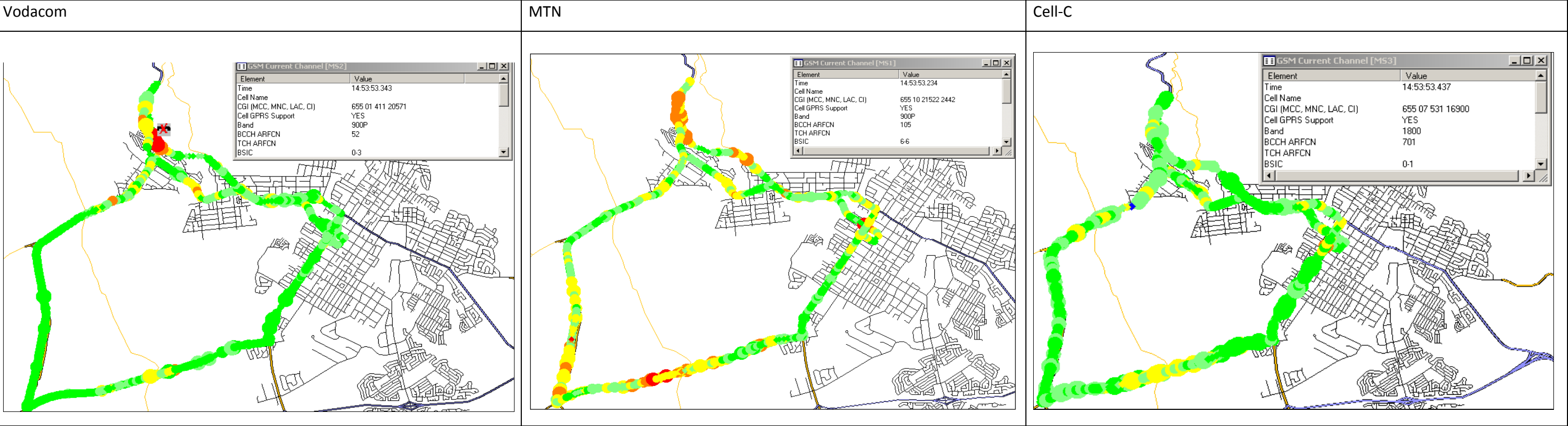
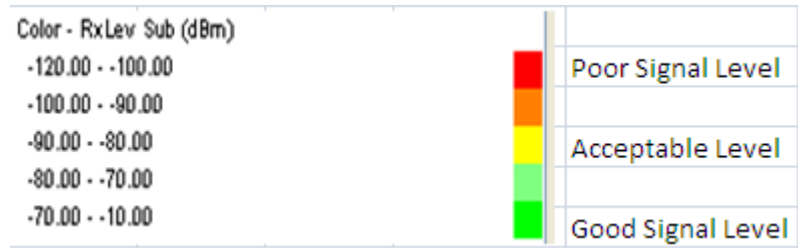


Figure 3: George CBD 1 Route maps



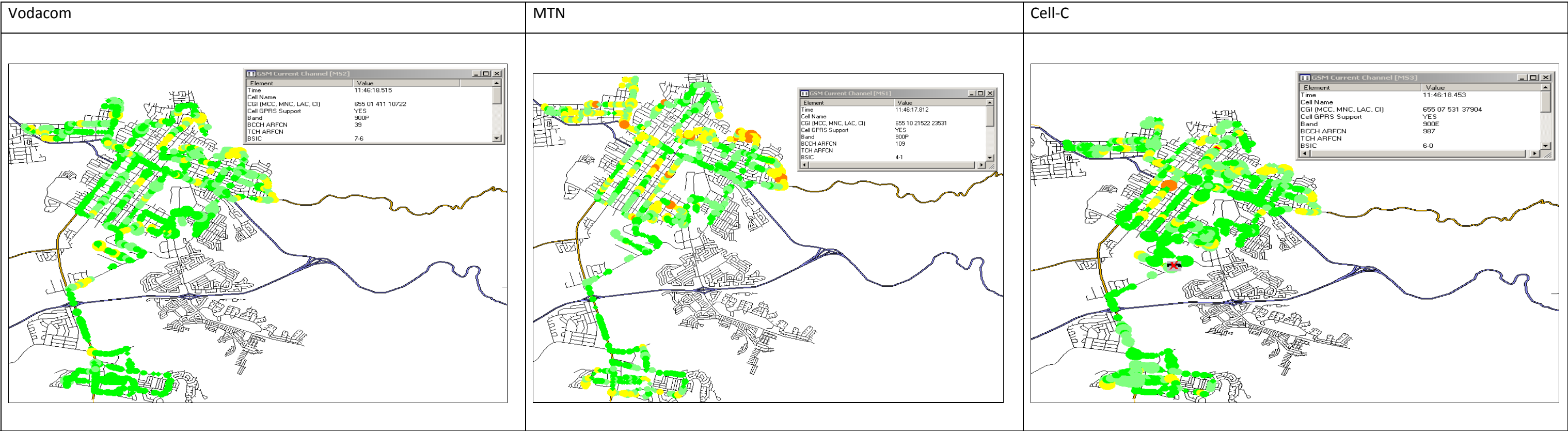
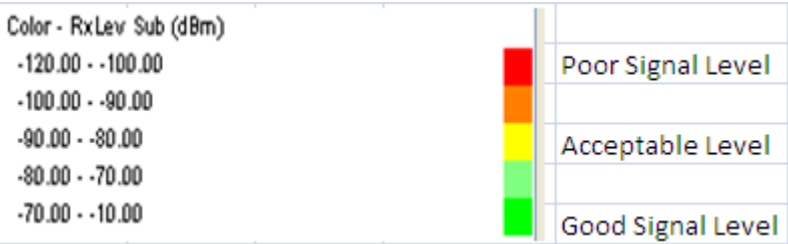


Figure 4: George CBD 2 maps



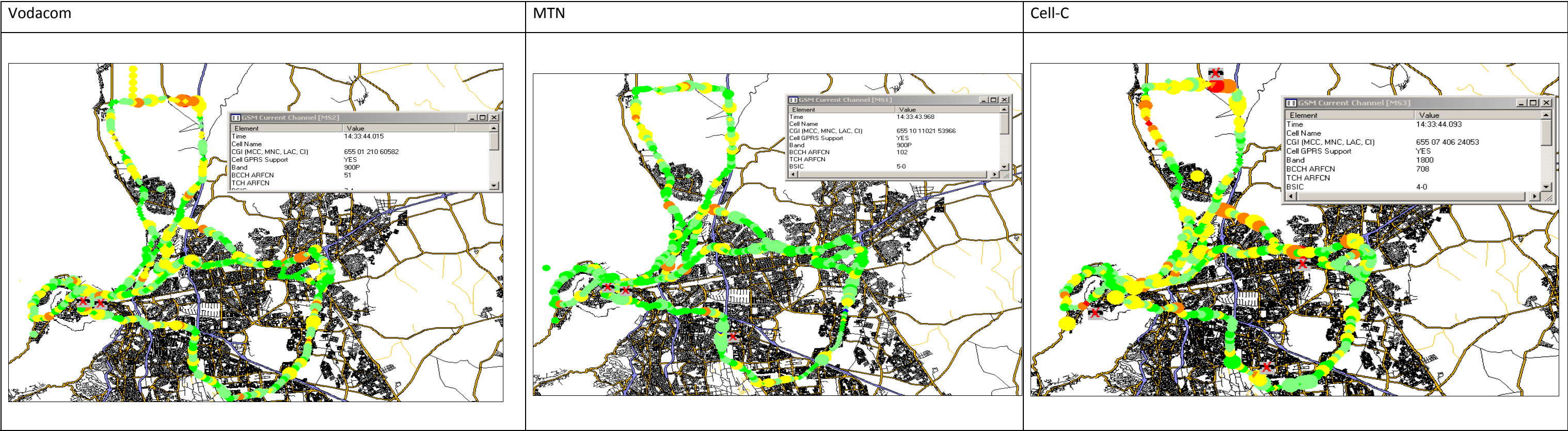
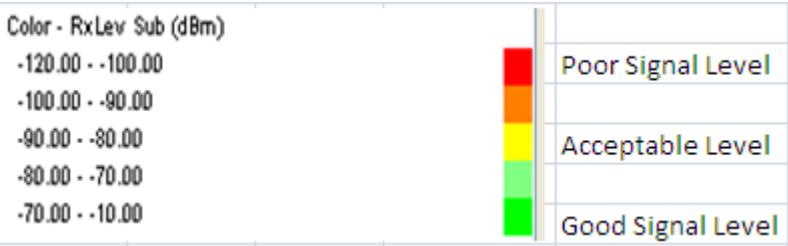


Figure 5: Cape Town CBD maps



Accessibility

(I) Themba lethu Route

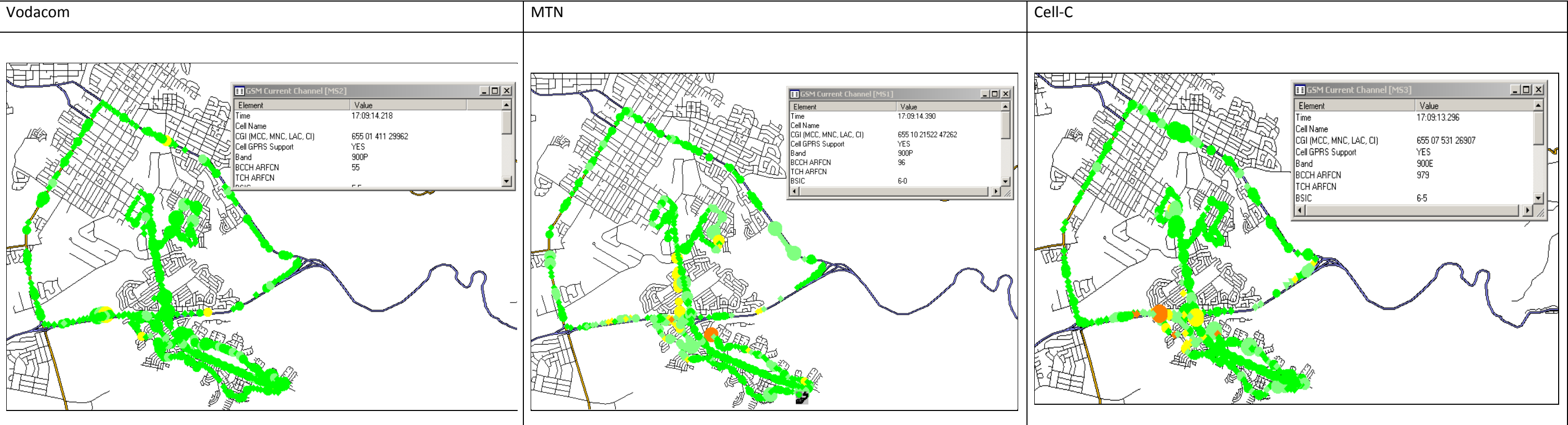
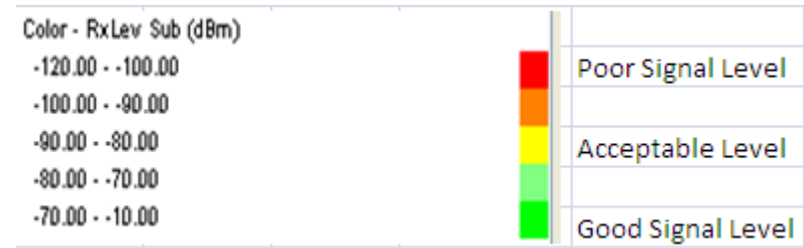


Figure 6: Themba lethu Route maps



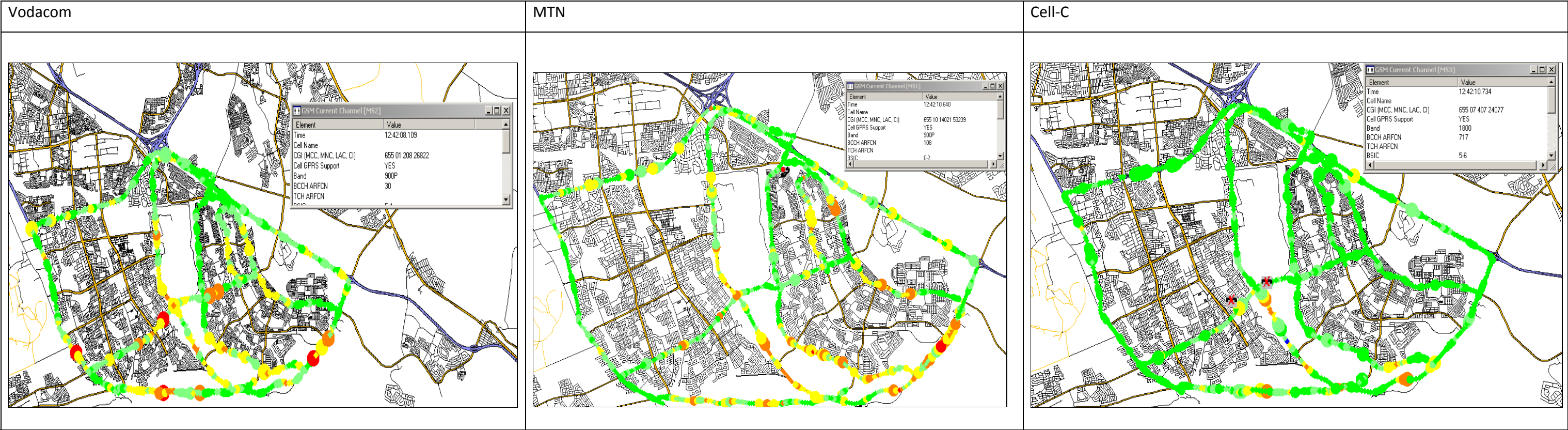
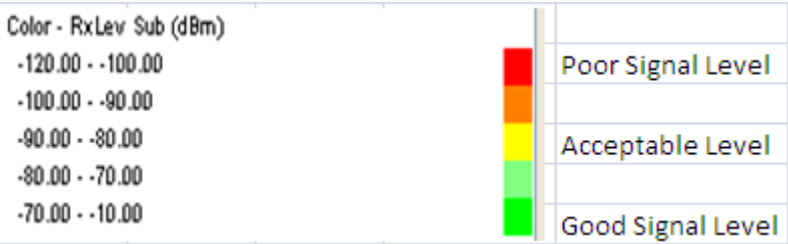


Figure 7: Khayelitsha maps



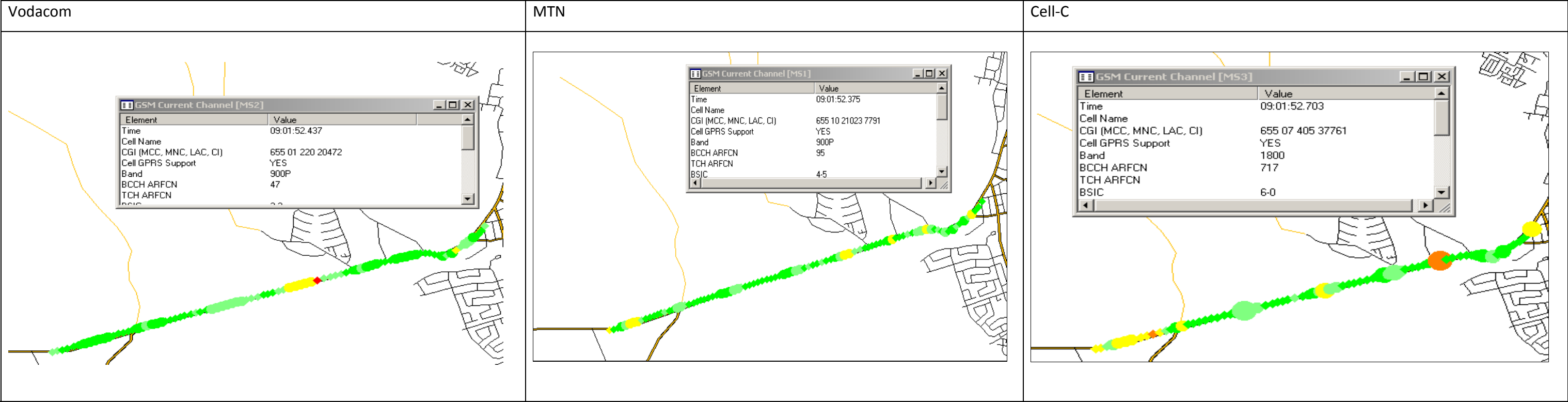


Figure 8: Stellenbosch maps

