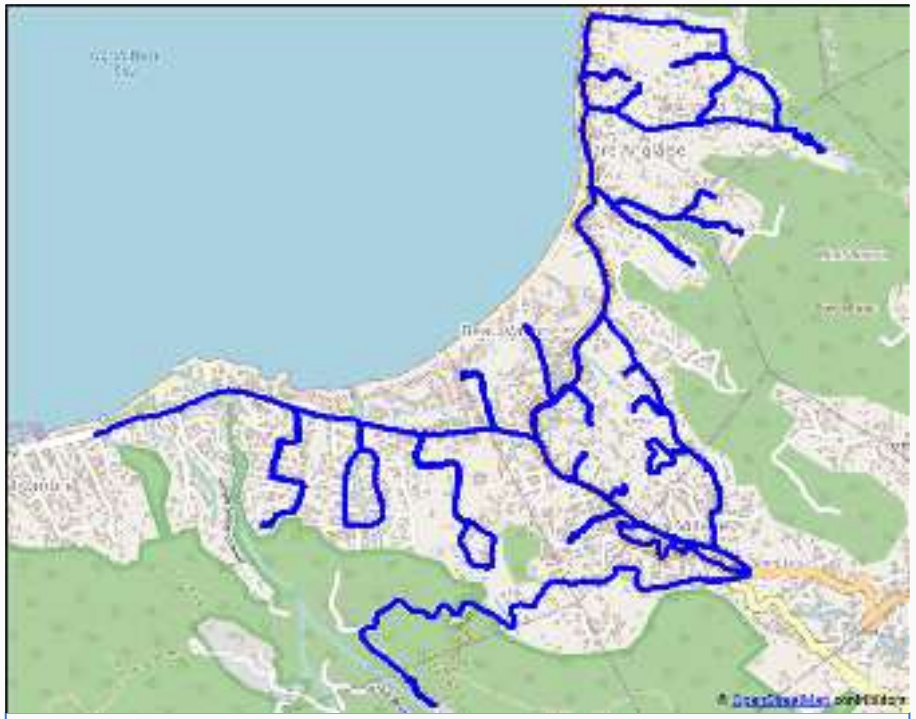
Seychelles Test Drive

Beau Vallon Phase-2 Report

DRIVE TEST ROUTE

Phase-1 Dates- 04th Oct 2024



Route Name: Mahe

District Name: Beau Vallon

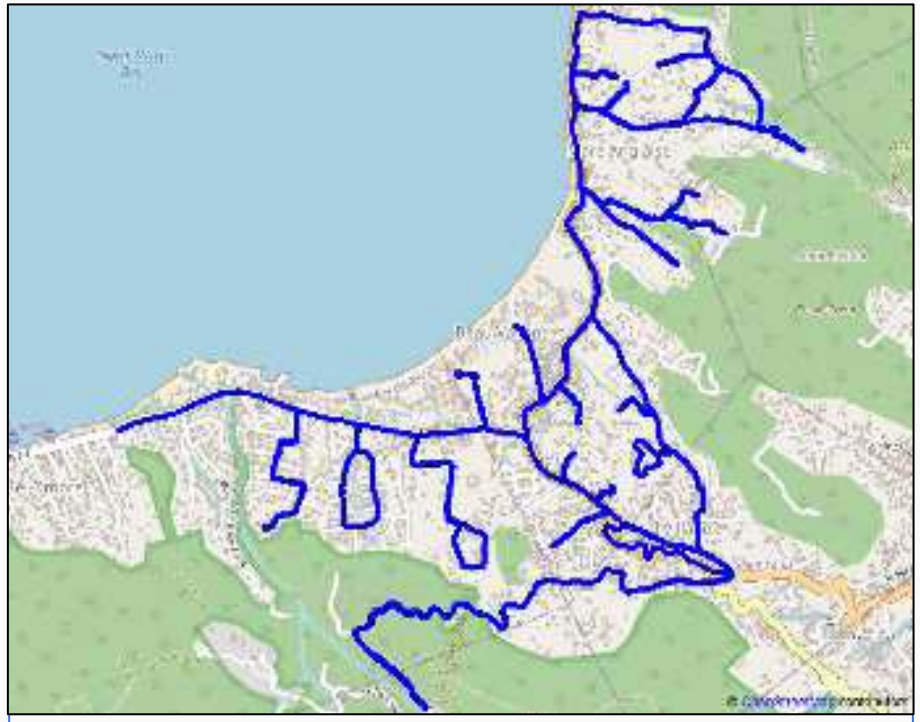
Region: Northern

Island: Mahé

Drive Test Distance: 27.06 kms

Drive Test Duration: 01 hours,40 minutes,24 seconds

Phase-2 Dates- 18th Oct 2024



Route Name: Mahe

District Name: Beau Vallon

Region: Northern

Island: Mahé

Drive Test Distance: 24.46 kms

Drive Test Duration: 01 hours,30 minutes,26 seconds

VOICE EXECUTIVE SUMMARY

Phase-1

Short Call Findings:

- The Call Setup Success Rate for Airtel is (100.00%), while for Operator CWS it is (100.00%).
- The Call Setup Time for Airtel is (6.36s) , while for Operator CWS it is (6.97s)

Long Call Findings :

- The Call Retainability for Airtel is (100.00%), while for CWS it is (100.00%).
- The MOS quality observed for Airtel is (3.23), and for CWS, it is (3.46).

Phase-2

Short Call Findings:

- The Call Setup Success Rate for Airtel is (100.00%), while for Operator CWS it is (99.10%).
- The Call Setup Time for Airtel is (6.59s), while for Operator CWS it is (7.47s)

Long Call Findings :

- The Call Retainability for Airtel is (100.00%), while for CWS it is (100.00%).
- The MOS quality observed for Airtel is (3.16), and for CWS, it is (3.46).

4G PREFERRED DATA TEST – EXECUTIVE SUMMARY

Phase-1

4G Preferred Data Findings:

- Airtel SFTP DL is (11.04 Mbps), while SFTP UL is (5.94 Mbps), CWS SFTP DL is (4.20 Mbps), while SFTP UL is (3.60 Mbps)
- Airtel HTTP DL is (13.95 Mbps), HTTP Capacity DL is (26.86 Mbps) ,HTTP UL is (9.44 Mbps) , and HTTP Capacity UL is (18.81 Mbps).
- CWS HTTP DL is (4.71 Mbps), HTTP Capacity DL is (20.61 Mbps) ,HTTP UL is (6.03 Mbps) , and HTTP Capacity UL is (17.57 Mbps).
- On live web page testing for browsing, www.shein.com took (7.43s), www.nbs.gov.sc took (18.70s), and www.sbc.sc took (21.52s) on Airtel.
- On live web page testing for browsing, www.shein.com took (10.95s), www.nbs.gov.sc took (15.77s), and www.sbc.sc took (20.78s) on CWS.
- On static browsing, Kepler Webpage took (5.44s), and Kepler Mobile took (2.02s) on Airtel.
- On static browsing, Kepler Webpage took (4.76s), and Kepler Mobile took (2.94s) on CWS.
- YouTube average resolution in Airtel is (1051.55) pixels.
- YouTube average resolution in CWS is (996.58) pixels.
- Airtel scored 67.35% in Carrier Aggregation (CA).
- CWS scored 26.66% in Carrier Aggregation (CA).

Phase-2

4G Preferred Data Findings:

- Airtel SFTP DL is (9.40 Mbps), while SFTP UL is (5.13 Mbps), CWS SFTP DL is (3.14 Mbps), while SFTP UL is (2.34 Mbps)
- Airtel HTTP DL is (15.70 Mbps), HTTP Capacity DL is (23.42 Mbps) ,HTTP UL is (8.76 Mbps) , and HTTP Capacity UL is (17.01 Mbps).
- CWS HTTP DL is (4.50 Mbps), HTTP Capacity DL is (9.87 Mbps) ,HTTP UL is (3.18 Mbps) , and HTTP Capacity UL is (8.61 Mbps).
- On live web page testing for browsing, www.shein.com took (6.63s), www.nbs.gov.sc took (17.90s), and www.sbc.sc took (18.70s) on Airtel.
- On live web page testing for browsing, www.shein.com took (15.58s), www.nbs.gov.sc took (16.84s), and www.sbc.sc took (15.07s) on CWS.
- On static browsing, Kepler Webpage took (4.78s), and Kepler Mobile took (2.41s) on Airtel.
- On static browsing, Kepler Webpage took (5.78s), and Kepler Mobile took (2.59s) on CWS.
- YouTube average resolution in Airtel is (1080.00) pixels.
- YouTube average resolution in CWS is (891.88) pixels.
- Airtel scored 66.91% in Carrier Aggregation (CA).
- CWS scored 30.90% in Carrier Aggregation (CA).

3G PREFERRED DATA TEST - EXECUTIVE SUMMARY

Phase-1

3G Preferred Data Test Findings:

- Airtel SFTP DL is (4.20 Mbps), while SFTP UL is (1.43 Mbps), CWS SFTP DL is (2.59 Mbps), while SFTP UL is (0.81 Mbps)
- Airtel HTTP DL is (4.36 Mbps), HTTP Capacity DL is (6.04 Mbps) ,HTTP UL is (2.15 Mbps) , and HTTP Capacity UL is (5.36 Mbps).
- CWS HTTP DL is (2.48 Mbps), HTTP Capacity DL is (6.41 Mbps) ,HTTP UL is (0.90 Mbps) , and HTTP Capacity UL is (3.26 Mbps).
- On live web page testing for browsing, www.shein.com took (10.27s), www.nbs.gov.sc took (11.39s), and www.sbc.sc took (20.63s) on Airtel.
- On live web page testing for browsing, www.shein.com took (11.42s), www.nbs.gov.sc took (10.79s), and www.sbc.sc took (15.29s) on CWS.
- On static browsing, Kepler Webpage took (4.48s), and Kepler Mobile took (3.09s) on Airtel.
- On static browsing, Kepler Webpage took (8.41s), and Kepler Mobile took (3.57s) on CWS.
- YouTube average resolution in Airtel is (1022.03) pixels.
- YouTube average resolution in CWS is (971.79) pixels.

Phase-2

3G Preferred Data Test Findings:

- Airtel SFTP DL is (5.01 Mbps), while SFTP UL is (1.59 Mbps), CWS SFTP DL is (3.21 Mbps), while SFTP UL is (0.87 Mbps)
- Airtel HTTP DL is (4.15 Mbps), HTTP Capacity DL is (7.46 Mbps) ,HTTP UL is (2.29 Mbps) , and HTTP Capacity UL is (4.67 Mbps).
- CWS HTTP DL is (3.20 Mbps), HTTP Capacity DL is (7.79 Mbps) ,HTTP UL is (1.38 Mbps) , and HTTP Capacity UL is (3.74 Mbps).
- On live web page testing for browsing, www.shein.com took (8.74s), www.nbs.gov.sc took (12.25s), and www.sbc.sc took (13.21s) on Airtel.
- On live web page testing for browsing, www.shein.com took (11.07s), www.nbs.gov.sc took (11.16s), and www.sbc.sc took (14.10s) on CWS.
- On static browsing, Kepler Webpage took (3.98s), and Kepler Mobile took (2.16s) on Airtel.
- On static browsing, Kepler Webpage took (7.46s), and Kepler Mobile took (3.80s) on CWS.
- YouTube average resolution in Airtel is (1080.00) pixels.
- YouTube average resolution in CWS is (1051.75) pixels.

TESTING METHODOLOGY

Short Call	
Call Duration	10 Seconds
Setup and Release phase	30 seconds
Minimum pause between calls	30 seconds

Long Call	
Call Duration	120 Seconds
Setup and Release phase	30 seconds
Minimum between calls	30 seconds

DATA	Test Type and Timeout	Technology 3G Preferred	Technology 4G Preferred
POP always on. 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

VOICE TEST KPI STATISTICS (Short Call)

Phase-1

Short Call Statistics		
Short Call Scenario	Operator 1	Operator 2
Voice KPIs	Airtel	CWS
Call Attempt	130	127
Call Failed	0	0
Call Connected	130	127
CSSR[%]	100.00	100.00
USCSR[%]	0.00	0.00
CST [s] Alerting	6.36	6.97
CST [s]Connected	6.62	7.17

CSSR= Call Setup Success rate

USCSR=Unsuccessful call setup ratio

CST=Call setup time

Call Setup Success Ratio >97%

CRR= Call retainability ratio

DCR=Dropped-call rate

MOS=Mean Opinion Score

Drop Call Ratio<2

Call Setup Time (s)	Operators		Rank	
	Airtel	CWS	Airtel	CWS
Overall CST (until ringing/alerting)	6.36	6.97	1	2
CS calls CST (until ringing/alerting)	6.68	9.75	1	2
CSFB calls CST (until ringing/alerting)	6.33	6.90	1	2
Overall CST (until Connect/Connect Acknowledge)	6.62	7.17	1	2
CS calls CST (until Connect/Connect Acknowledge)	6.97	10.02	1	2
CSFB calls CST (until Connect/Connect Acknowledge)	6.59	7.10	1	2

Phase-2

Short Call Statistics		
Short Call Scenario	Operator 1	Operator 2
Voice KPIs	Airtel	CWS
Call Attempt	114	111
Call Failed	0	1
Call Connected	114	110
CSSR[%]	100.00	99.10
USCSR[%]	0.00	0.90
CST [s] Alerting	6.59	7.47
CST [s]Connected	6.85	7.70

Call Setup Time (s)	Operators		Rank	
	Airtel	CWS	Airtel	CWS
Overall CST (until ringing/alerting)	6.59	7.47	1	2
CS calls CST (until ringing/alerting)	5.61	7.92	1	2
CSFB calls CST (until ringing/alerting)	6.65	7.46	1	2
Overall CST (until Connect/Connect Acknowledge)	6.85	7.70	1	2
CS calls CST (until Connect/Connect Acknowledge)	5.90	8.08	1	2
CSFB calls CST (until Connect/Connect Acknowledge)	6.91	7.68	1	2

VOICE TEST KPI STATISTICS (Long Call)

Phase-1

Long Call Statistics		
Long Call Scenario	Operator 1	Operator 2
Voice KPIs	Airtel	CWS
Call Connected	34	34
Call Dropped	0	0
Call Completed	34	34
CRR[%]	100.00	100.00
DCR[%]	0.00	0.00
MOS	3.23	3.46

	Airtel short call	CWS short call	Airtel long call	CWS long call
CSFB Calls	119	124	28	33
CS Calls	11	3	6	1

Handover Statistics	Airtel MO	CWS MO
Handover Attempt	45	81
Handover Failure	1	0
Handover Success	44	81
HOSR %	97.78	100.00

Phase-2

Long Call Statistics		
Long Call Scenario	Operator 1	Operator 2
Voice KPIs	Airtel	CWS
Call Connected	30	30
Call Dropped	0	0
Call Completed	30	30
CRR[%]	100.00	100.00
DCR[%]	0.00	0.00
MOS	3.16	3.46

	Airtel short call	CWS short call	Airtel long call	CWS long call
CSFB Calls	107	107	26	30
CS Calls	7	4	4	0

Handover Statistics	Airtel MO	CWS MO
Handover Attempt	48	136
Handover Failure	0	0
Handover Success	48	136
HOSR %	100.00	100.00

DATA TEST KPI STATISTICS(4G Preferred)

		Phase-1				Phase-2			
DATA Scenario		Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)	Airtel 4G	CWS 4G	Airtel 4G (Rank)	CWS 4G (Rank)
FILE TRANSFER	SFTP DL (Mbps)	11.04	4.2	1	2	9.40	3.14	1	2
	SFTP UL(Mbps)	5.94	3.6	1	2	5.13	2.34	1	2
	HTTP DL(Mbps)	13.95	4.71	1	2	15.70	4.50	1	2
	HTTP UL(Mbps)	9.44	6.03	1	2	8.76	3.18	1	2
	HTTP Capacity DL(Mbps)	26.86	20.61	1	2	23.42	9.87	1	2
	HTTP Capacity UL(Mbps)	18.81	17.57	1	2	17.01	8.61	1	2
BROWSER	Overall Browser DL Time (s)	10.98	10.81	2	1	10.20	10.48	1	2
	Kepler Webpage DL Time (s)	5.44	4.76	2	1	4.78	5.78	1	2
	Mobile Kepler Webpage DL Time (s)	2.02	2.94	1	2	2.41	2.59	1	2
	www.shein.com Webpage DL Time (s)	7.43	10.95	1	2	6.63	15.58	1	2
	www.nbs.gov.sc Webpage DL Time (s)	18.7	15.77	2	1	17.90	16.84	2	1
	www.sbc.sc Webpage DL Time (s)	21.52	20.78	2	1	18.73	15.07	2	1
LATENCY	Avg Latency (ms)	278.41	204.64	2	1	290.58	179.73	2	1
	Median Latency (ms)	264	193	2	1	276	190	2	1
YOUTUBE	YouTube Access Time (s)	5.45	2.08	2	1	5.40	3.21	2	1
	YouTube Average Resolution (pixels)	1051.55	996.58	1	2	1080.00	891.88	1	2
	YouTube Success Ratio [%]	100	100	1	1	94.44	100.00	2	1

4G PREFERRED THROUGHPUT FILE ACCESS

Phase-1

Test Type	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
SFTP DL	Success	19	17	100.00	100.00
	Failure	0	0	0.00	0.00
SFTP UL	Success	20	16	100.00	94.12
	Failure	0	1	0.00	5.88
HTTP DL	Success	20	16	100.00	94.12
	Failure	0	1	0.00	5.88
HTTP UL	Success	20	16	100.00	94.12
	Failure	0	1	0.00	5.88
HTTP Capacity DL	Success	18	15	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP Capacity UL	Success	17	15	94.44	100.00
	Failure	1	0	5.56	0.00

Phase-2

Test Type	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
SFTP DL	Success	18	13	94.74	92.86
	Failure	1	1	5.26	7.14
SFTP UL	Success	17	13	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP DL	Success	18	13	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP UL	Success	18	13	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP Capacity DL	Success	15	12	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP Capacity UL	Success	15	11	93.75	100.00
	Failure	1	0	6.25	0.00

4G PREFERRED BROWSING FILE ACCESS

Phase-1

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Kepler	Success	20	17	100.00	100.00
	Failure	0	0	0.00	0.00
Mobile Kepler	Success	18	15	100.00	100.00
	Failure	0	0	0.00	0.00
www.shein.com	Success	20	16	100.00	94.12
	Failure	0	1	0.00	5.88
www.nbs.gov.sc	Success	20	16	100.00	94.12
	Failure	0	1	0.00	5.88
www.sbc.sc	Success	19	14	95.00	87.50
	Failure	1	2	5.00	12.50

Phase-2

Web Page	Status	Airtel 4G	CWS 4G	Airtel 4G (%)	CWS 4G (%)
Kepler	Success	15	12	88.24	92.31
	Failure	2	1	11.76	7.69
Mobile Kepler	Success	16	12	100.00	100.00
	Failure	0	0	0.00	0.00
www.shein.com	Success	17	12	100.00	100.00
	Failure	0	0	0.00	0.00
www.nbs.gov.sc	Success	17	12	100.00	100.00
	Failure	0	0	0.00	0.00
www.sbc.sc	Success	16	3	94.12	25.00
	Failure	1	9	5.88	75.00

4G PREFERRED LATENCY

Phase-1

	Latency KPIs	Airtel 4G	CWS 4G
Overall Latency	Sample Count [32 bytes]	38	31
	Average Latency [ms]	275.29	223.71
	Median Latency [ms]	275	193
	Ping session status: Successful	38	31
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
www.google.com	Average Latency [ms]	414.28	218.80
	Median Latency [ms]	411	162
	Ping session status: Successful	18	15
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
102.133.176.104	Average Latency [ms]	150.20	228.31
	Median Latency [ms]	122	199
	Ping session status: Successful	20	16
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00

Phase-2

	Latency KPIs	Airtel 4G	CWS 4G
Overall Latency	Sample Count [32 bytes]	32	23
	Average Latency [ms]	285.44	184.14
	Median Latency [ms]	262	190
	Ping session status: Successful	32	23
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	2	2
	Packet Loss<1%	5.88	8.00
www.google.com	Average Latency [ms]	409.73	155.10
	Median Latency [ms]	409	151
	Ping session status: Successful	15	11
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	1
	Packet Loss<1%	6.25	8.33
102.133.176.104	Average Latency [ms]	175.76	208.33
	Median Latency [ms]	135	200
	Ping session status: Successful	17	12
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	1
	Packet Loss<1%	5.56	7.69

4G PREFERRED YOUTUBE COMPARISON

Phase-1

LTE YOUTUBE Success Ratio		
KPIs	Airtel 4G	CWS 4G
Attempt(Count)	20	17
Success(Count)	20	17
Failure(Count)	0	0
YouTube Access Time (s)	5.45	2.08
YouTube Average Resolution (pixels)	1051.55	996.58
YouTube Success Ratio [%]	100.00	100.00

Phase-2

LTE YOUTUBE Success Ratio		
KPIs	Airtel 4G	CWS 4G
Attempt(Count)	18	13
Success(Count)	17	13
Failure(Count)	1	0
YouTube Access Time (s)	5.40	3.21
YouTube Average Resolution (pixels)	1080.00	891.88
YouTube Success Ratio [%]	94.44	100.00

DATA TEST KPI STATISTICS (3G Preferred)

DATA Scenario		Phase-1				Phase-2			
		Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)	Airtel 3G	CWS 3G	Airtel 3G (Rank)	CWS 3G (Rank)
FILE TRANSFER	SFTP DL (Mbps)	4.20	2.59	1	2	5.01	3.21	1	2
	SFTP UL(Mbps)	1.43	0.81	1	2	1.59	0.87	1	2
	HTTP DL(Mbps)	4.36	2.48	1	2	4.15	3.20	1	2
	HTTP UL(Mbps)	2.15	0.90	1	2	2.29	1.38	1	2
	HTTP Capacity DL(Mbps)	6.04	6.41	2	1	7.46	7.79	2	1
	HTTP Capacity UL(Mbps)	5.36	3.26	1	2	4.67	3.74	1	2
BROWSER	Overall Browser DL Time (s)	9.69	9.74	1	2	7.96	9.35	1	2
	Kepler Webpage DL Time (s)	4.48	8.41	1	2	3.98	7.46	1	2
	Mobile Kepler Webpage DL Time (s)	3.09	3.57	1	2	2.16	3.80	1	2
	www.shein.com Webpage DL Time (s)	10.27	11.42	1	2	8.74	11.07	1	2
	www.nbs.gov.sc Webpage DL Time (s)	11.39	10.79	2	1	12.25	11.16	2	1
	www.sbc.sc Webpage DL Time (s)	20.63	15.29	2	1	13.21	14.10	1	2
LATENCY	Avg Latency (ms)	290.74	200.33	2	1	290.11	206.63	2	1
	Median Latency (ms)	371	195	2	1	270	195	2	1
YOUTUBE	YouTube Access Time (s)	3.59	2.45	2	1	3.54	2.12	2	1
	YouTube Average Resolution (pixels)	1022.03	971.79	1	2	1080.00	1051.75	1	2
	YouTube Success Ratio [%]	100.00	80.00	1	2	100.00	78.57	1	2

3G PREFERRED THROUGHPUT FILE ACCESS

Phase-1

Test Type	Status	Airtel 3G	CWS 3G	Airtel 3G (%)	CWS 3G (%)
SFTP DL	Success	17	10	100.00	90.91
	Failure	0	1	0.00	9.09
SFTP UL	Success	17	13	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP DL	Success	17	13	100.00	86.67
	Failure	0	2	0.00	13.33
HTTP UL	Success	17	11	100.00	73.33
	Failure	0	4	0.00	26.67
HTTP Capacity DL	Success	15	15	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP Capacity UL	Success	14	8	93.33	57.14
	Failure	1	6	6.67	42.86

Phase-2

Test Type	Status	Airtel 3G	CWS 3G	Airtel 3G (%)	CWS 3G (%)
SFTP DL	Success	16	13	100.00	100.00
	Failure	0	0	0.00	0.00
SFTP UL	Success	16	10	100.00	71.43
	Failure	0	4	0.00	28.57
HTTP DL	Success	16	13	100.00	92.86
	Failure	0	1	0.00	7.14
HTTP UL	Success	16	10	100.00	71.43
	Failure	0	4	0.00	28.57
HTTP Capacity DL	Success	14	13	100.00	100.00
	Failure	0	0	0.00	0.00
HTTP Capacity UL	Success	13	11	100.00	84.62
	Failure	0	2	0.00	15.38

3G PREFERRED BROWSING FILE ACCESS

Phase-1

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Kepler	Success	17	13	100.00	86.67
	Failure	0	2	0.00	13.33
Mobile Kepler	Success	15	14	100.00	93.33
	Failure	0	1	0.00	6.67
www.shein.com	Success	16	14	94.12	100.00
	Failure	1	0	5.88	0.00
www.nbs.gov.sc	Success	15	13	100.00	86.67
	Failure	0	2	0.00	13.33
www.sbc.sc	Success	14	12	93.33	85.71
	Failure	1	2	6.67	14.29

Phase-2

Web Page	Status	Airtel 3G	CWS 3G	Airtel 3G(%)	CWS 3G (%)
Kepler	Success	16	9	100.00	75.00
	Failure	0	3	0.00	25.00
Mobile Kepler	Success	14	13	100.00	100.00
	Failure	0	0	0.00	0.00
www.shein.com	Success	15	10	100.00	90.91
	Failure	0	1	0.00	9.09
www.nbs.gov.sc	Success	14	11	93.33	91.67
	Failure	1	1	6.67	8.33
www.sbc.sc	Success	14	11	100.00	84.62
	Failure	0	2	0.00	15.38

3G PREFERRED LATENCY

Phase-1

	Latency KPIs	Airtel 3G	CWS 3G
Overall Latency	Sample Count [32 bytes]	31	27
	Average Latency [ms]	315.74	183.33
	Median Latency [ms]	400	195
	Ping session status: Successful	31	27
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	1
	Packet Loss<1%	3.13	3.57
www.google.com	Average Latency [ms]	423.53	154.50
	Median Latency [ms]	416	140
	Ping session status: Successful	15	14
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00
102.133.176.104	Average Latency [ms]	214.69	214.38
	Median Latency [ms]	198	199
	Ping session status: Successful	16	13
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	1	1
	Packet Loss<1%	5.88	7.14

Phase-2

	Latency KPIs	Airtel 3G	CWS 3G
Overall Latency	Sample Count [32 bytes]	30	21
	Average Latency [ms]	311.27	194.86
	Median Latency [ms]	396	185
	Ping session status: Successful	30	21
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	1
	Packet Loss<1%	0.00	4.55
www.google.com	Average Latency [ms]	412.43	158.75
	Median Latency [ms]	411	153
	Ping session status: Successful	14	12
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	1
	Packet Loss<1%	0.00	7.69
102.133.176.104	Average Latency [ms]	222.75	243.00
	Median Latency [ms]	193	216
	Ping session status: Successful	16	9
	Ping session status: Failed [Socket error]	0	0
	Ping session status: Failed [Protocol error timeout]	0	0
	Packet Loss<1%	0.00	0.00

3G PREFERRED YOUTUBE COMPARISON

Phase-1

UMTS YOUTUBE Success Ratio		
KPIs	Airtel 3G	CWS 3G
Attempt(Count)	17	15
Success(Count)	17	12
Failure(Count)	0	3
YouTube Access Time (s)	3.59	2.45
YouTube Average Resolution (pixels)	1022.03	971.79
YouTube Success Ratio [%]	100.00	80.00

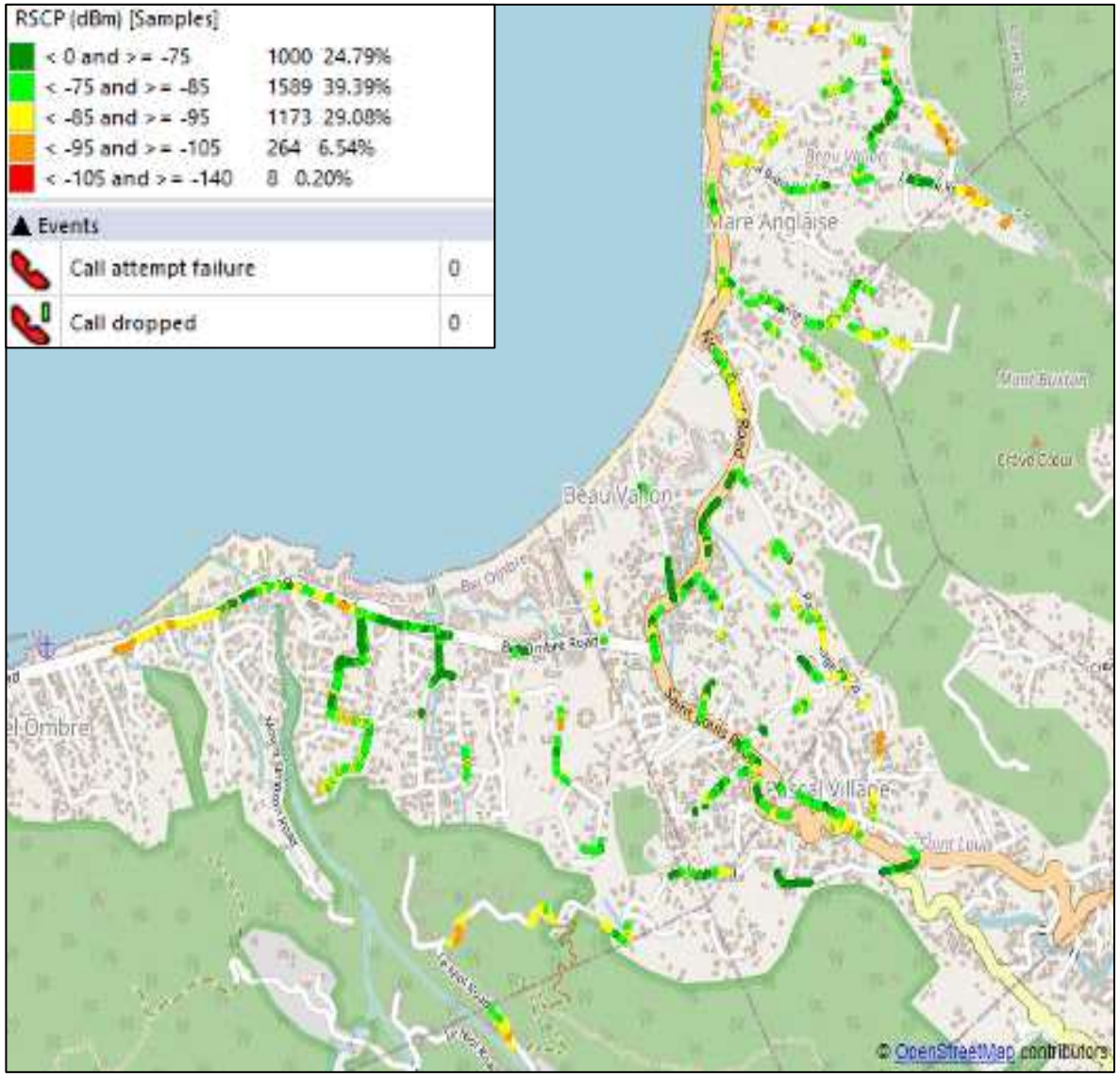
Phase-2

UMTS YOUTUBE Success Ratio		
KPIs	Airtel 3G	CWS 3G
Attempt(Count)	16	14
Success(Count)	16	11
Failure(Count)	0	3
YouTube Access Time (s)	3.54	2.12
YouTube Average Resolution (pixels)	1080.00	1051.75
YouTube Success Ratio [%]	100.00	78.57

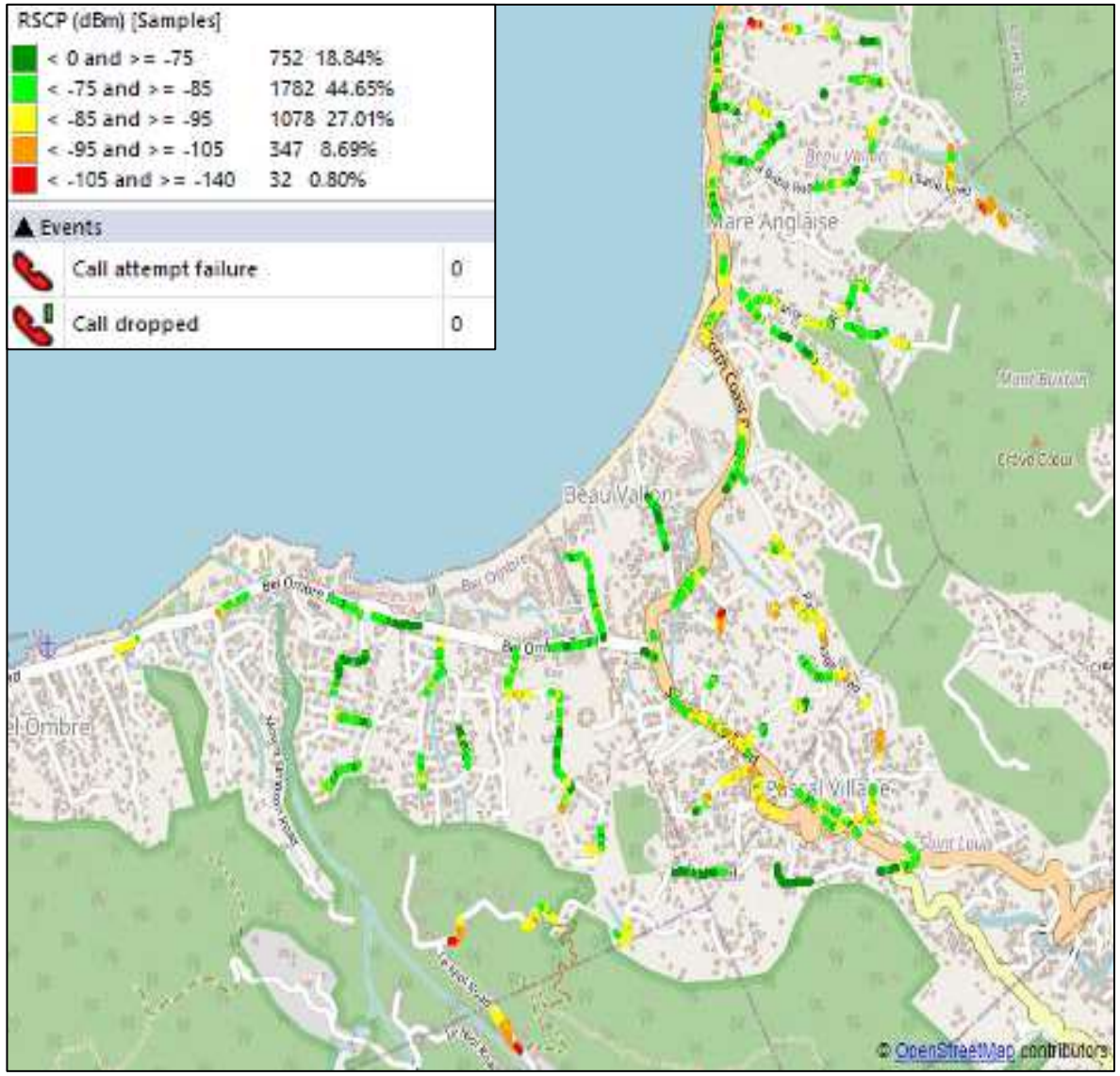
Voice Call Events

Phase-1 SHORT CALL FAILURE EVENTS LOCATION vs RSCP

Airtel SC MO

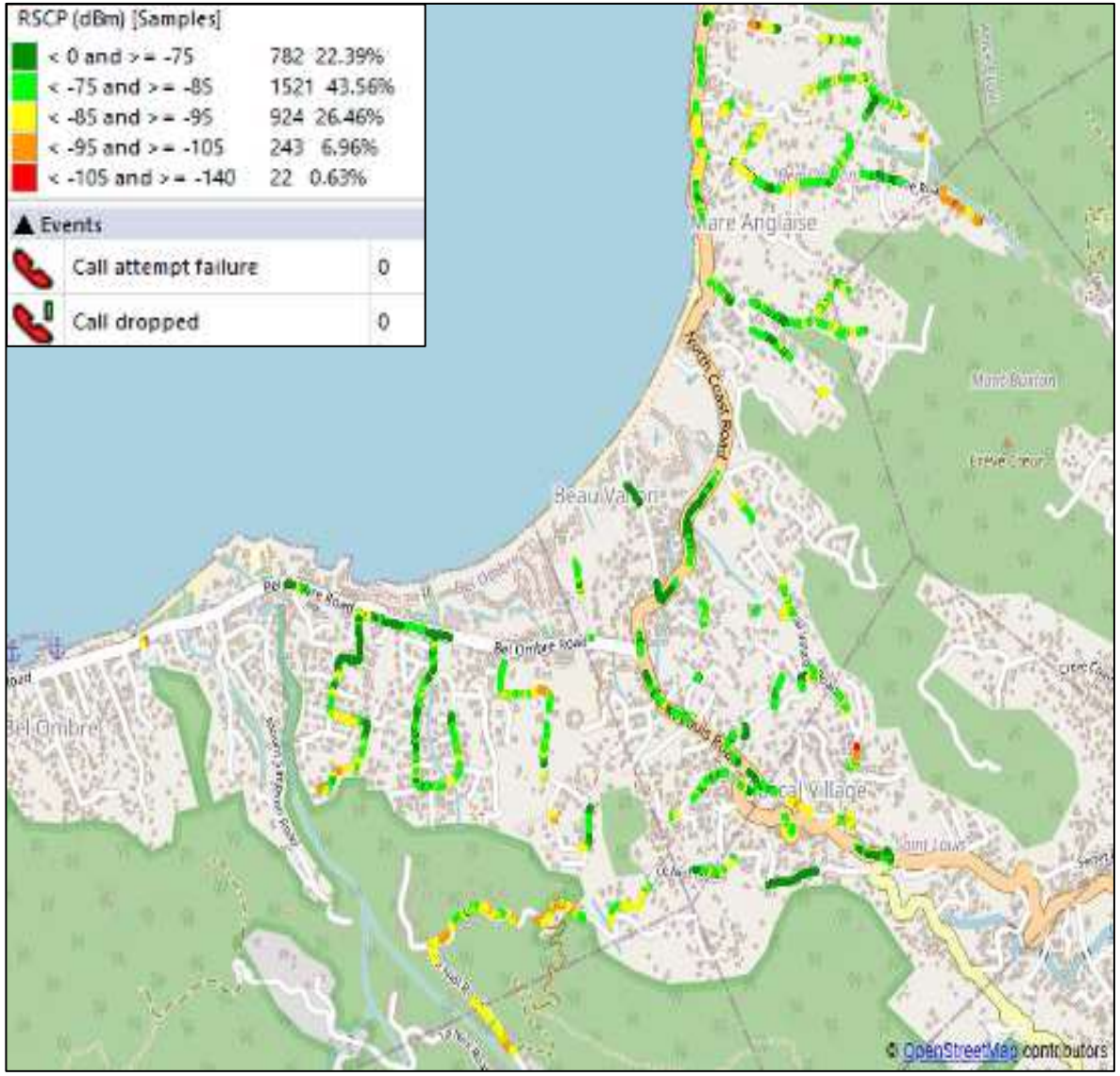


CWS SC MO

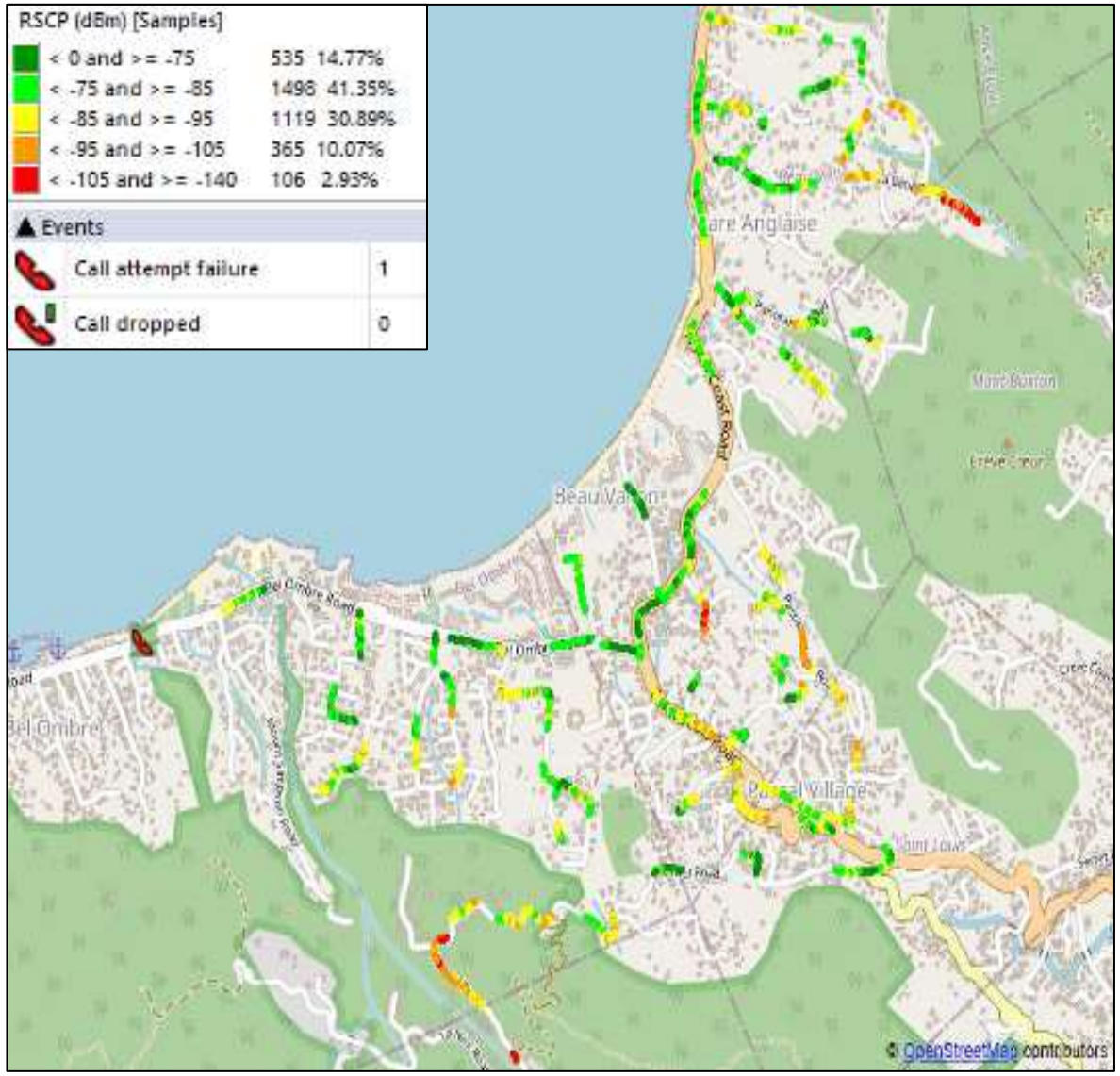


Phase-2 SHORT CALL FAILURE EVENTS LOCATION vs RSCP

Airtel SC MO

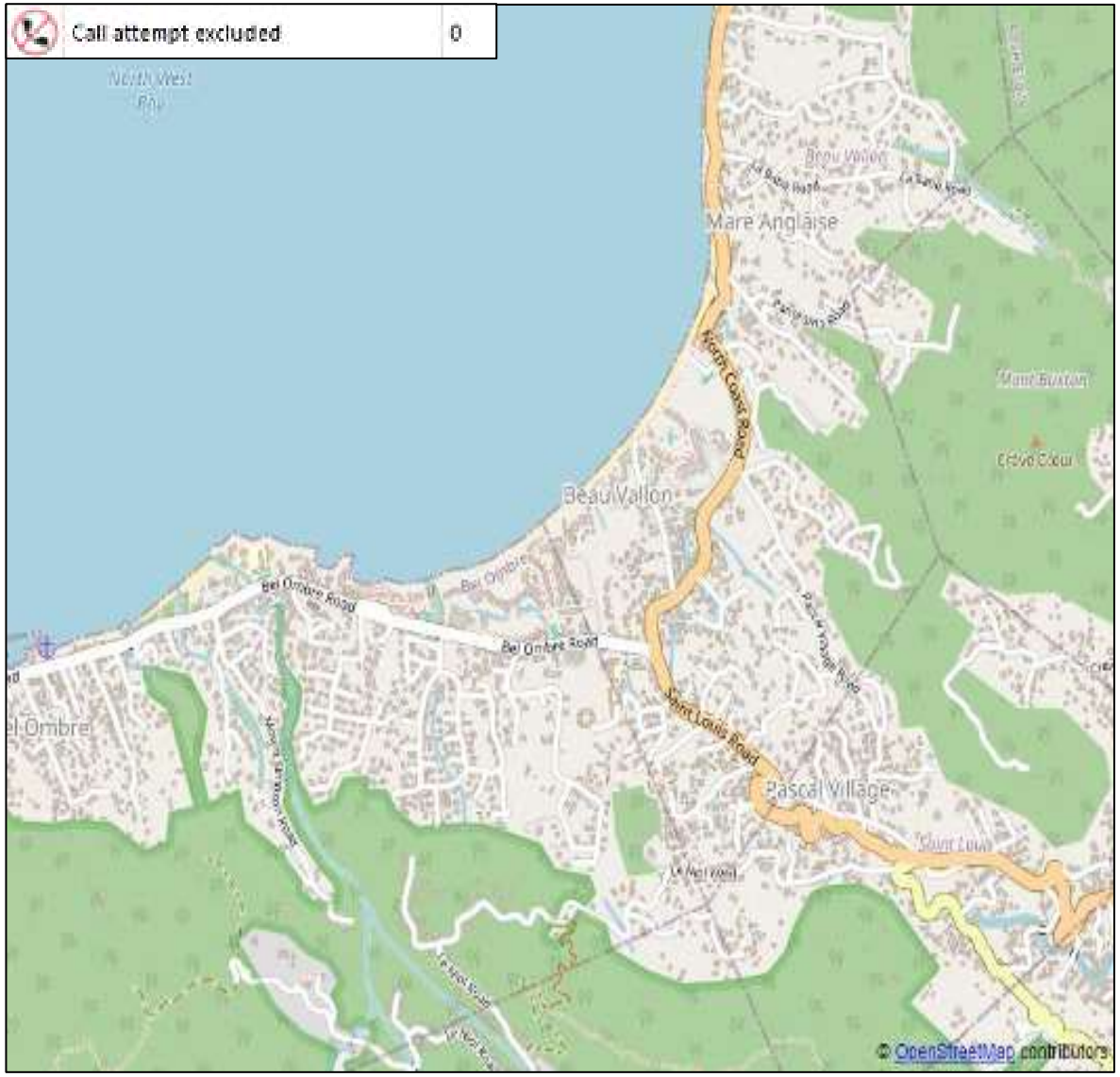


CWS SC MO

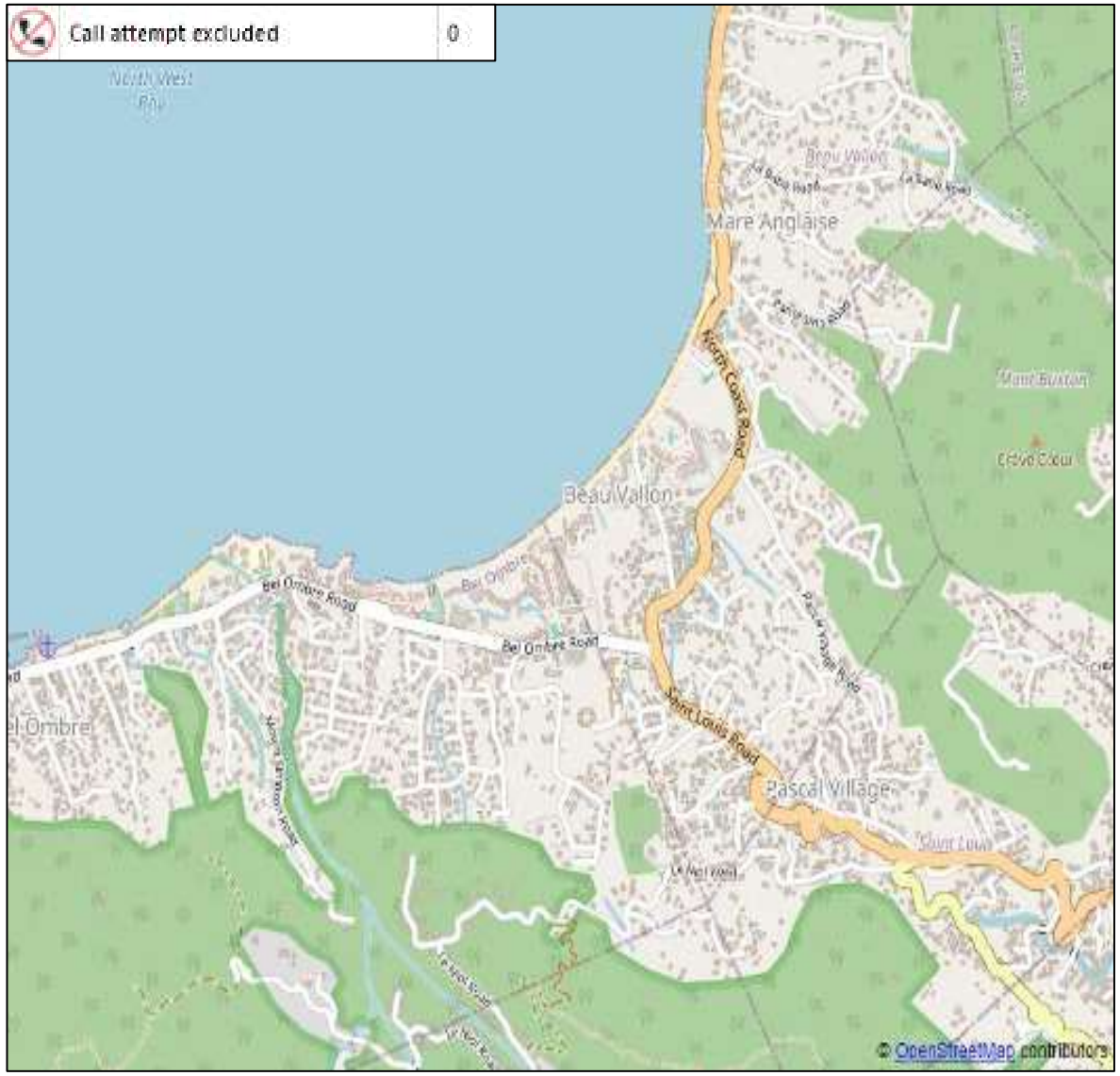


Phase-1 SHORT CALL EXCLUDED EVENTS

Airtel SC MO

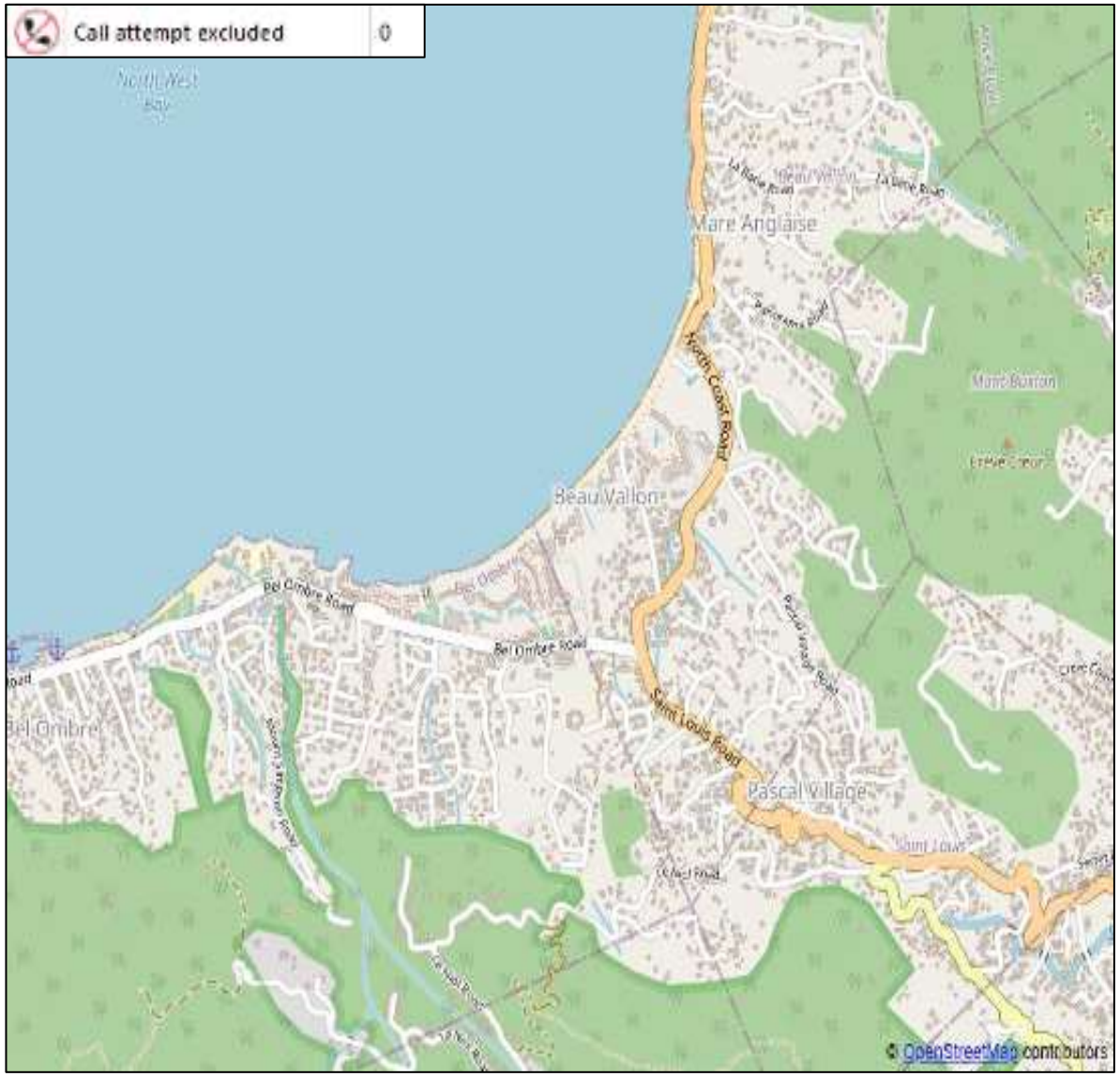


CWS SC MO

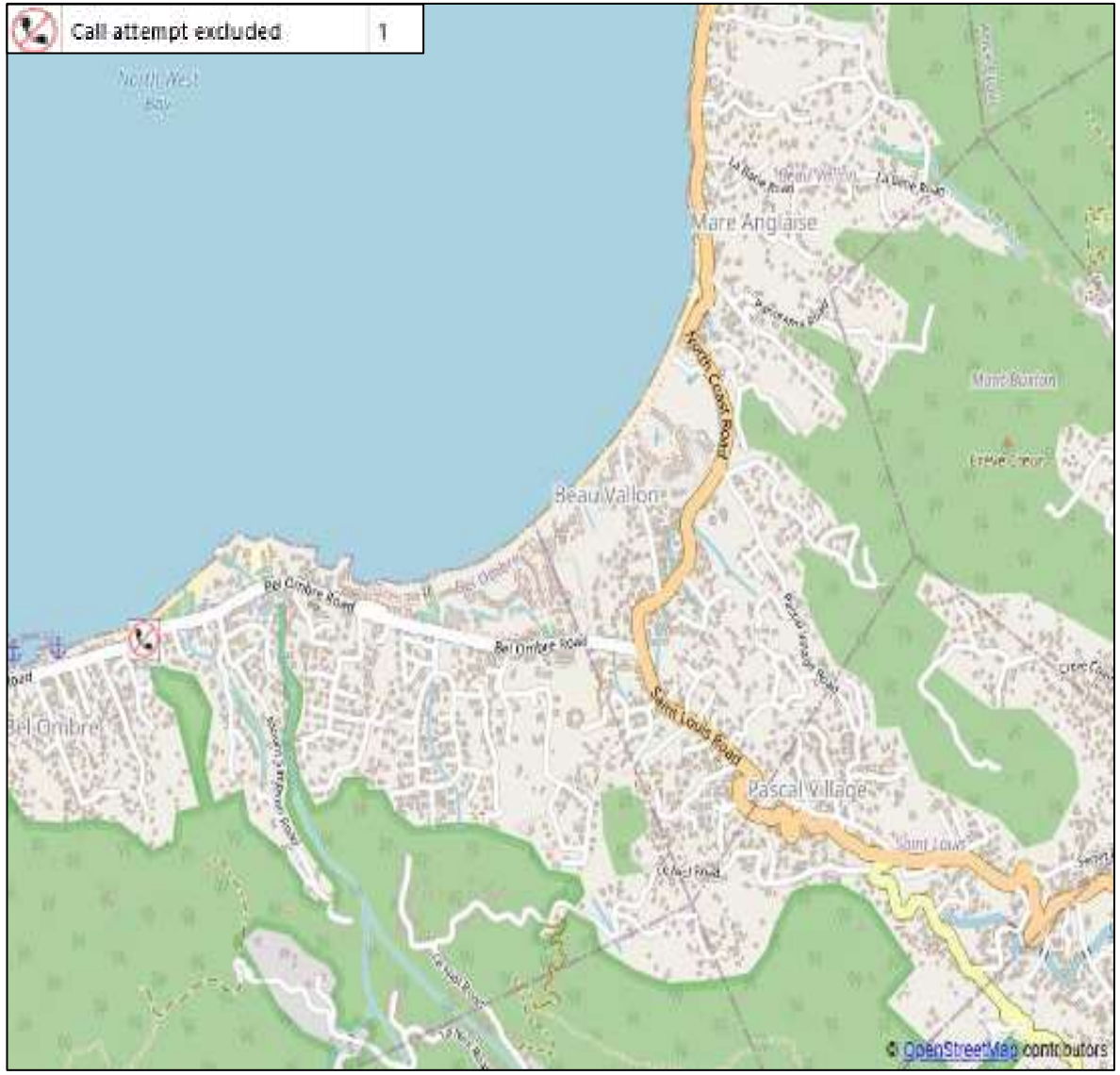


Phase-2 SHORT CALL EXCLUDED EVENTS

Airtel SC MO

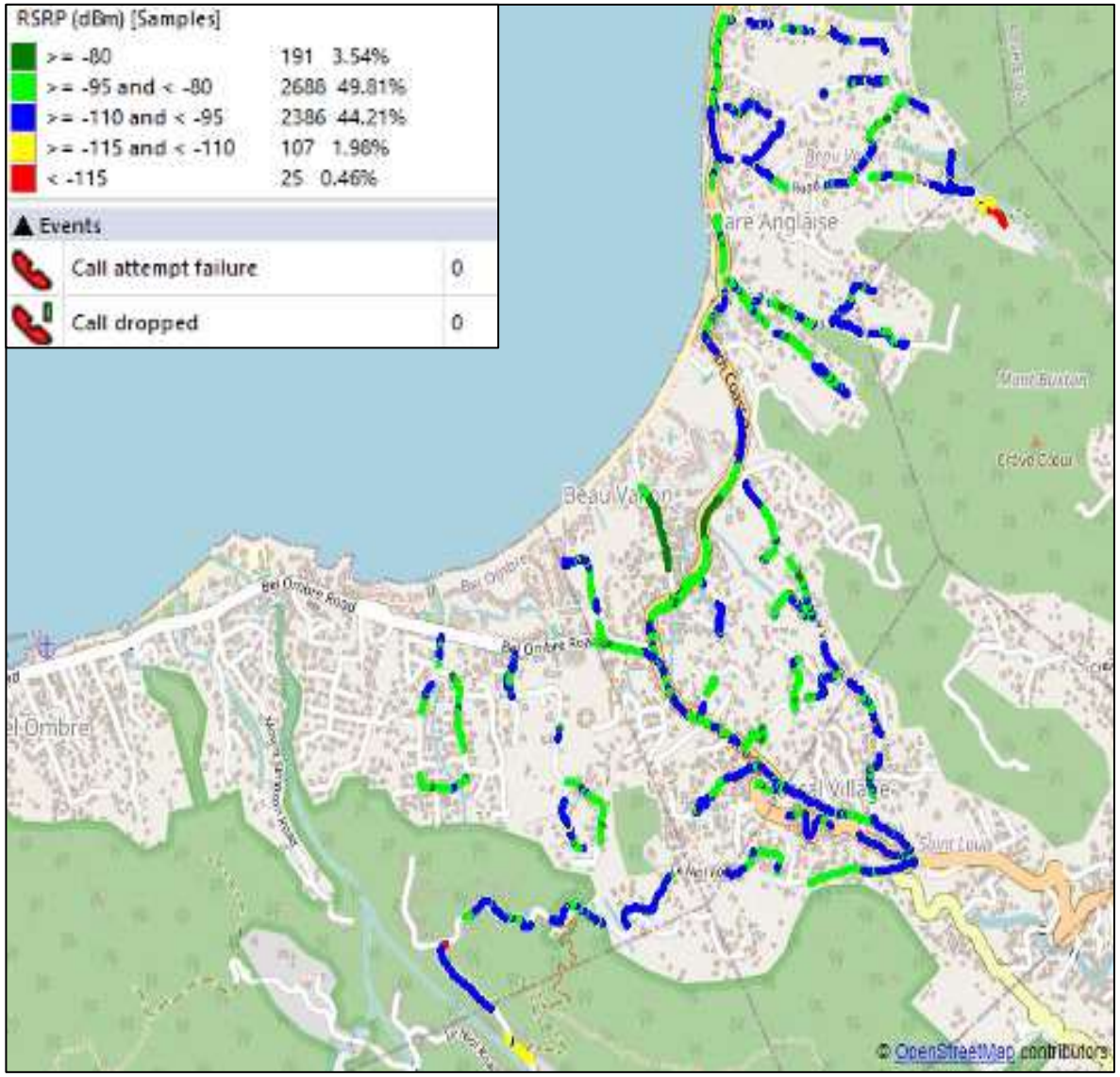


CWS SC MO

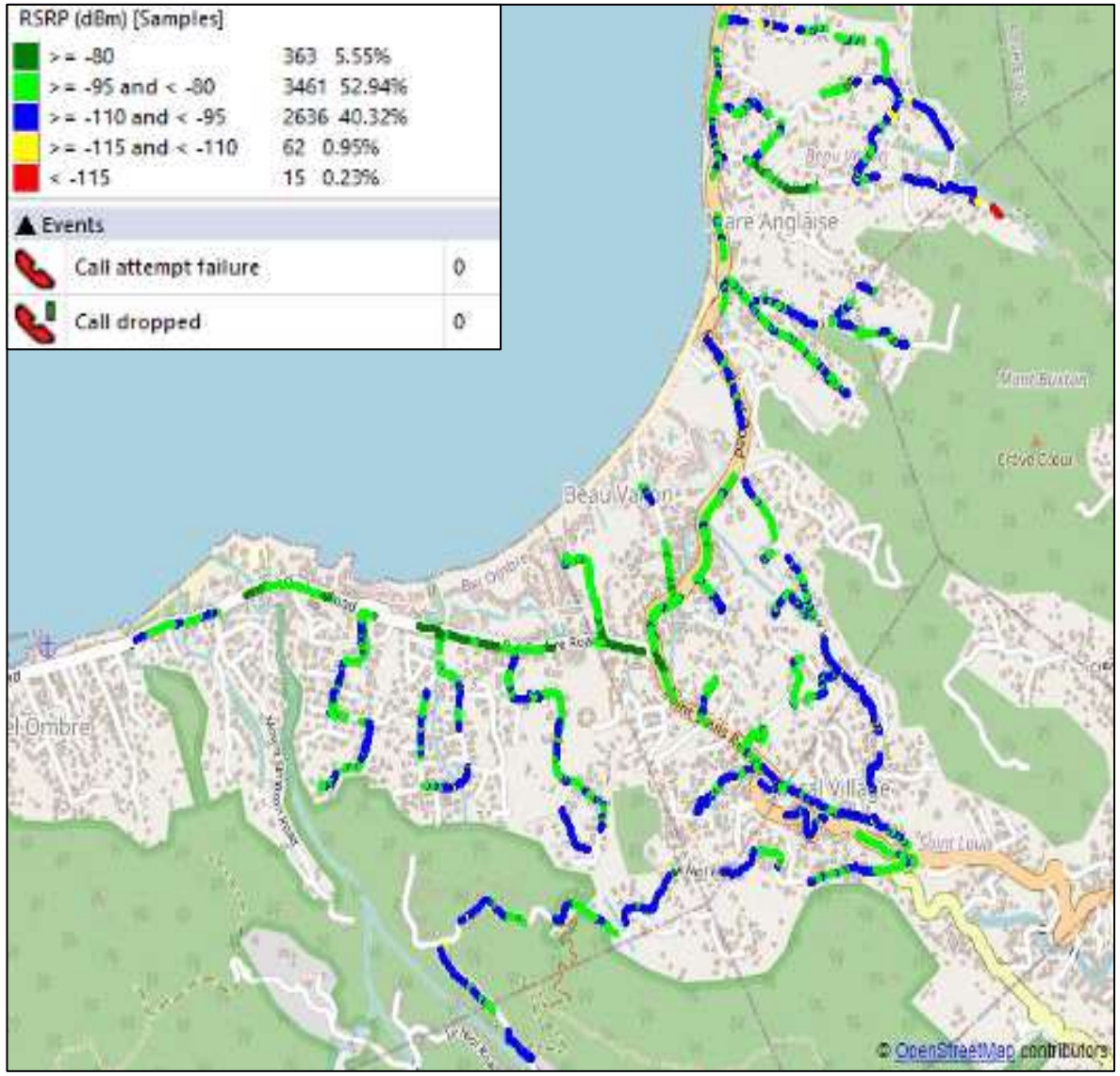


Phase-1 SHORT CALL FAILURE EVENTS LOCATION vs RSRP

Airtel SC MO

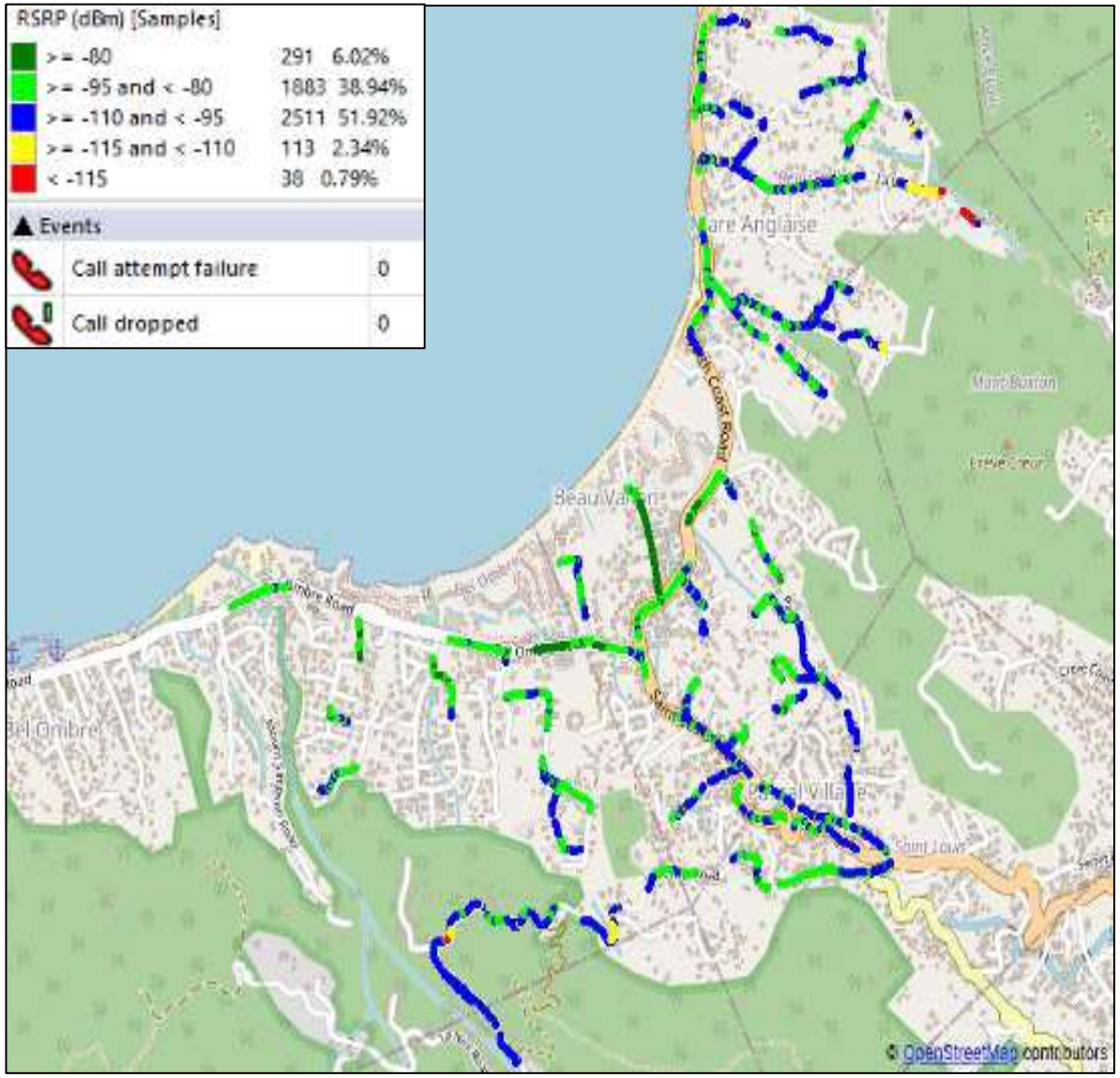


CWS SC MO

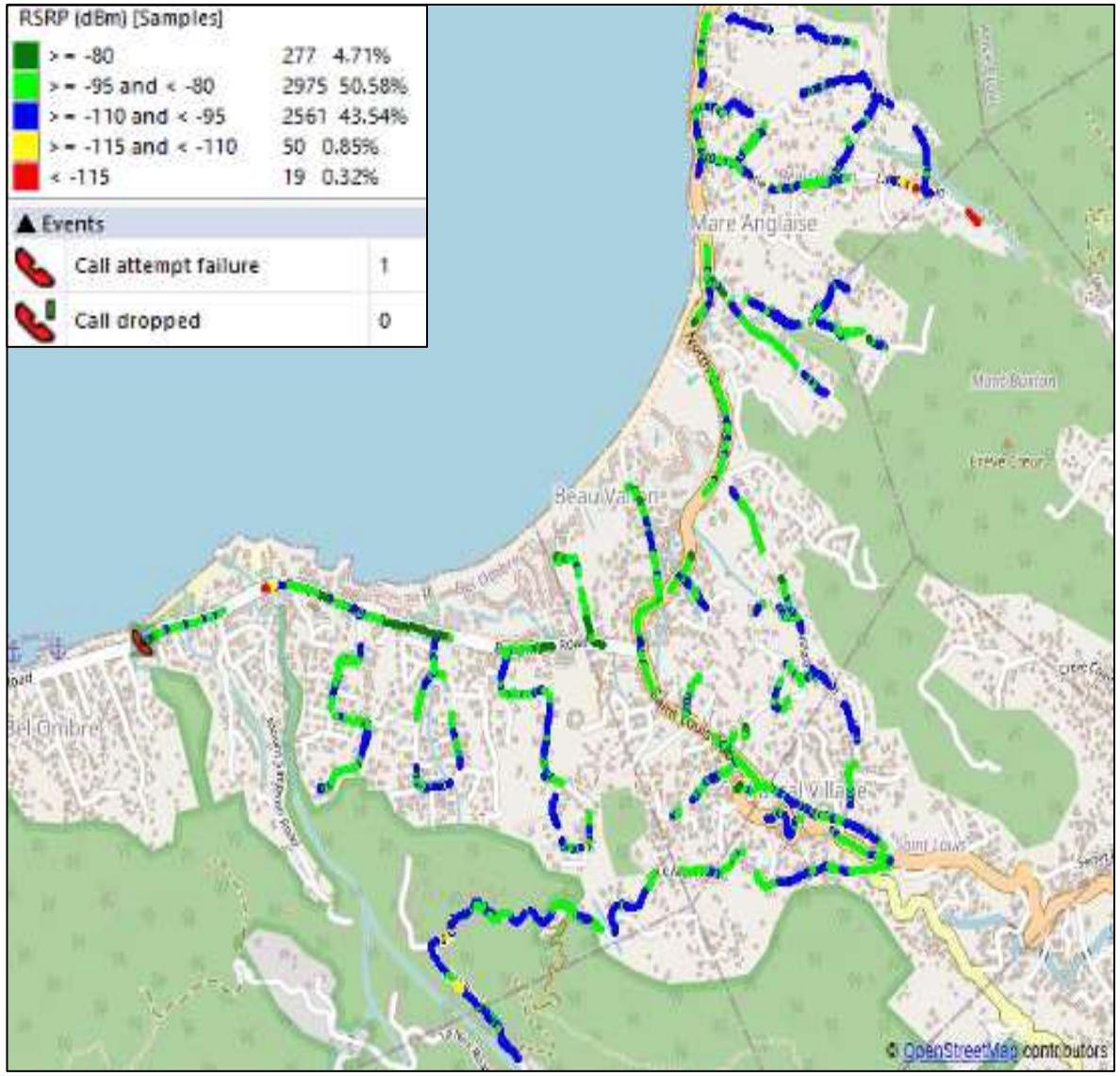


Phase-2 SHORT CALL FAILURE EVENTS LOCATION vs RSRP

Airtel SC MO

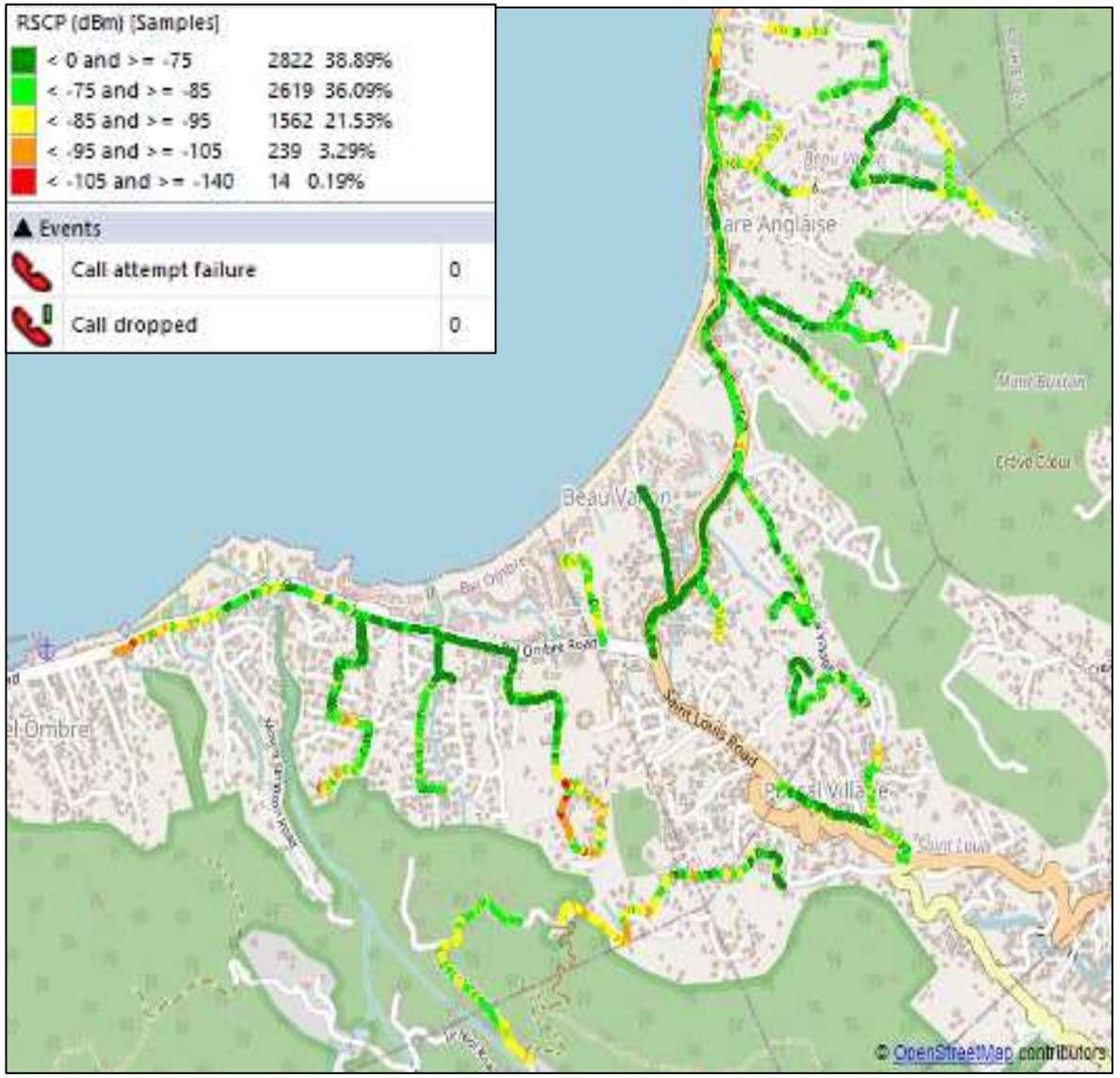


CWS SC MO

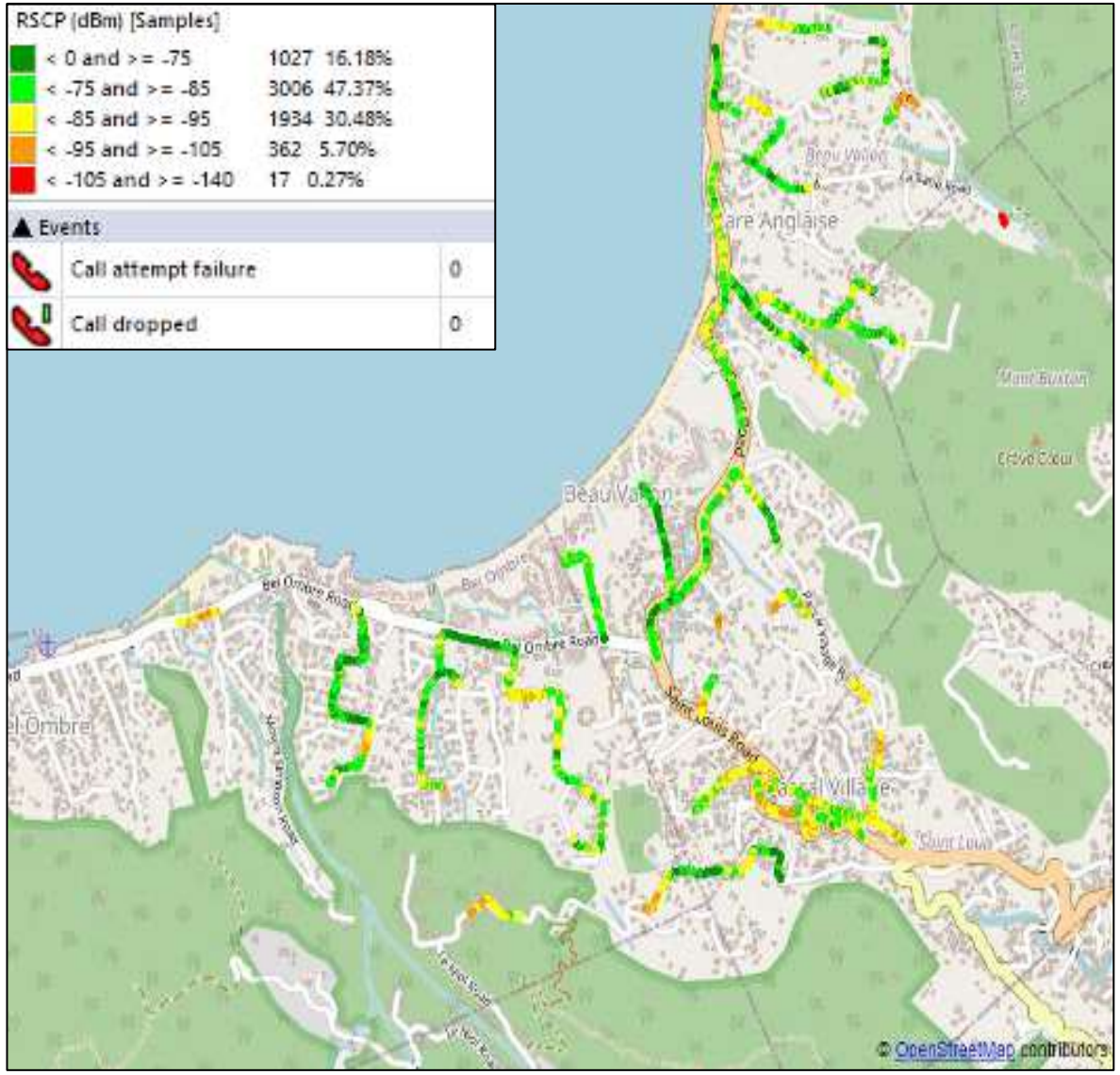


Phase-1 LONG CALL FAILURE EVENTS LOCATION vs RSCP

Airtel LC MO

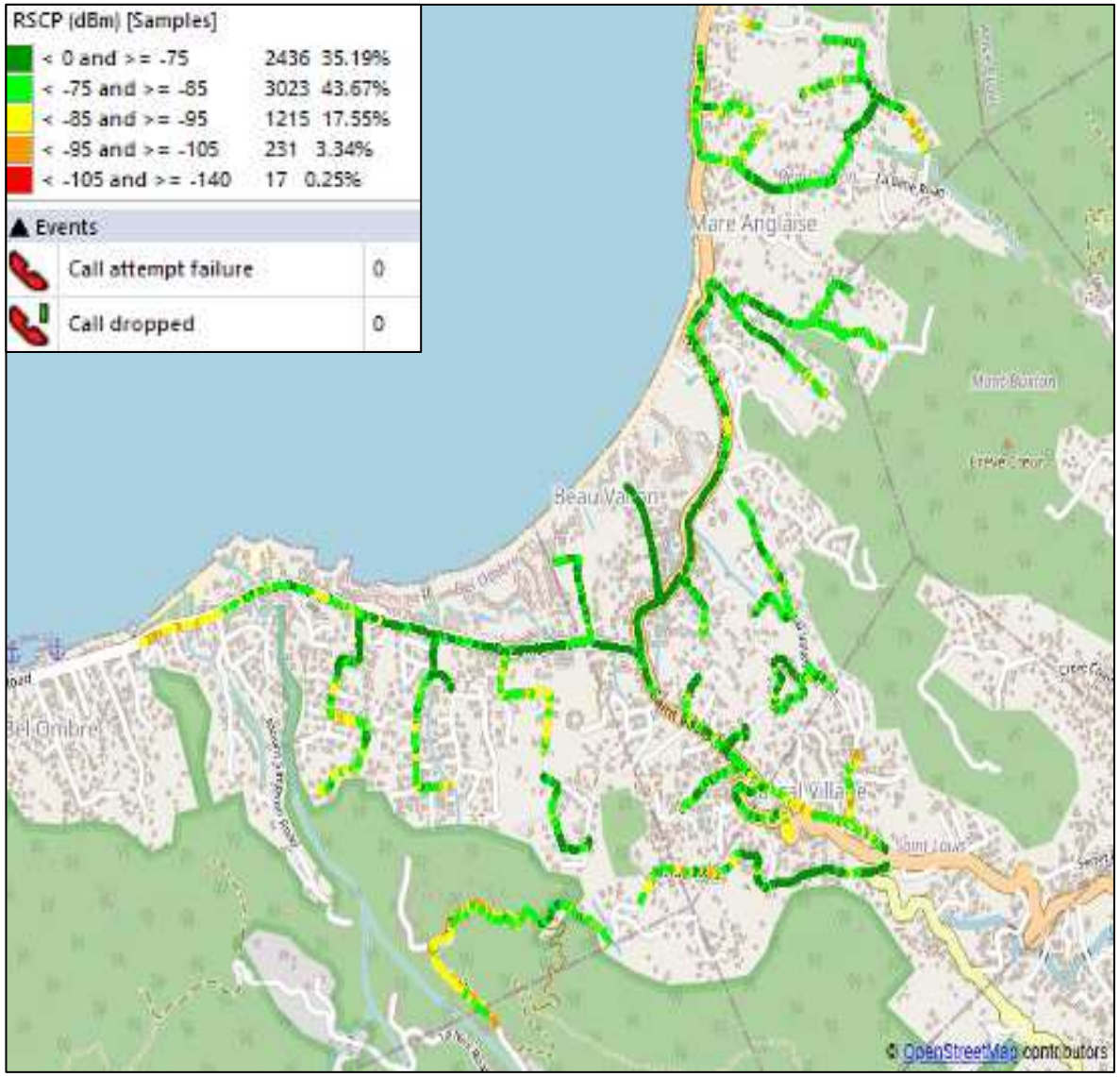


CWS LC MO

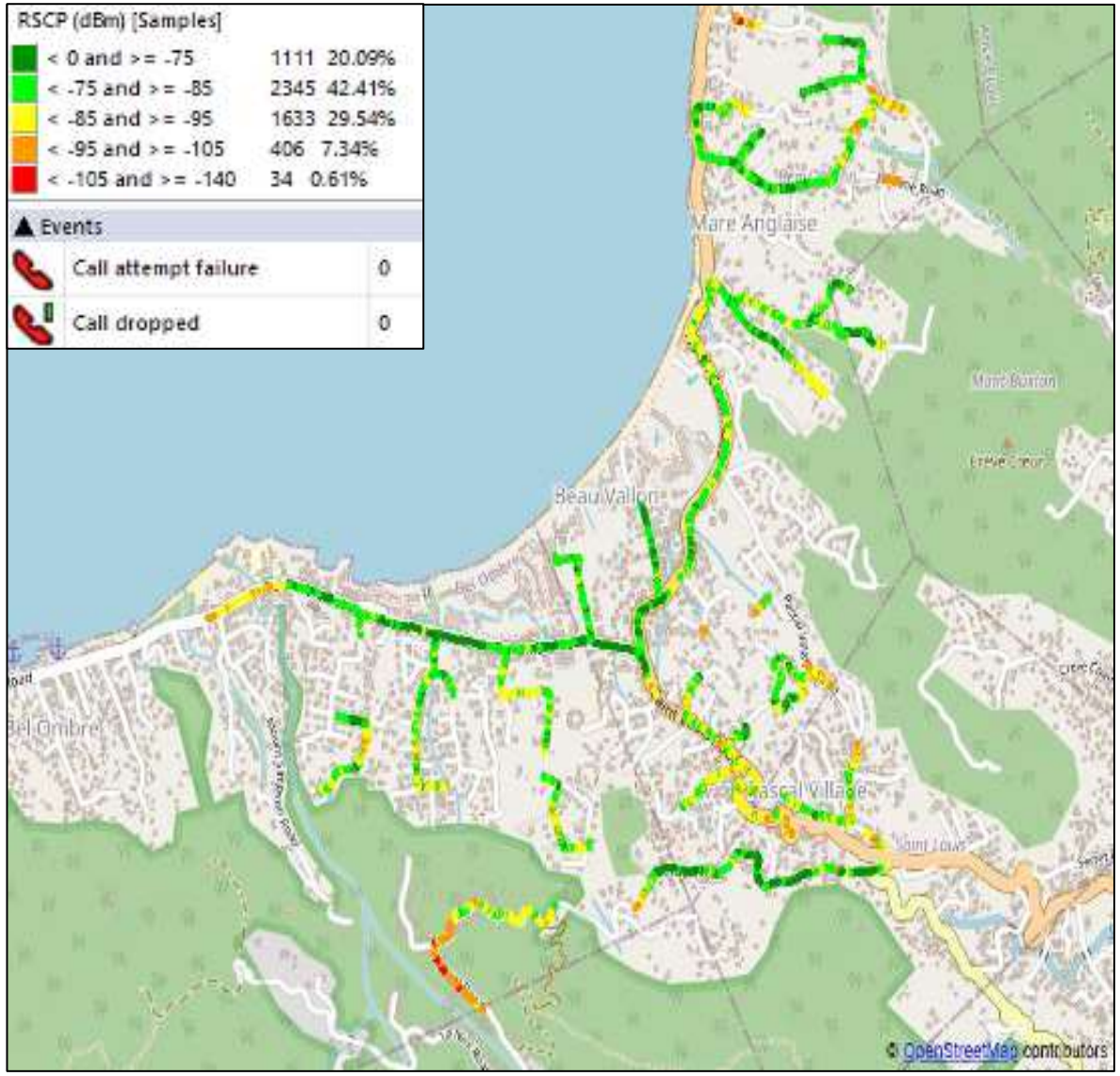


Phase-2 LONG CALL FAILURE EVENTS LOCATION vs RSCP

Airtel LC MO

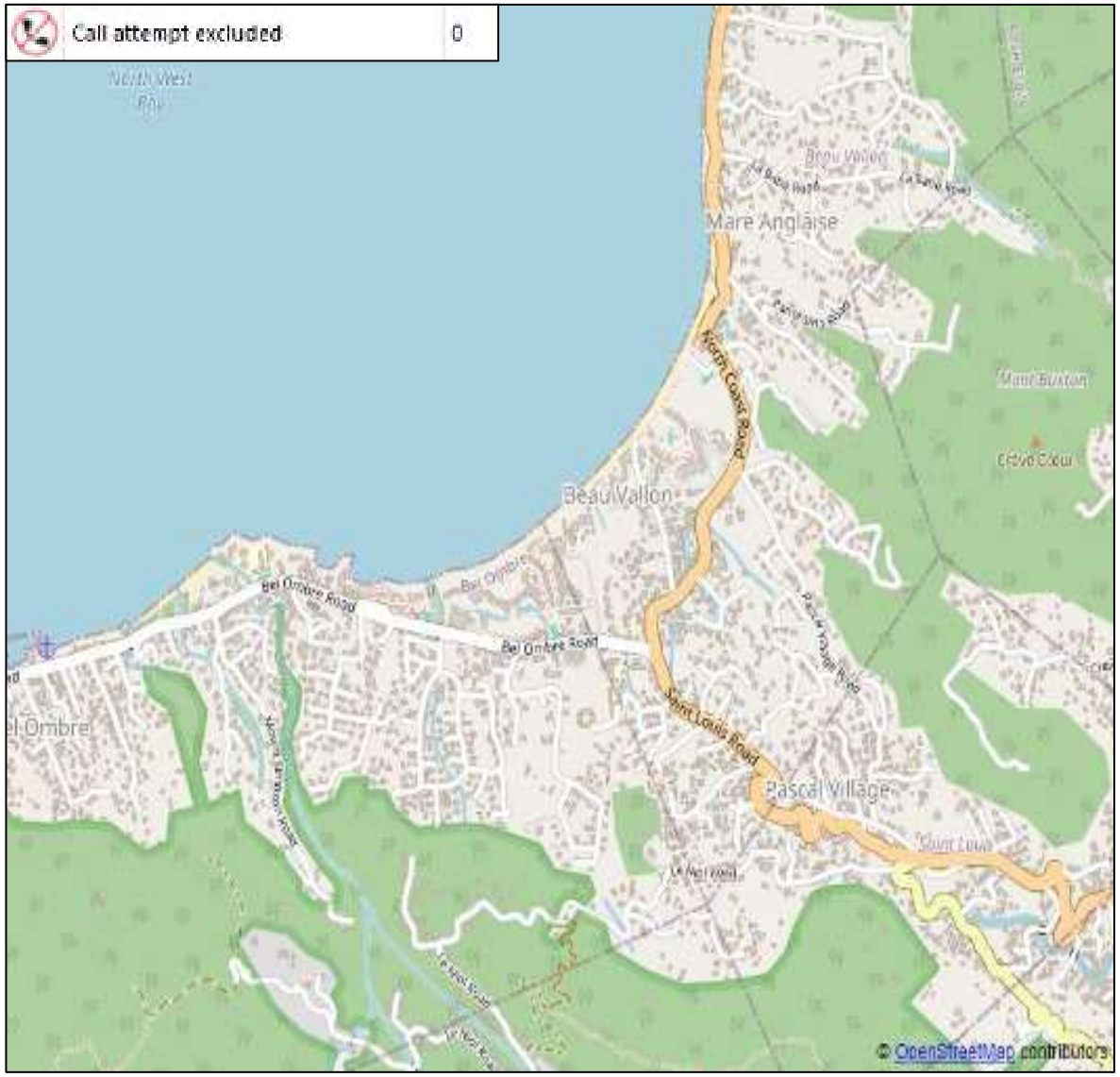


CWS LC MO

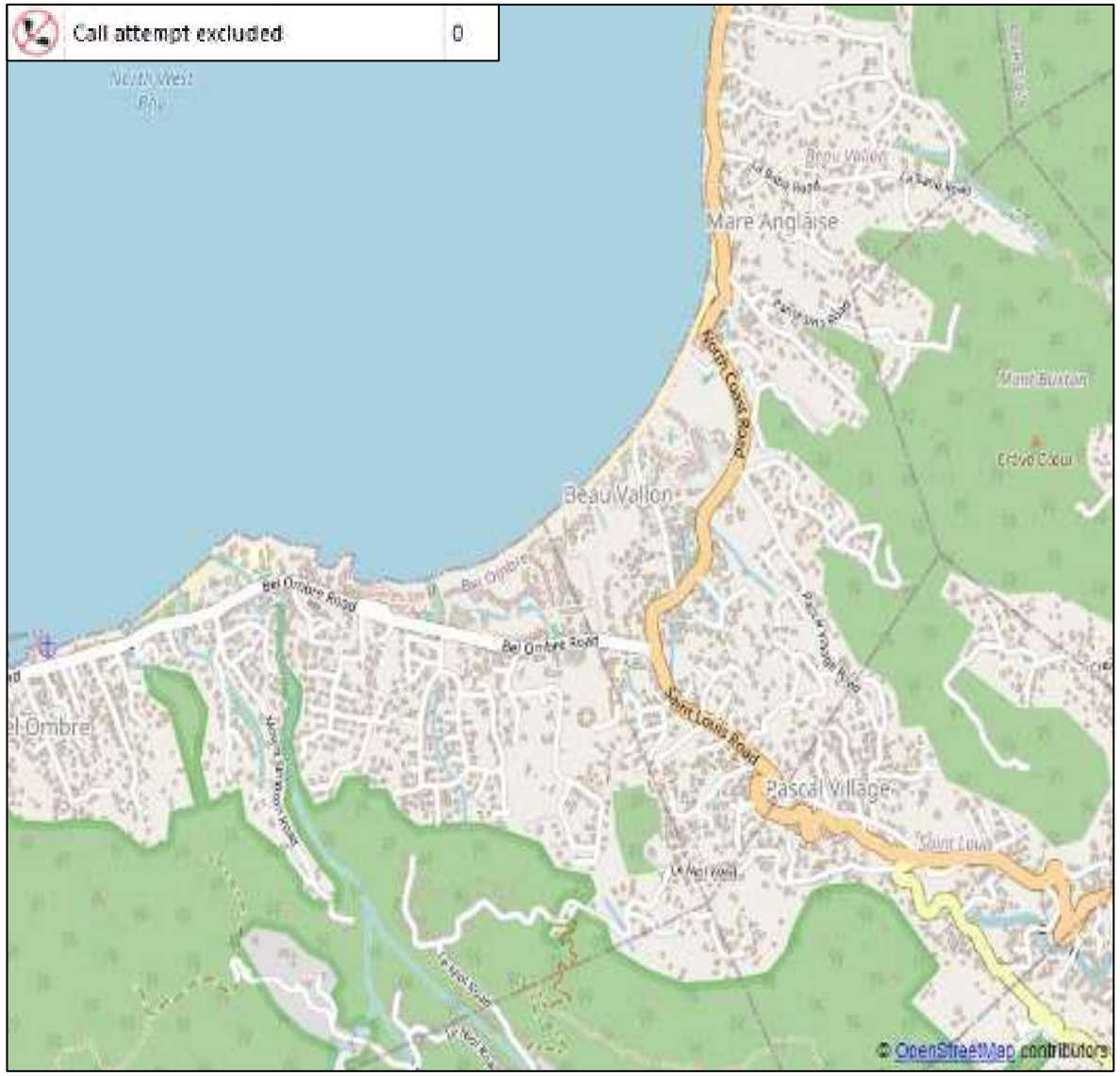


Phase-1 LONG CALL EXCLUDED EVENTS

Airtel LC MO

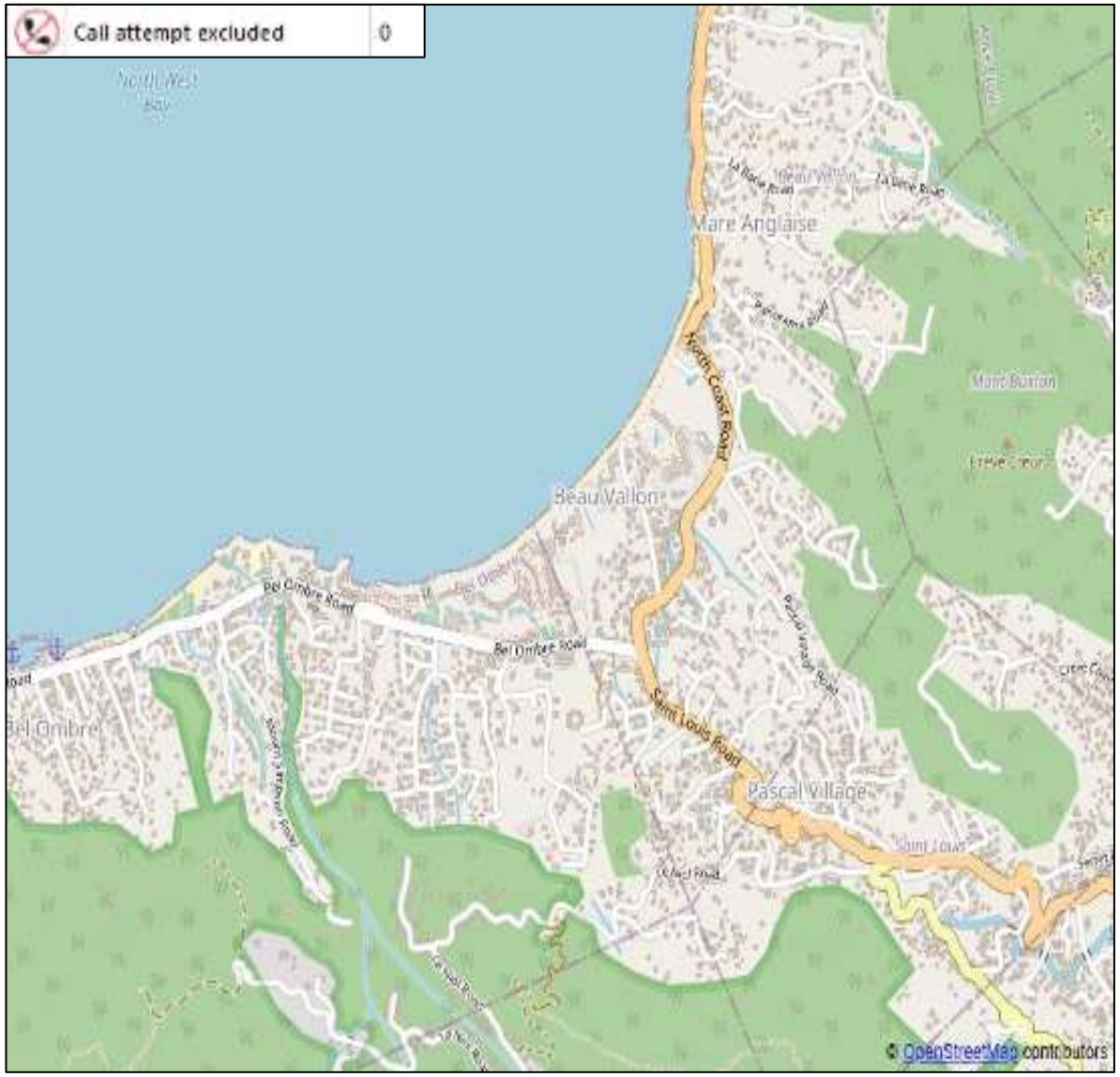


CWS LC MO

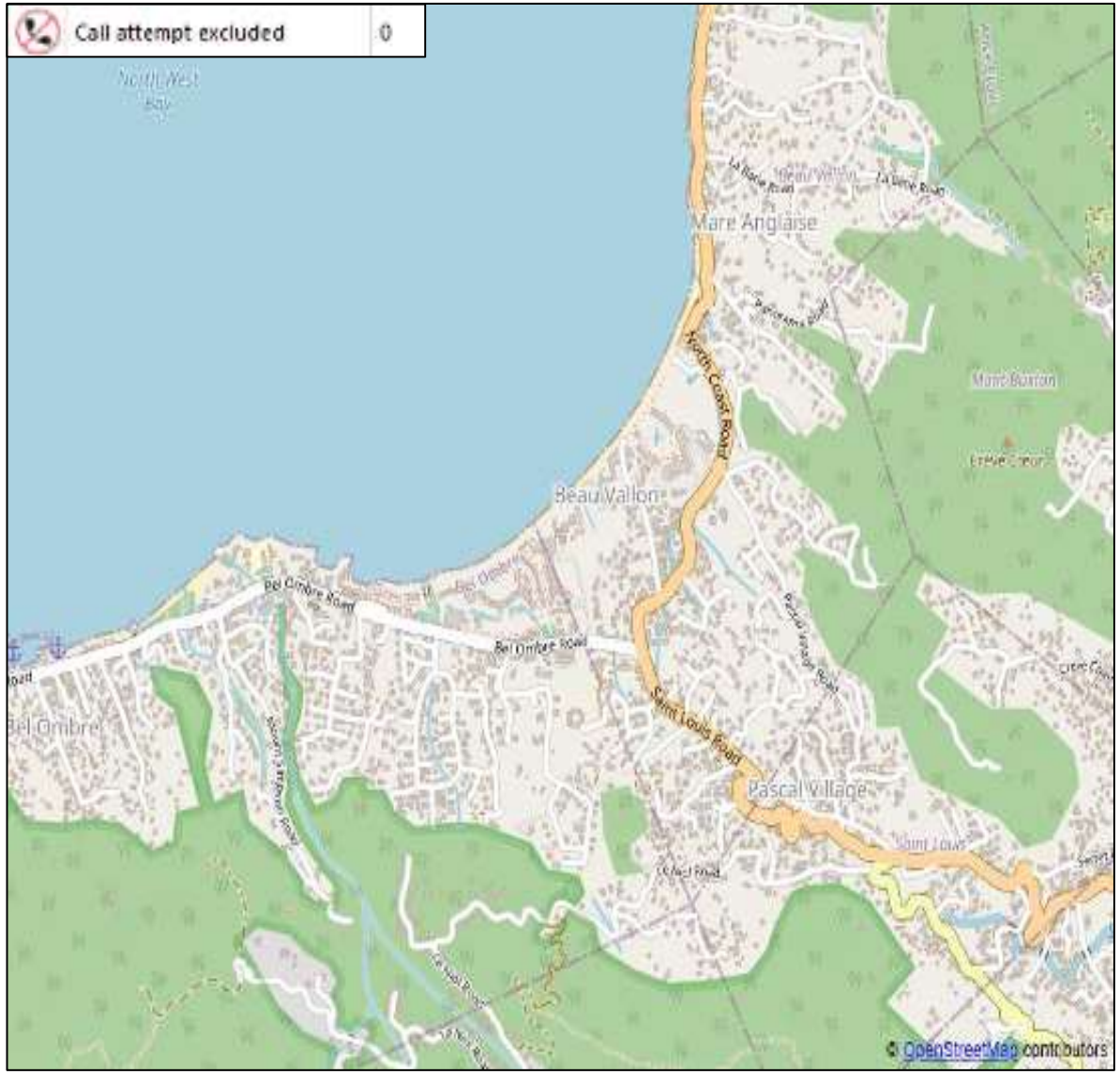


Phase-2 LONG CALL EXCLUDED EVENTS

Airtel LC MO

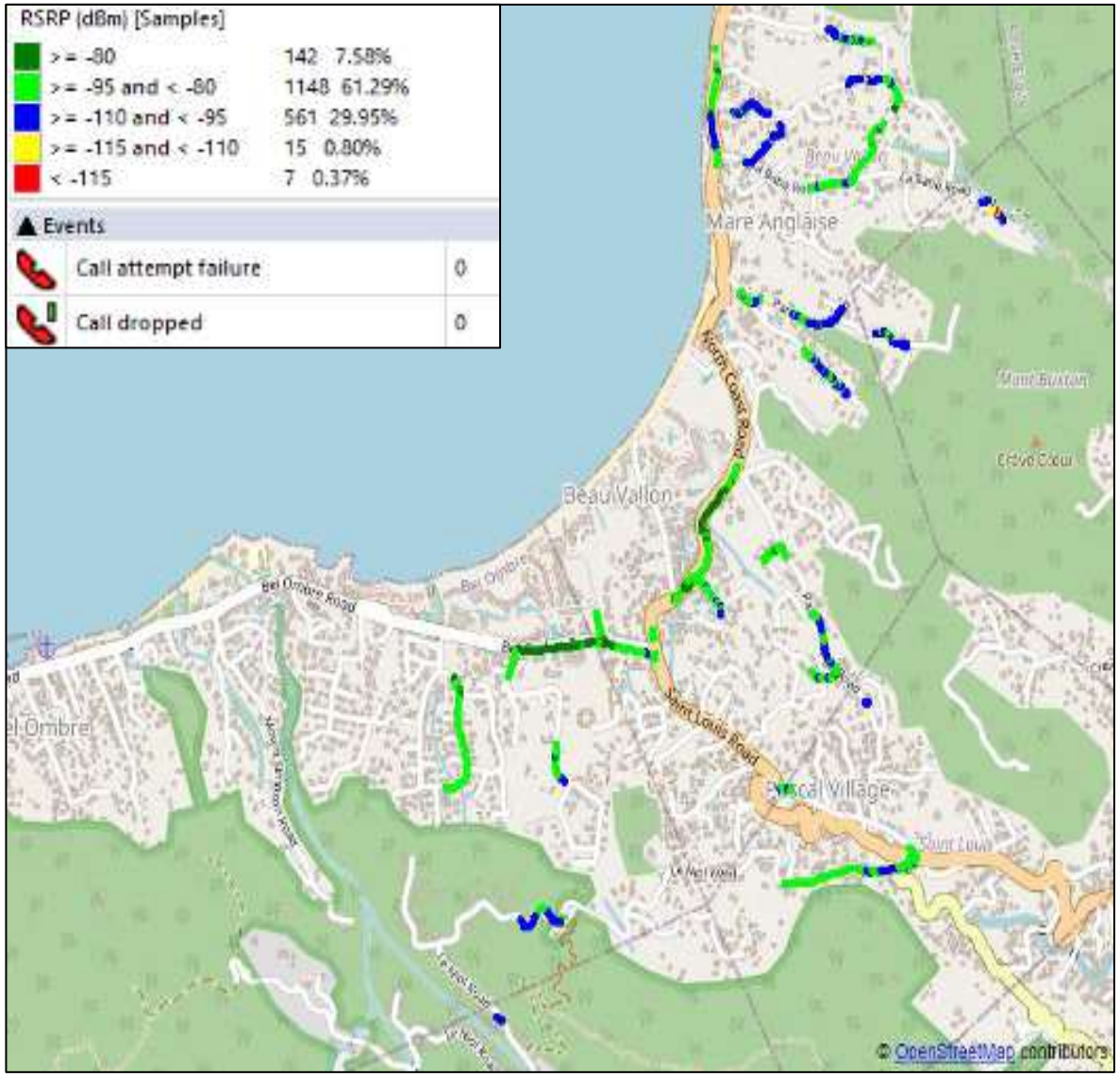


CWS LC MO

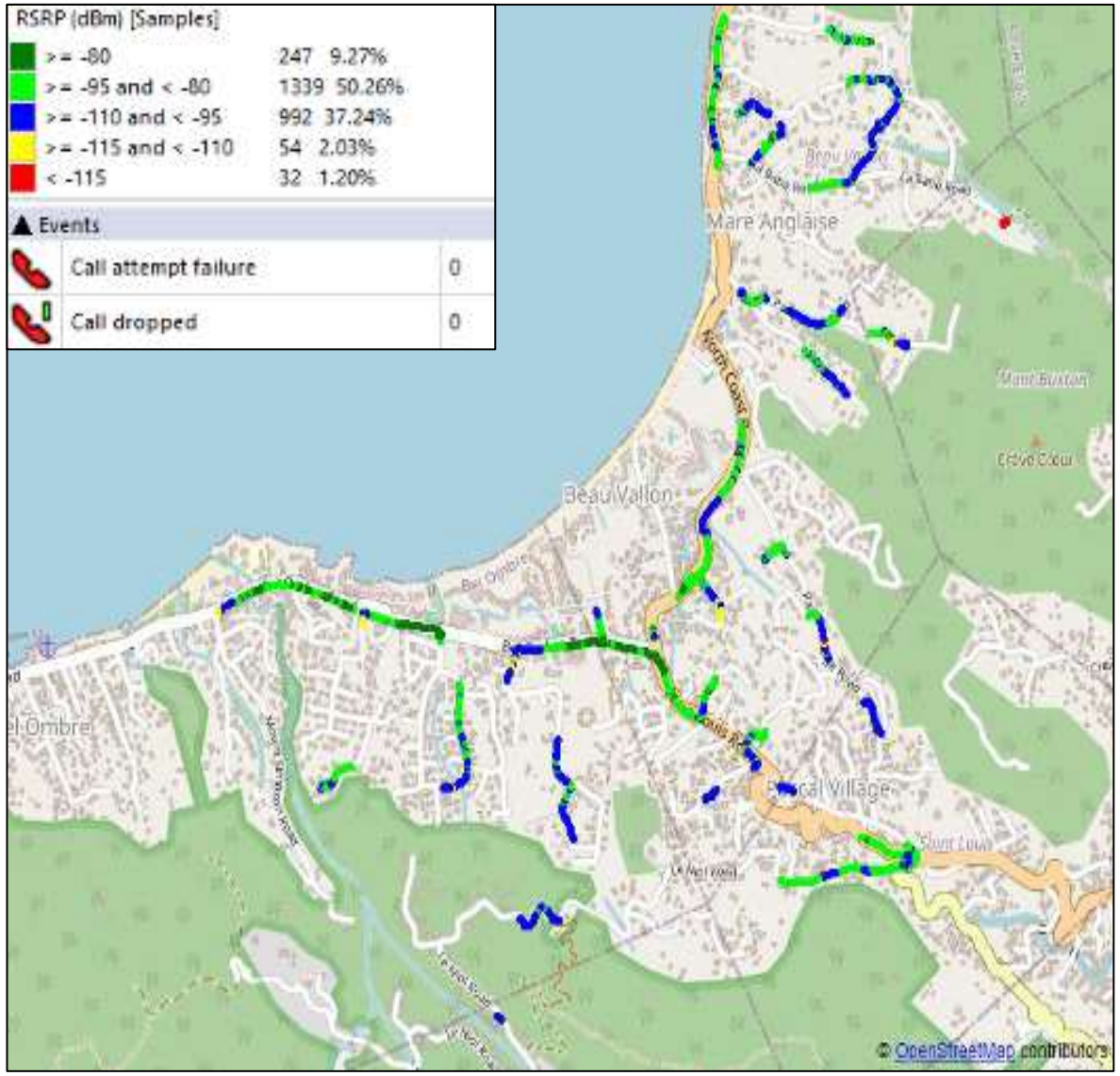


Phase-1 LONG CALL FAILURE EVENTS LOCATION vs RSRP

Airtel LC MO

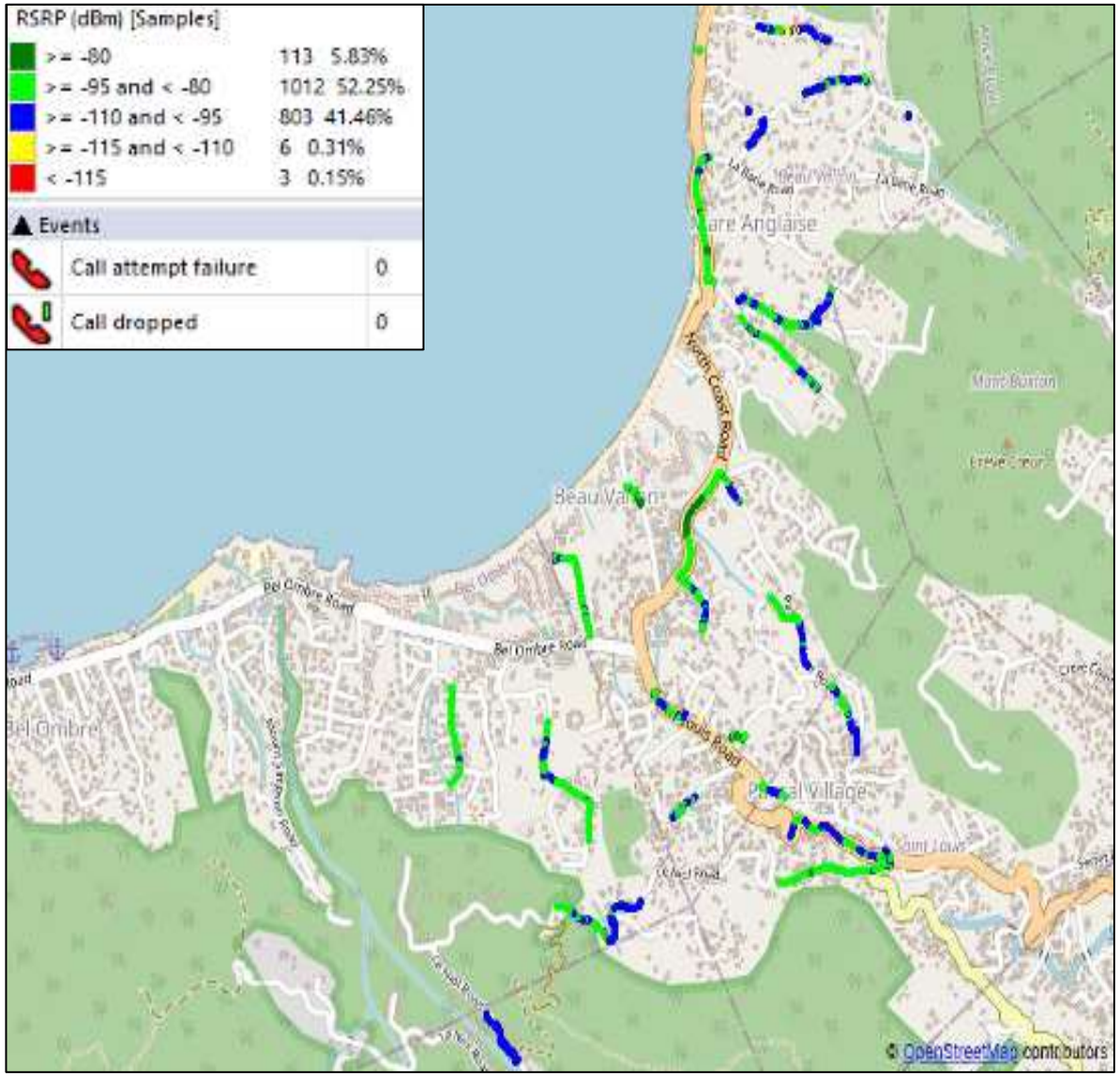


CWS LC MO

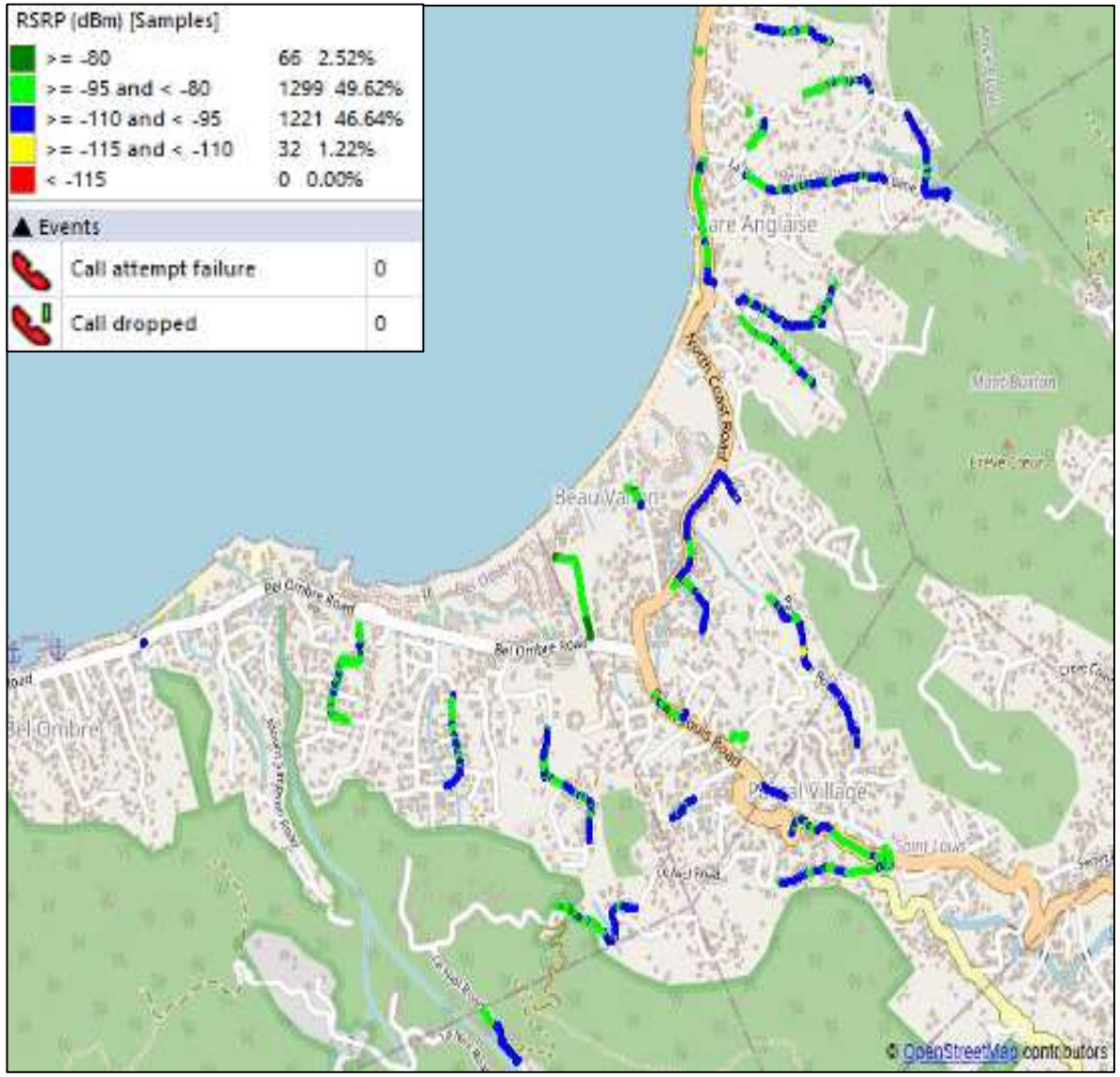


Phase-2 LONG CALL FAILURE EVENTS LOCATION vs RSRP

Airtel LC MO



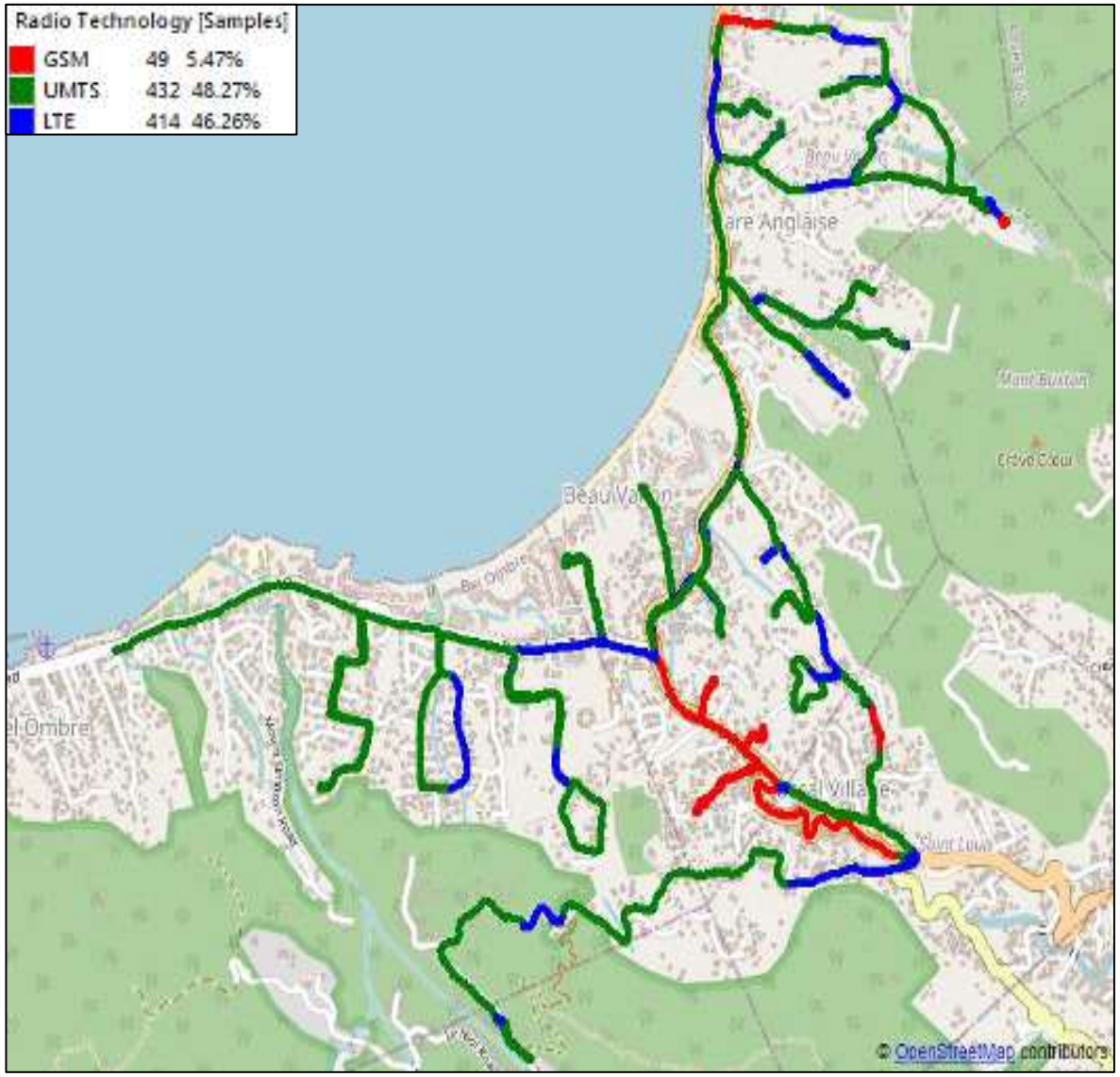
CWS LC MO



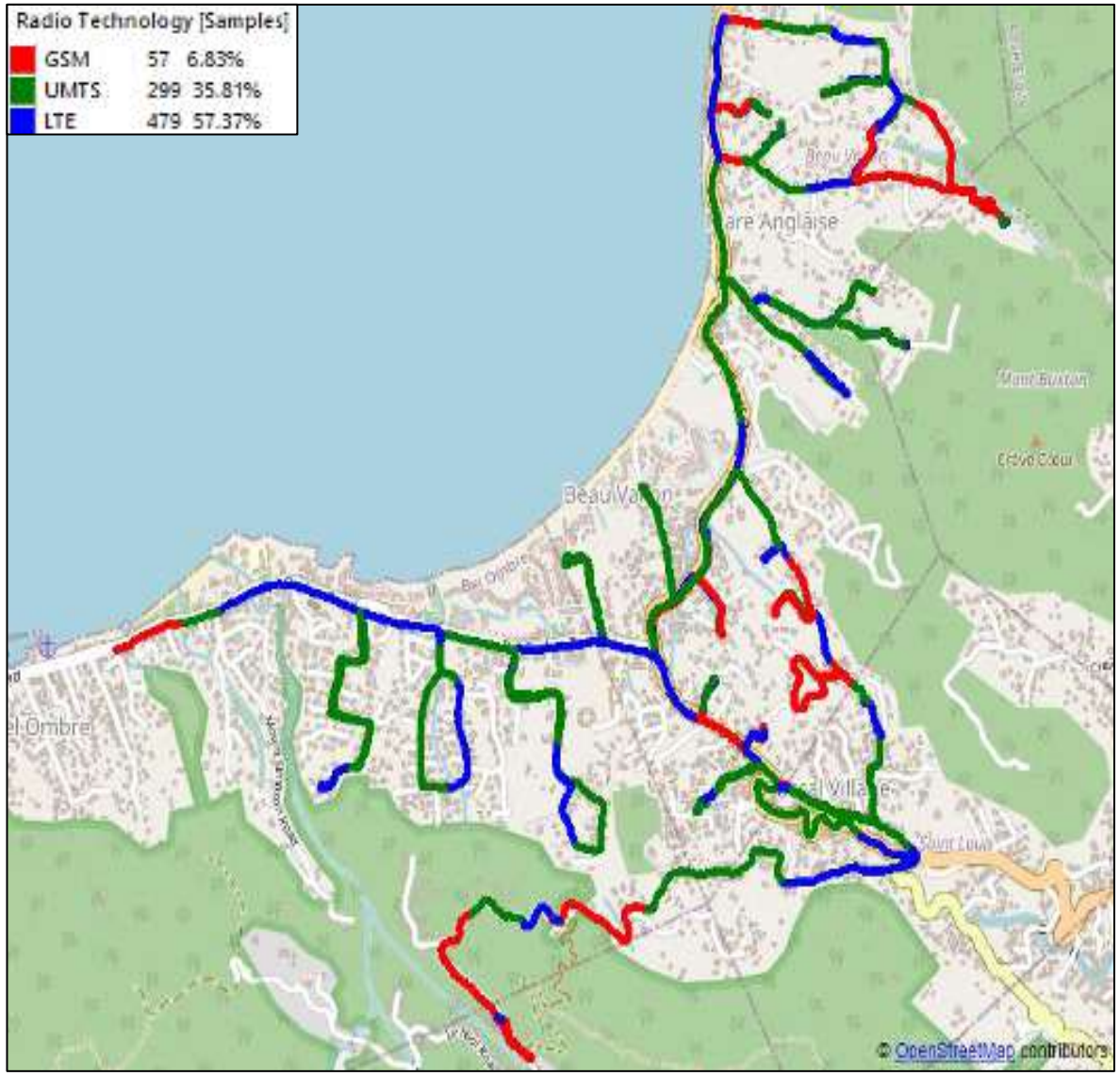
LONG CALL DRIVE PLOTS

Phase-1 Long Call RADIO TECHNOLOGY PLOT

Airtel LC MO

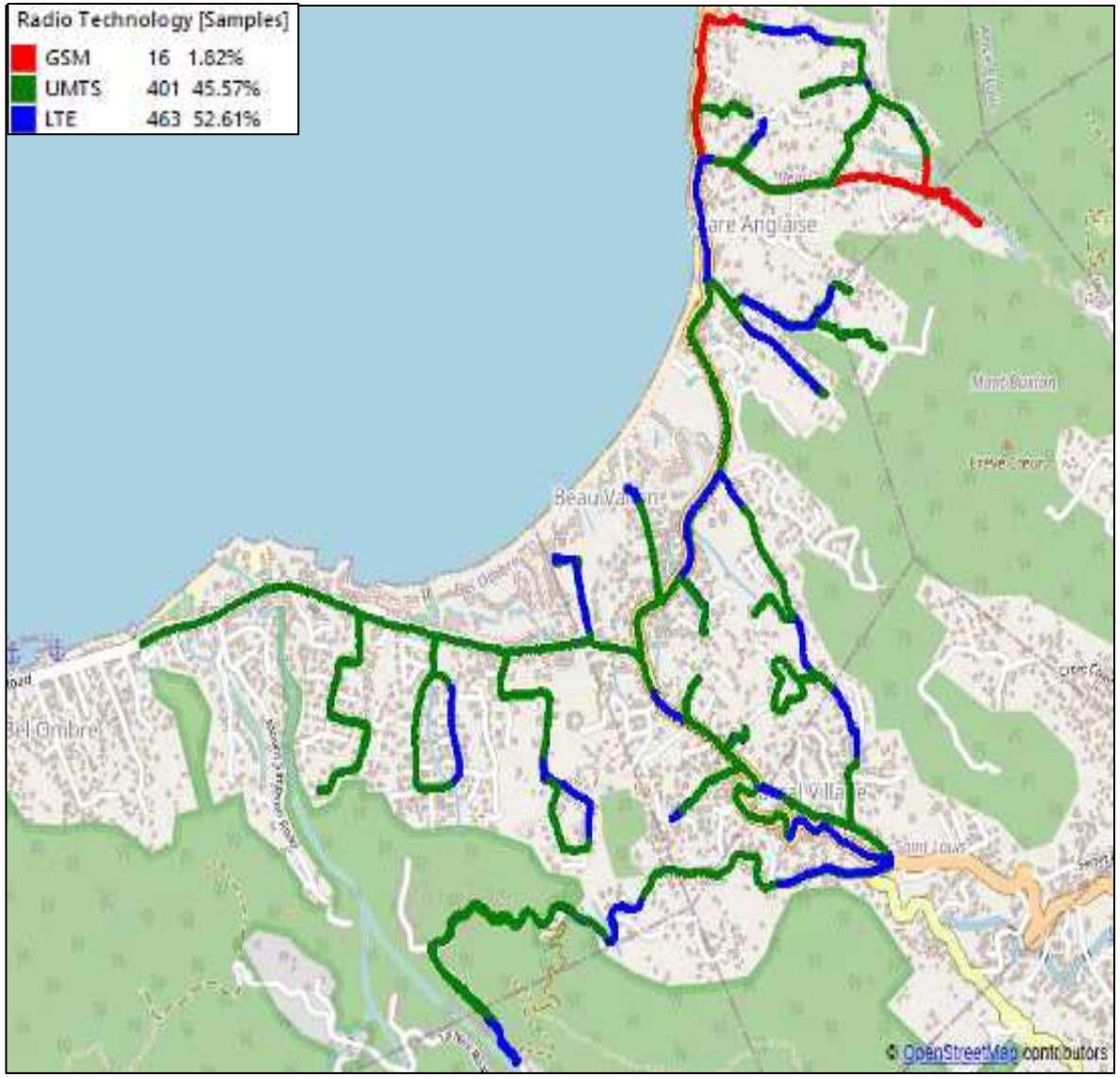


CWS LC MO

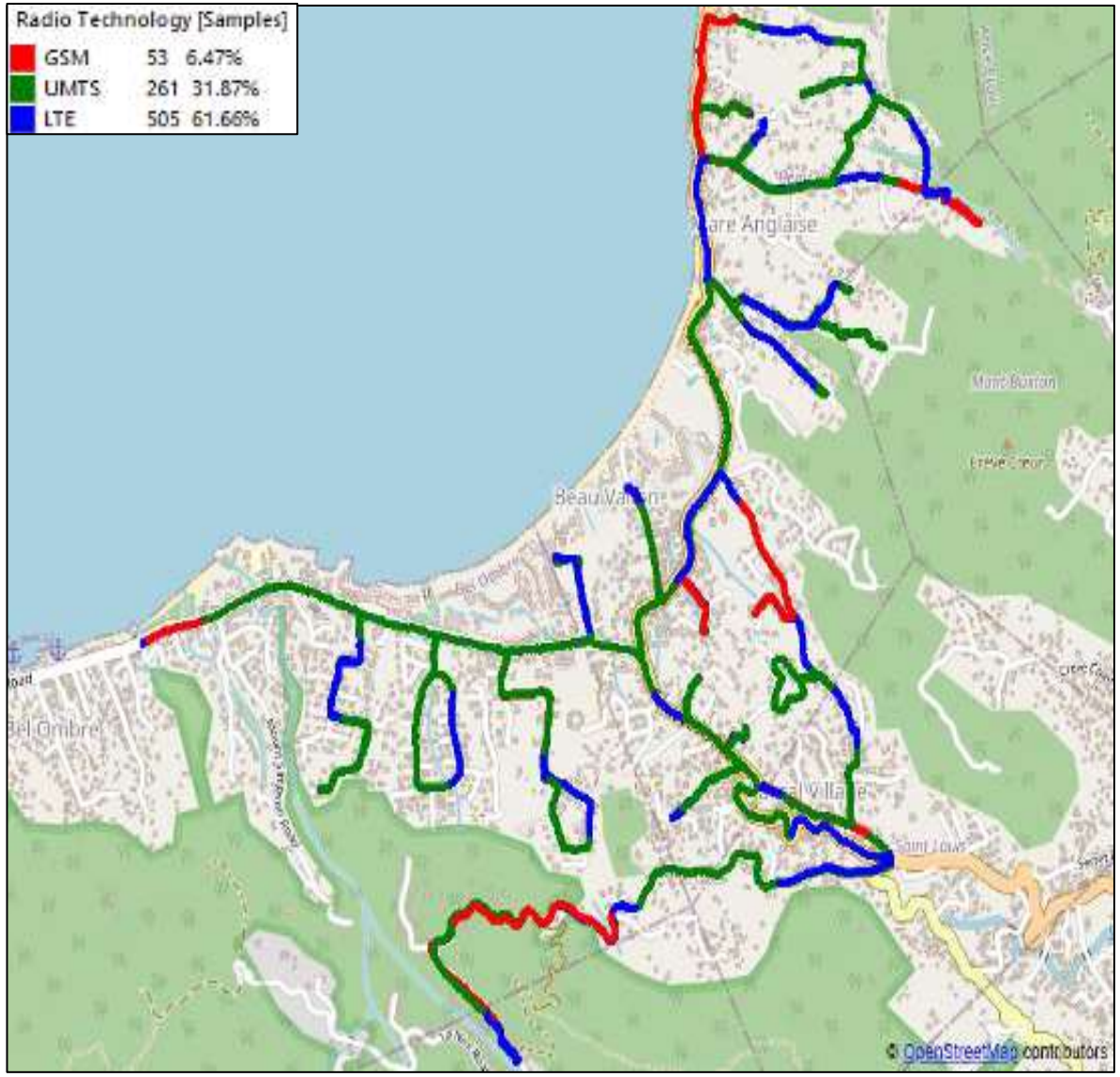


Phase-2 Long Call RADIO TECHNOLOGY PLOT

Airtel LC MO

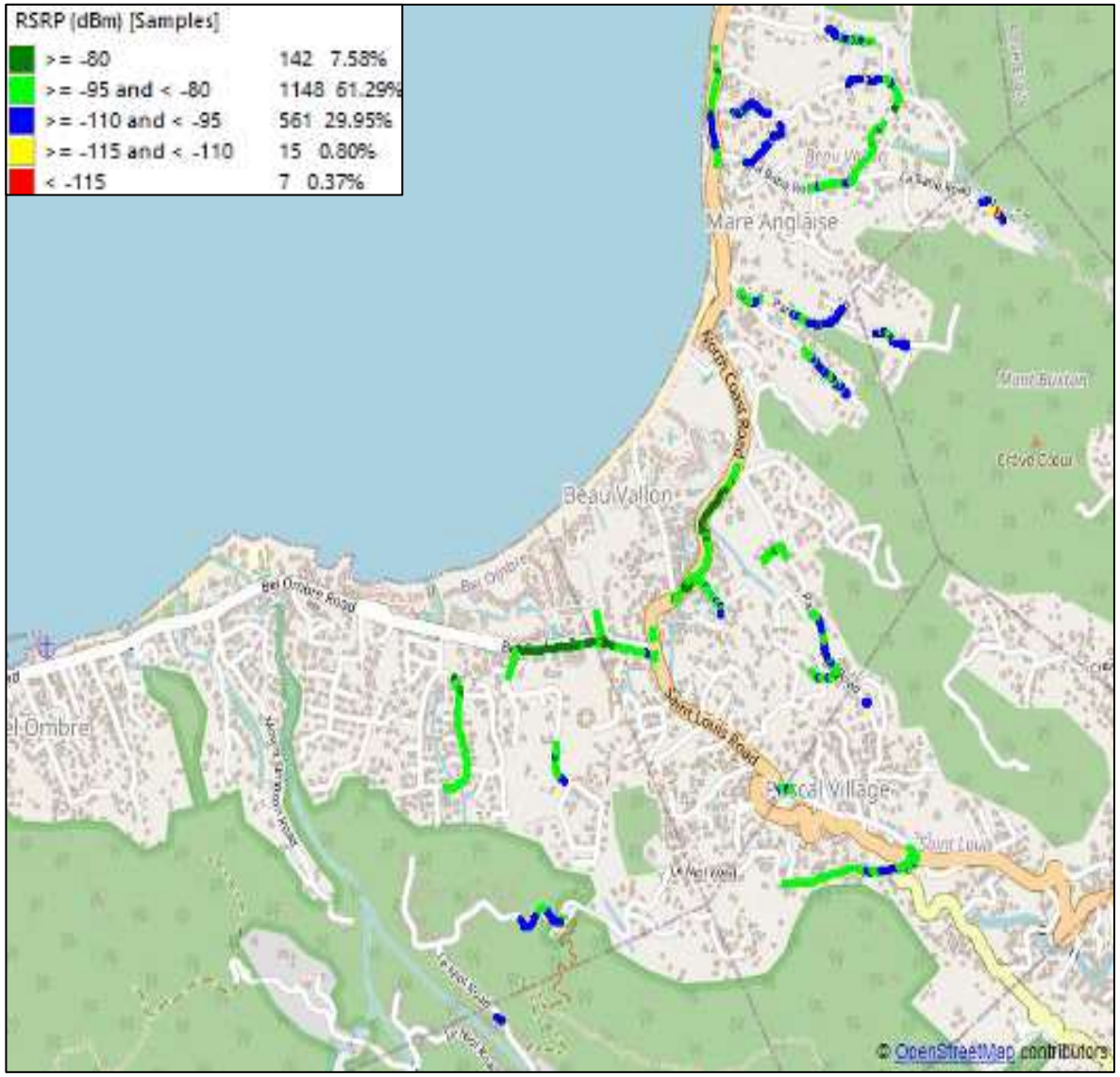


CWS LC MO

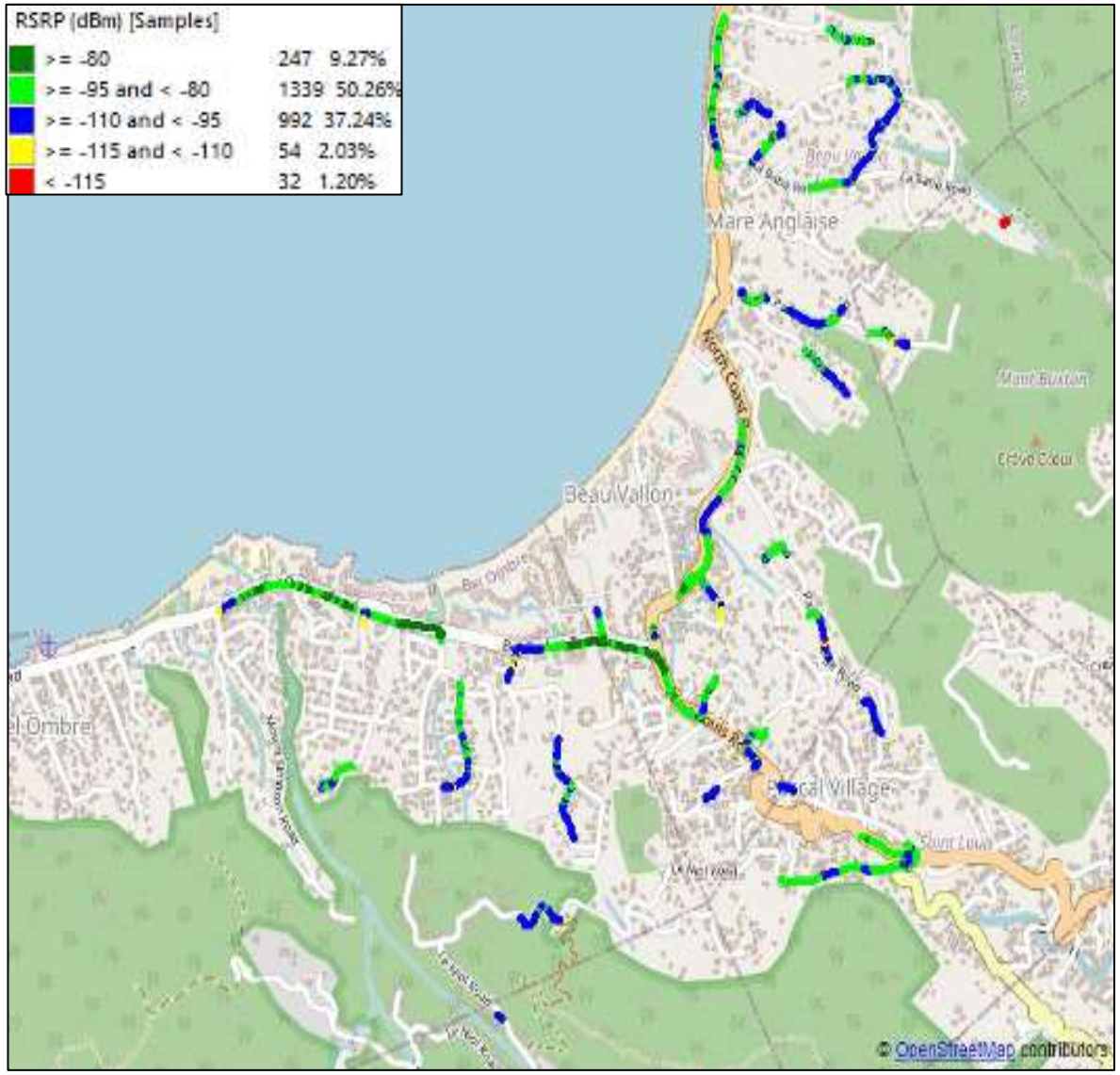


Phase-1 Long Call RSRP PLOT

Airtel LC MO

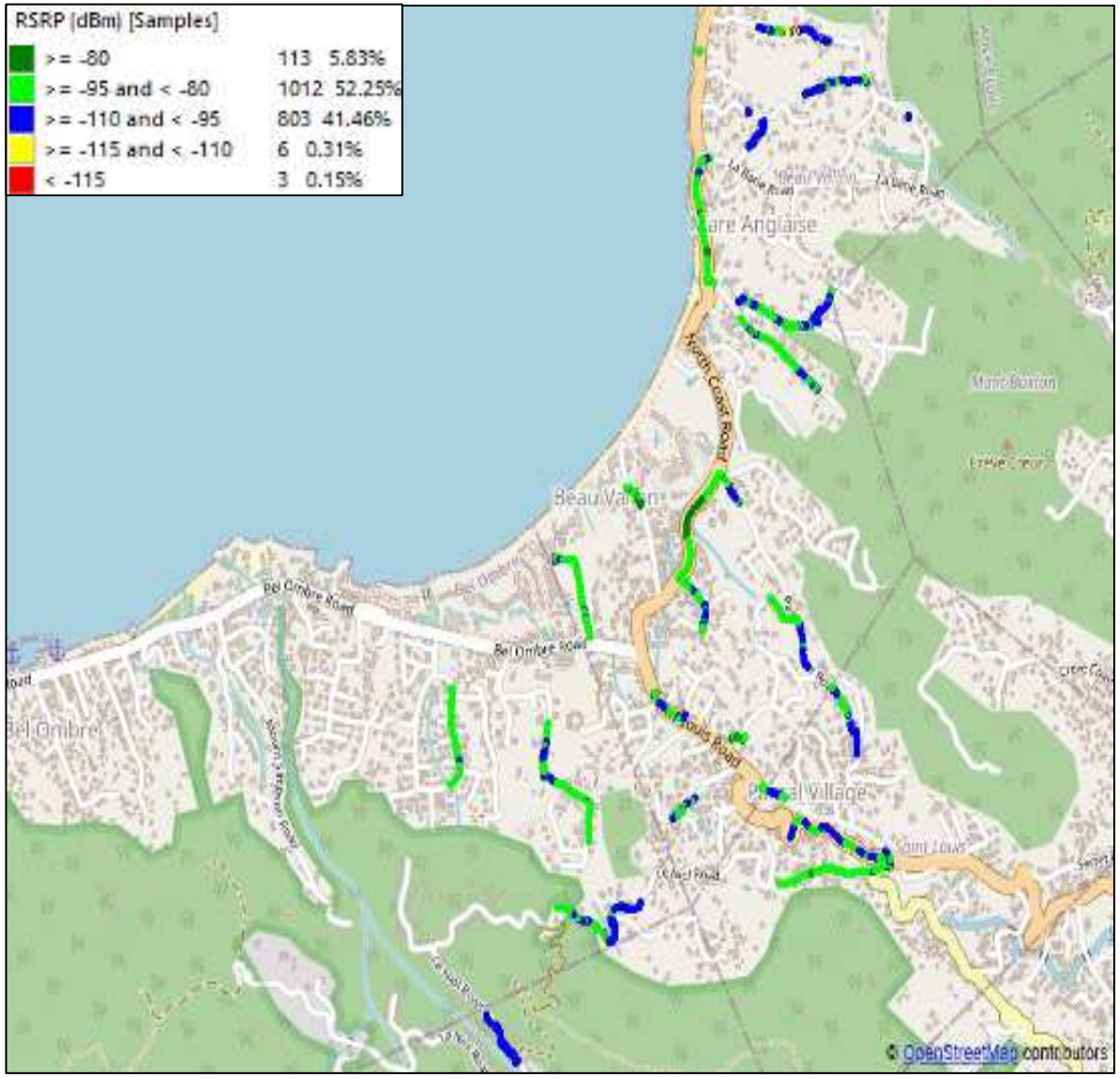


CWS LC MO

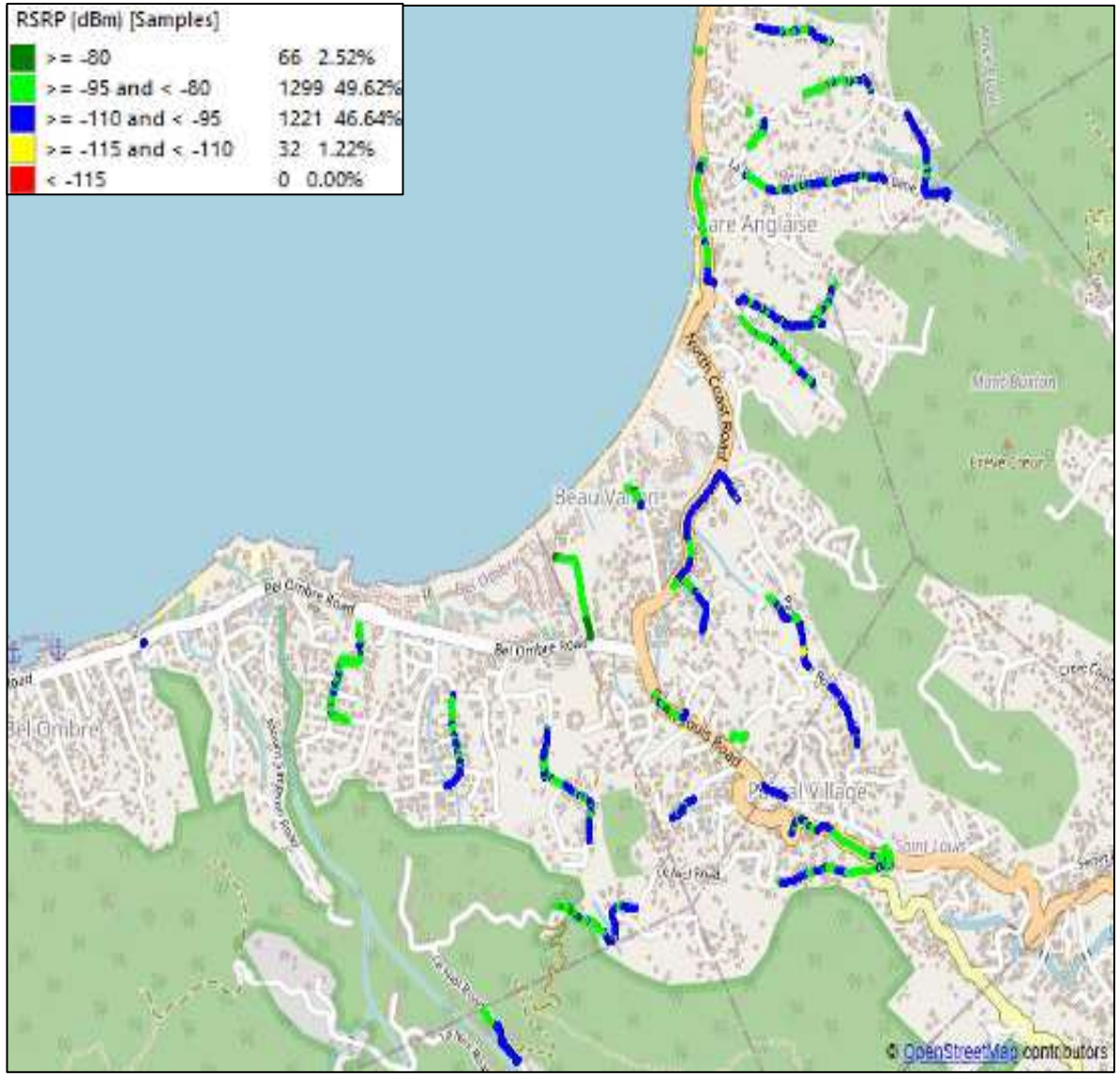


Phase-2 Long Call RSRP PLOT

Airtel LC MO

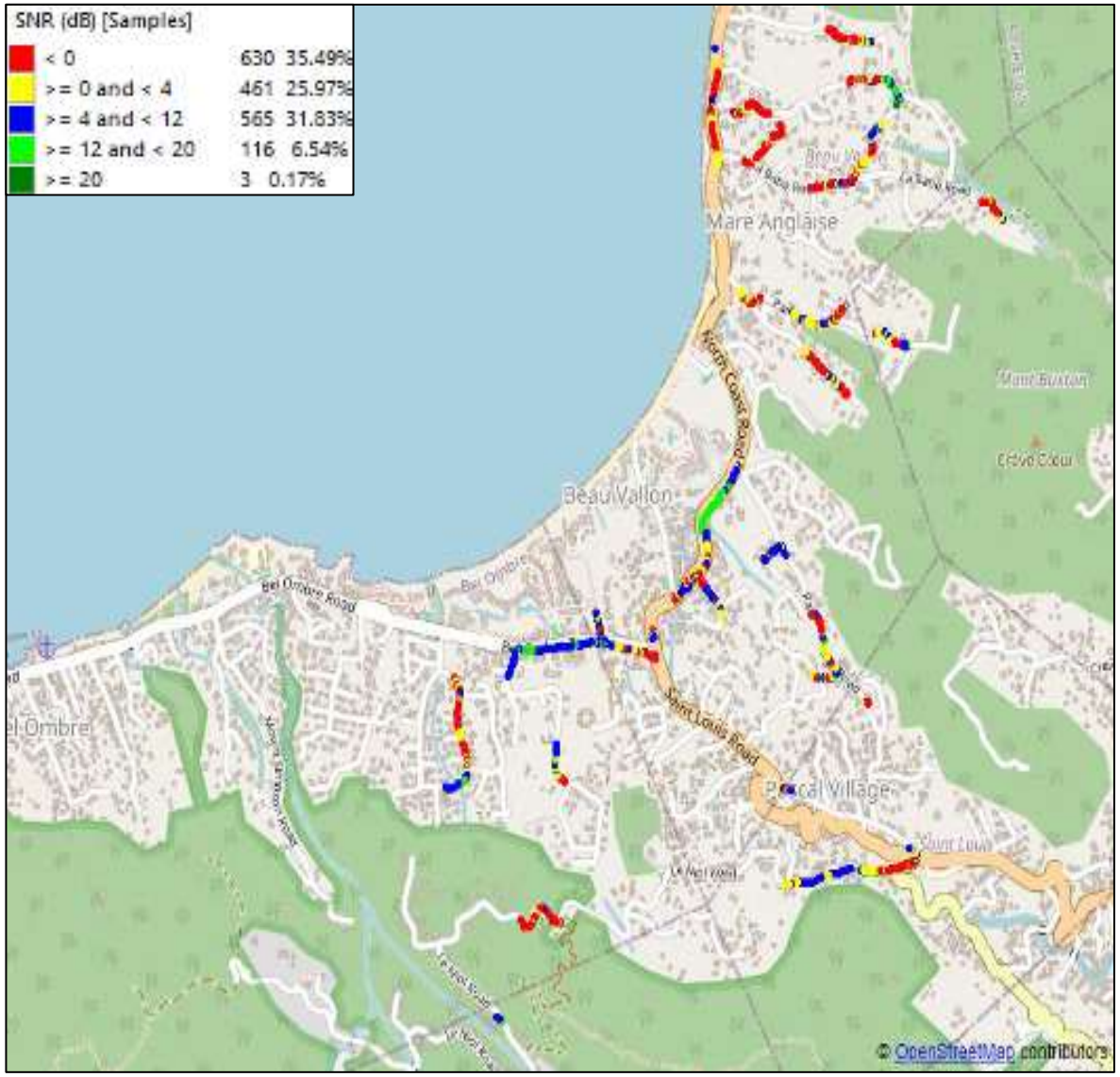


CWS LC MO

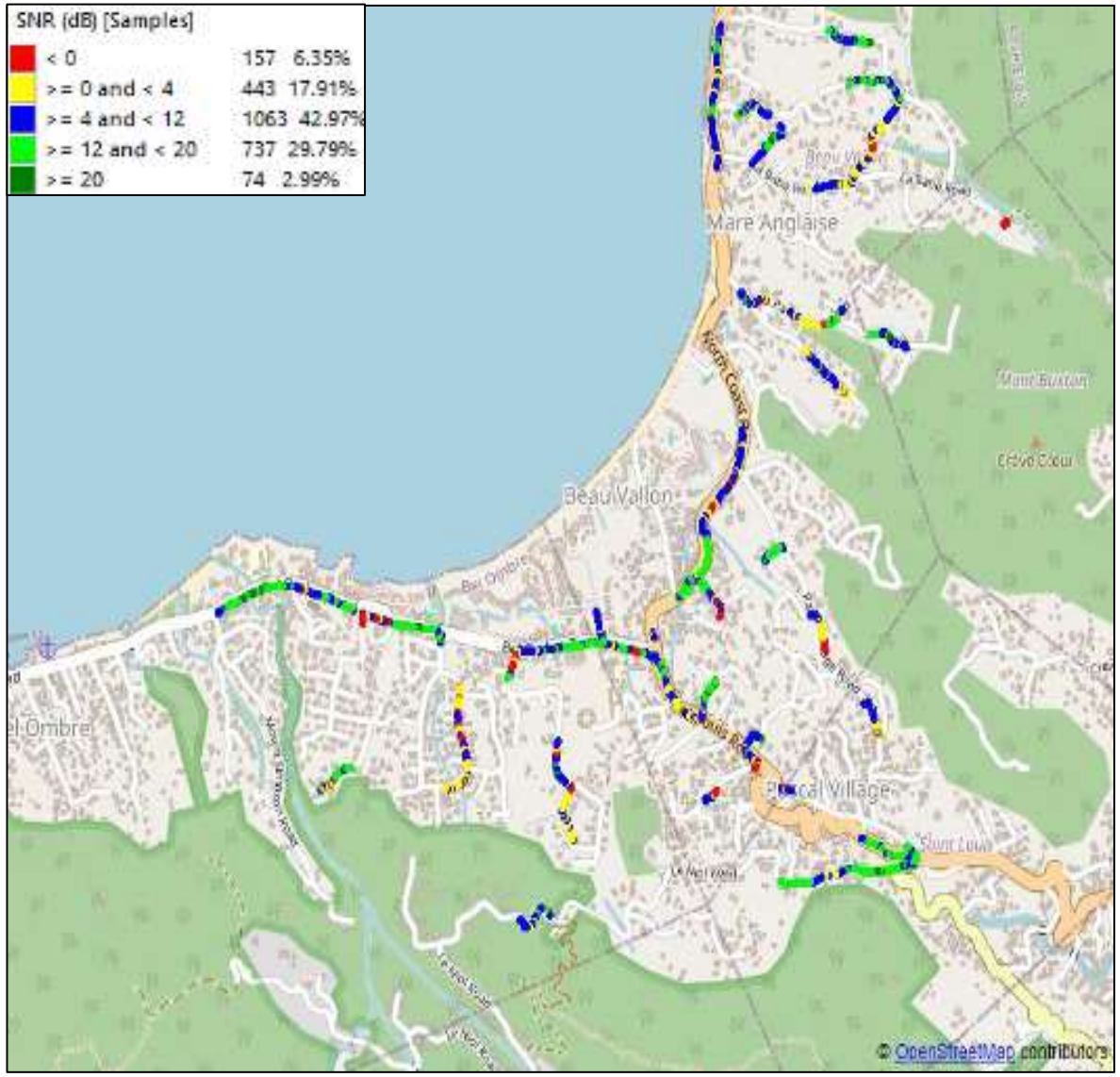


Phase-1 Long Call SINR PLOT

Airtel LC MO

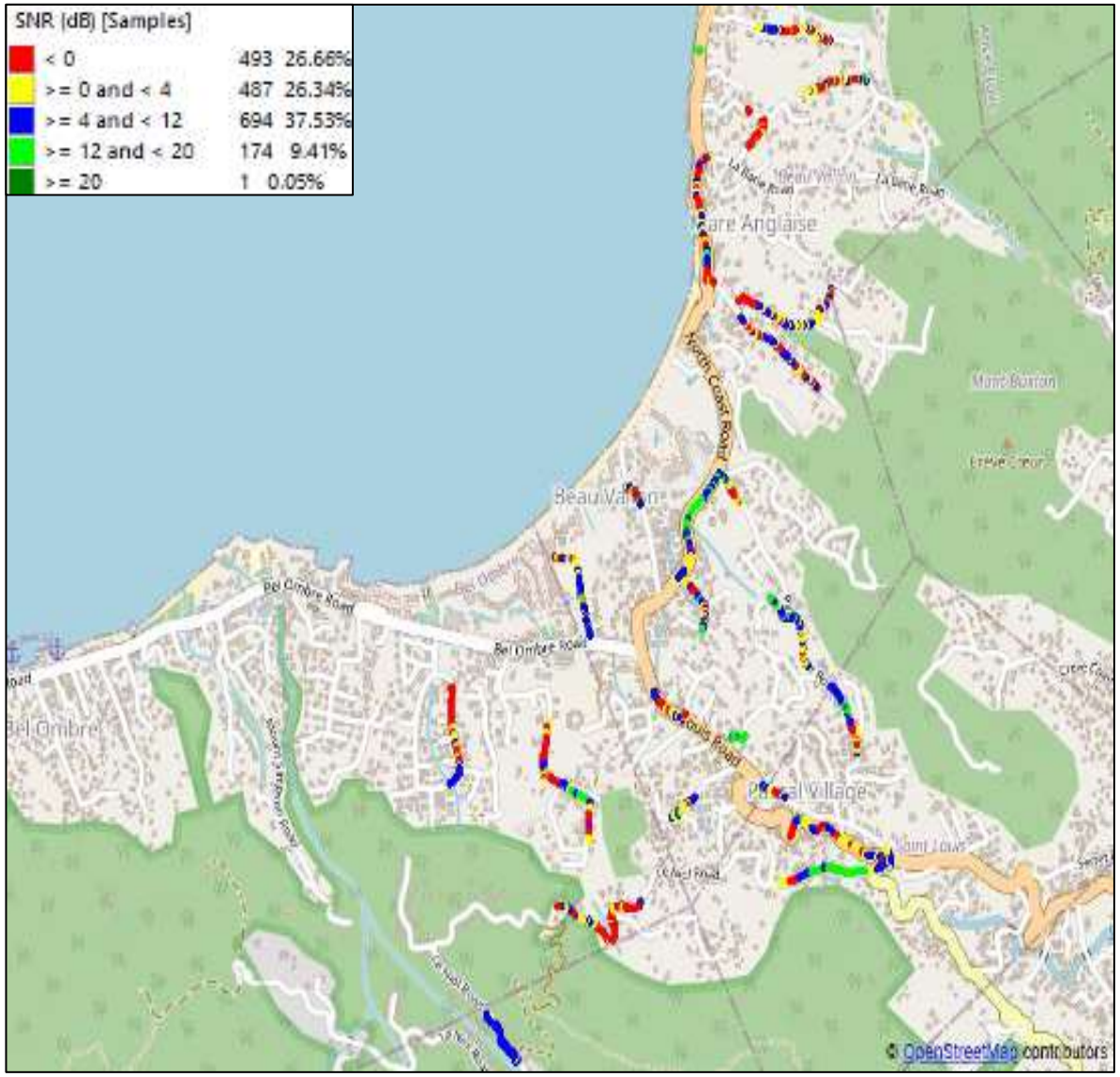


CWS LC MO

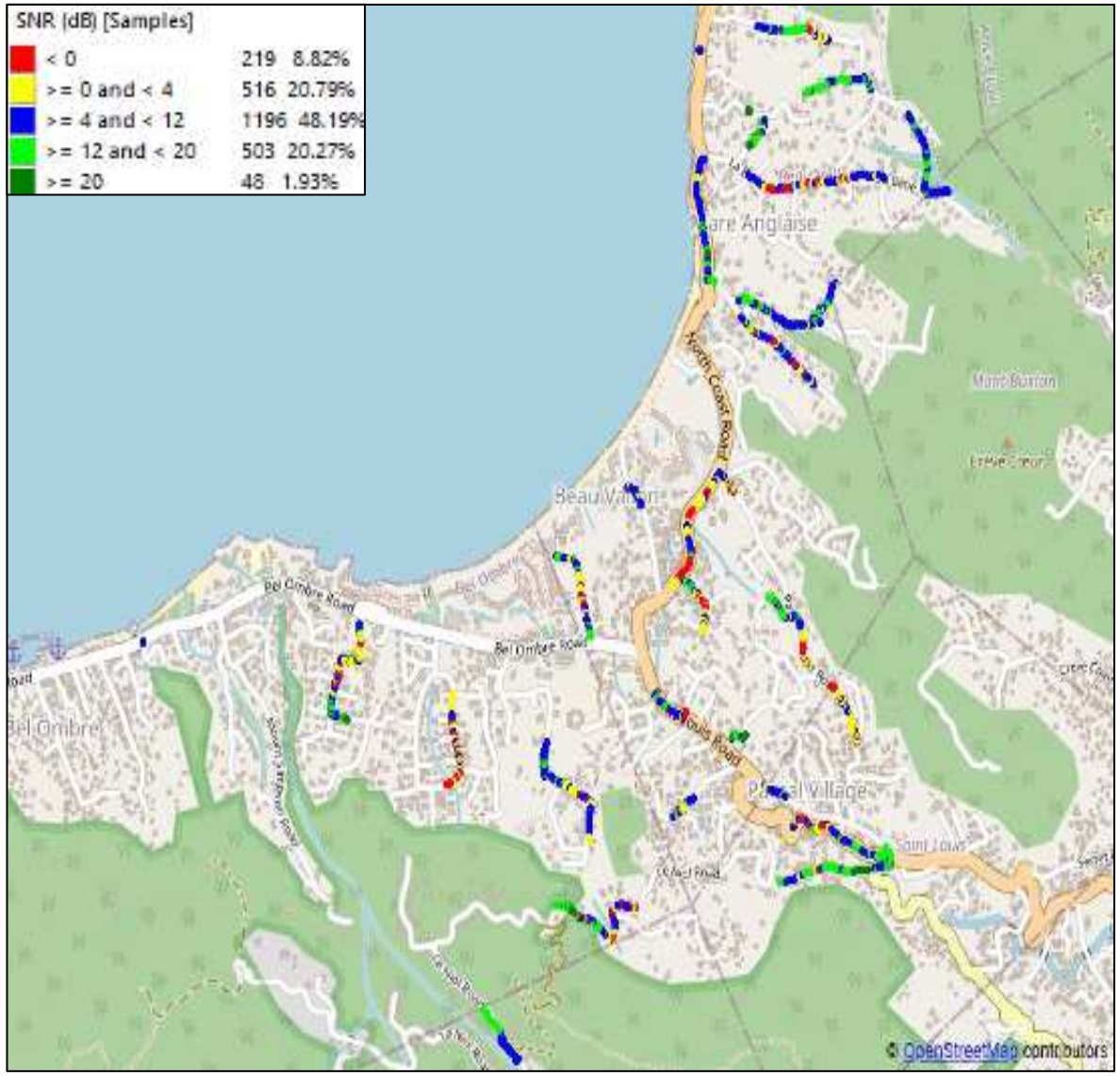


Phase-2 Long Call SINR PLOT

Airtel LC MO

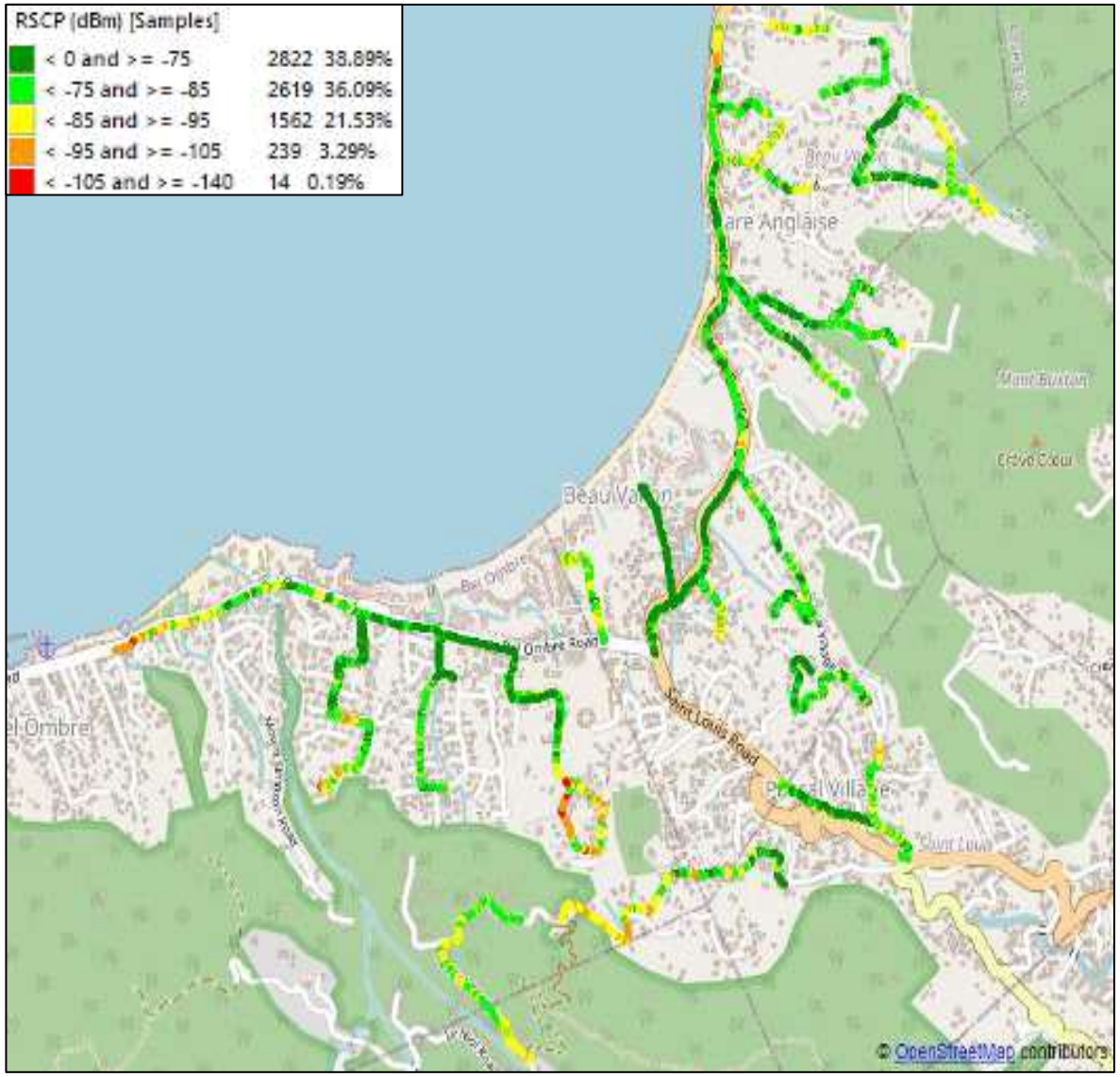


CWS LC MO

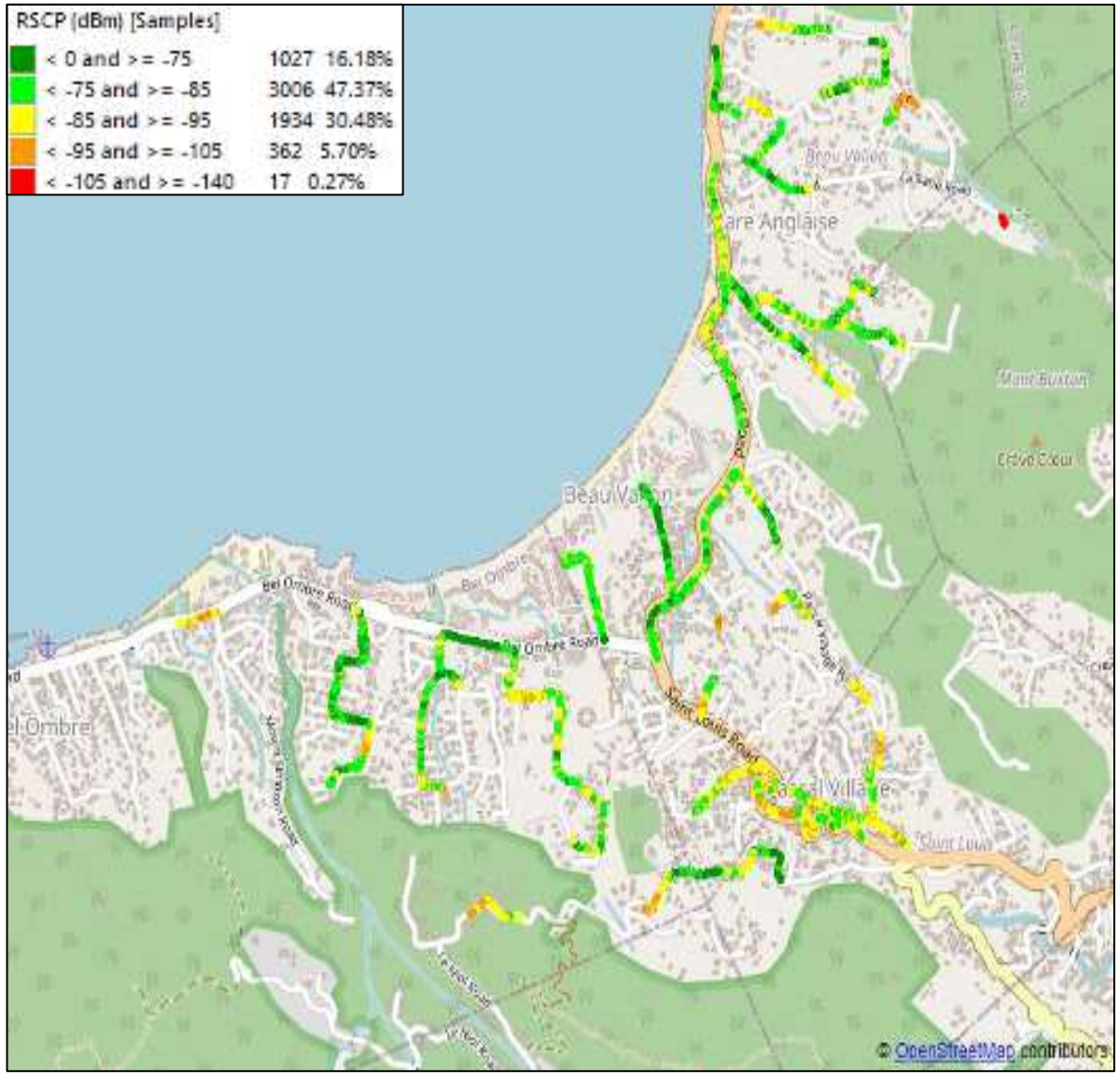


Phase-1 Long Call RSCP PLOT

Airtel LC MO

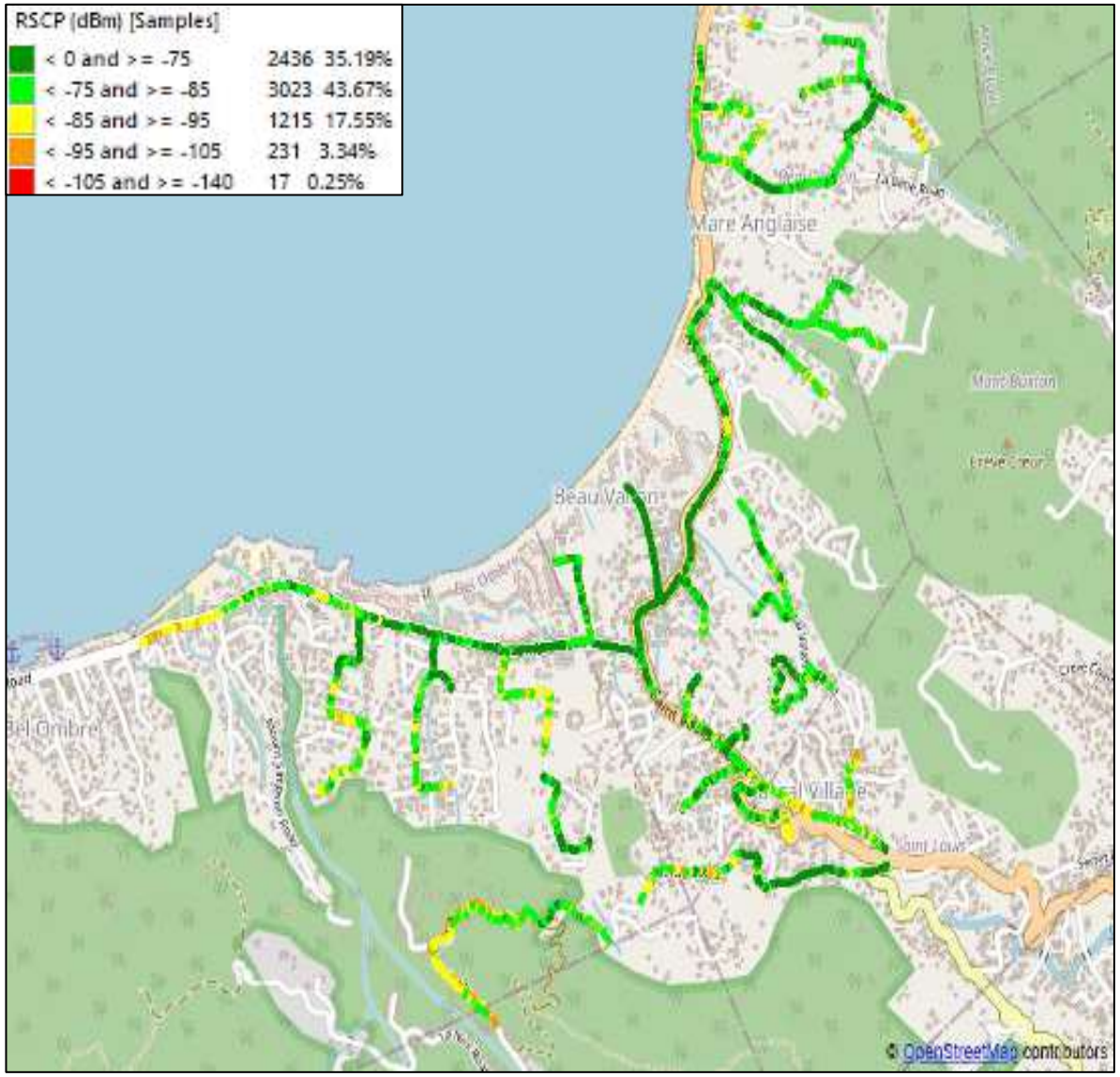


CWS LC MO

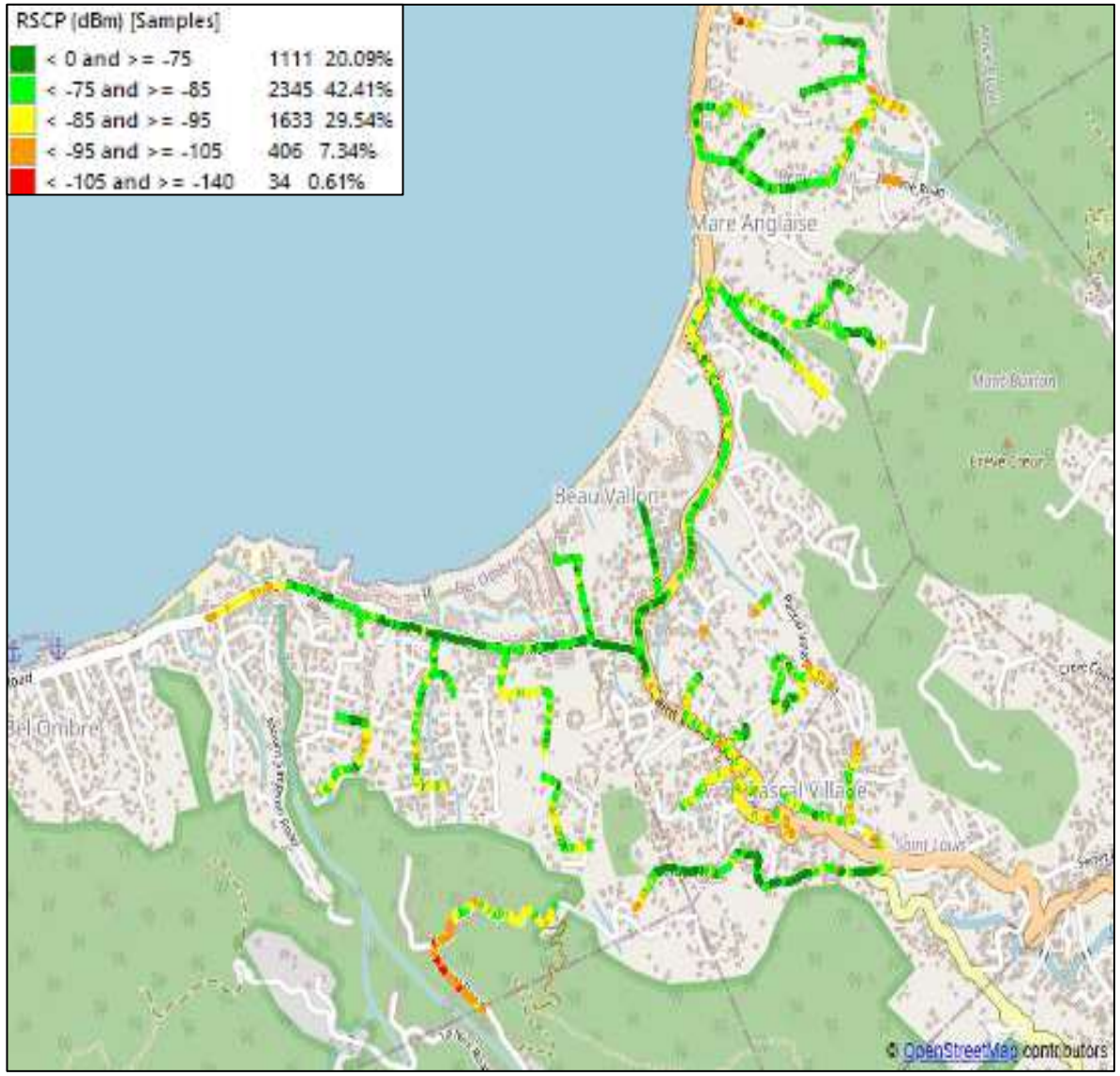


Phase-2 Long Call RSCP PLOT

Airtel LC MO

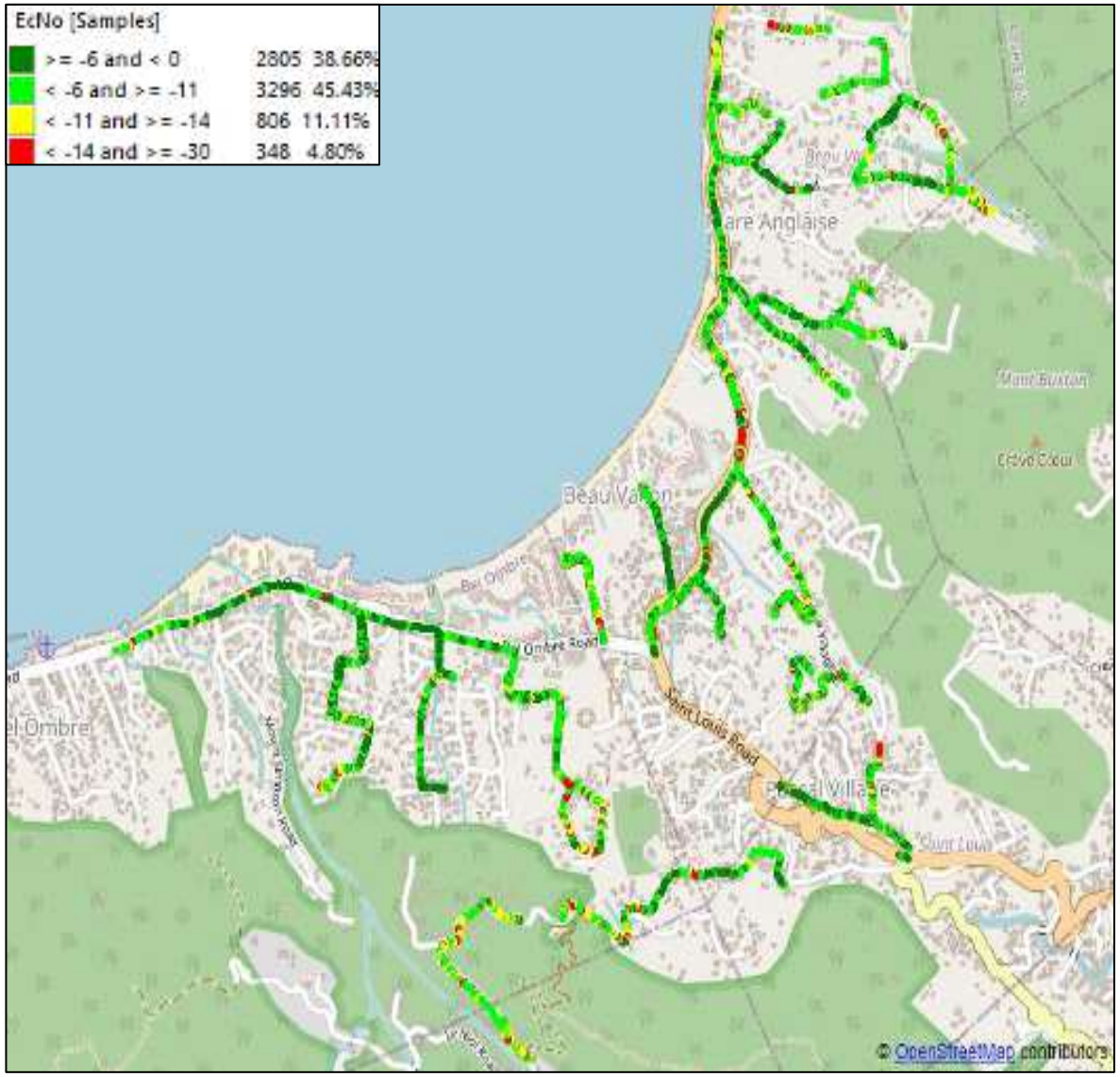


CWS LC MO

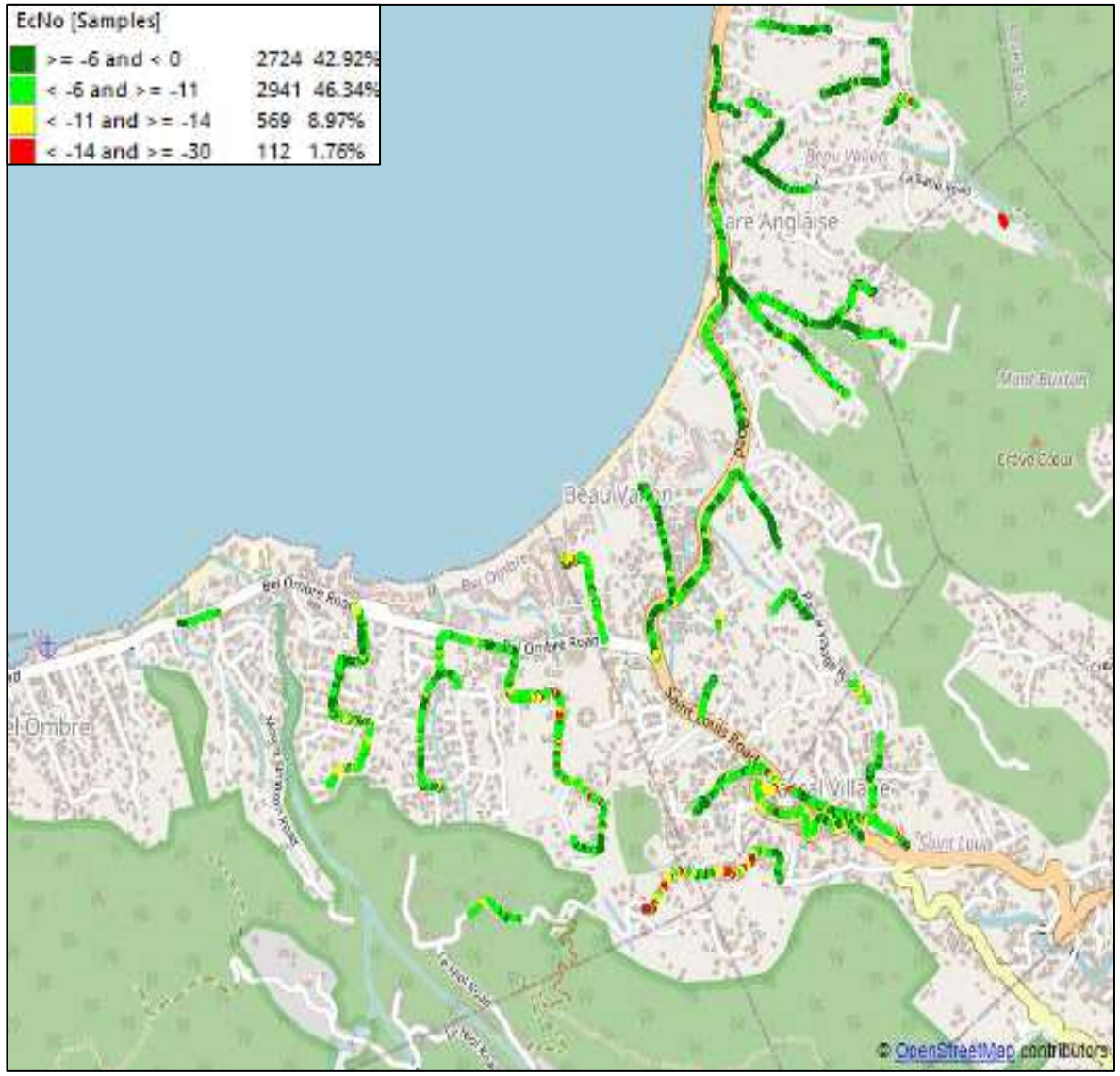


Phase-1 Long Call EC/NO PLOT

Airtel LC MO

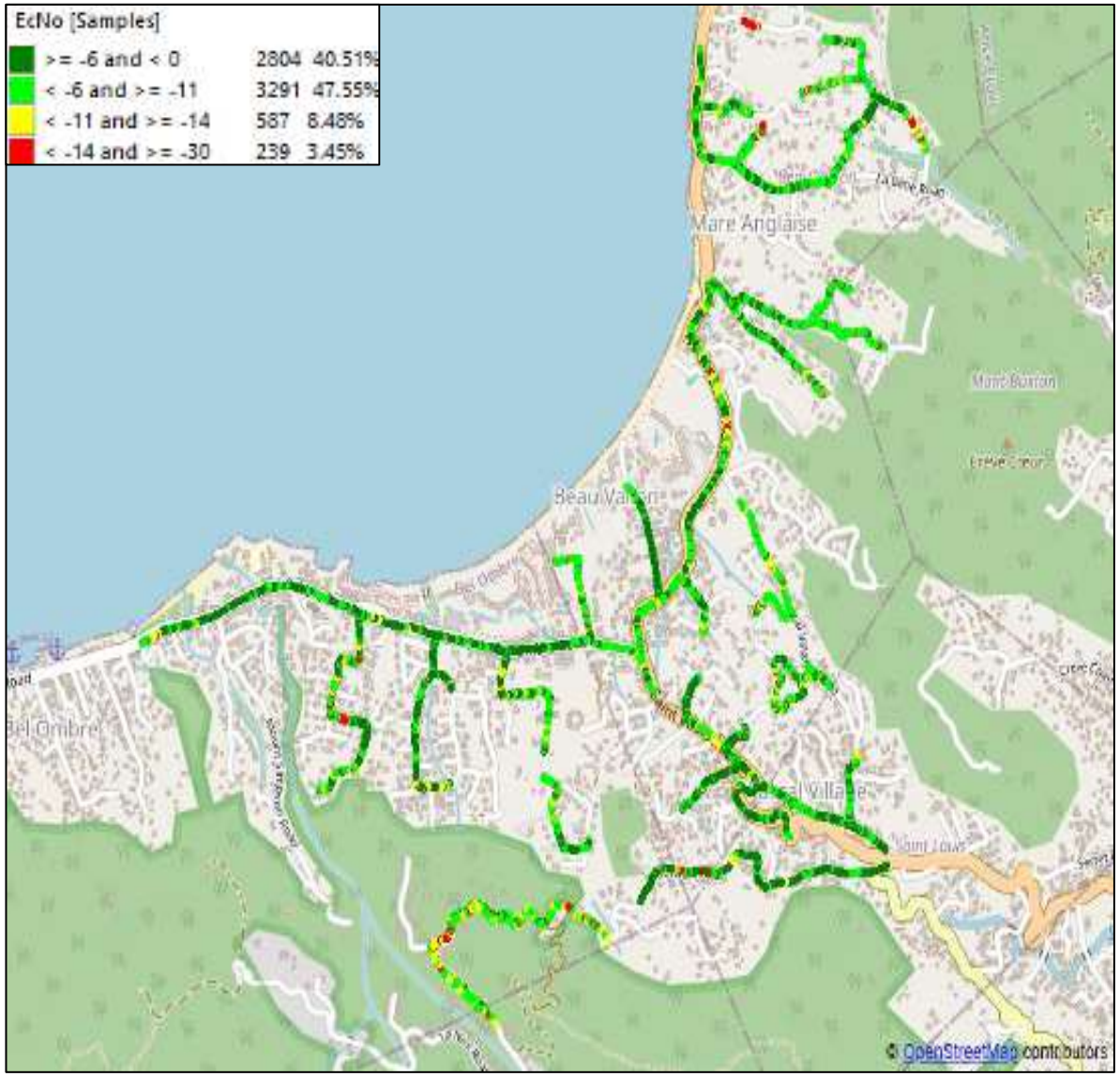


CWS LC MO

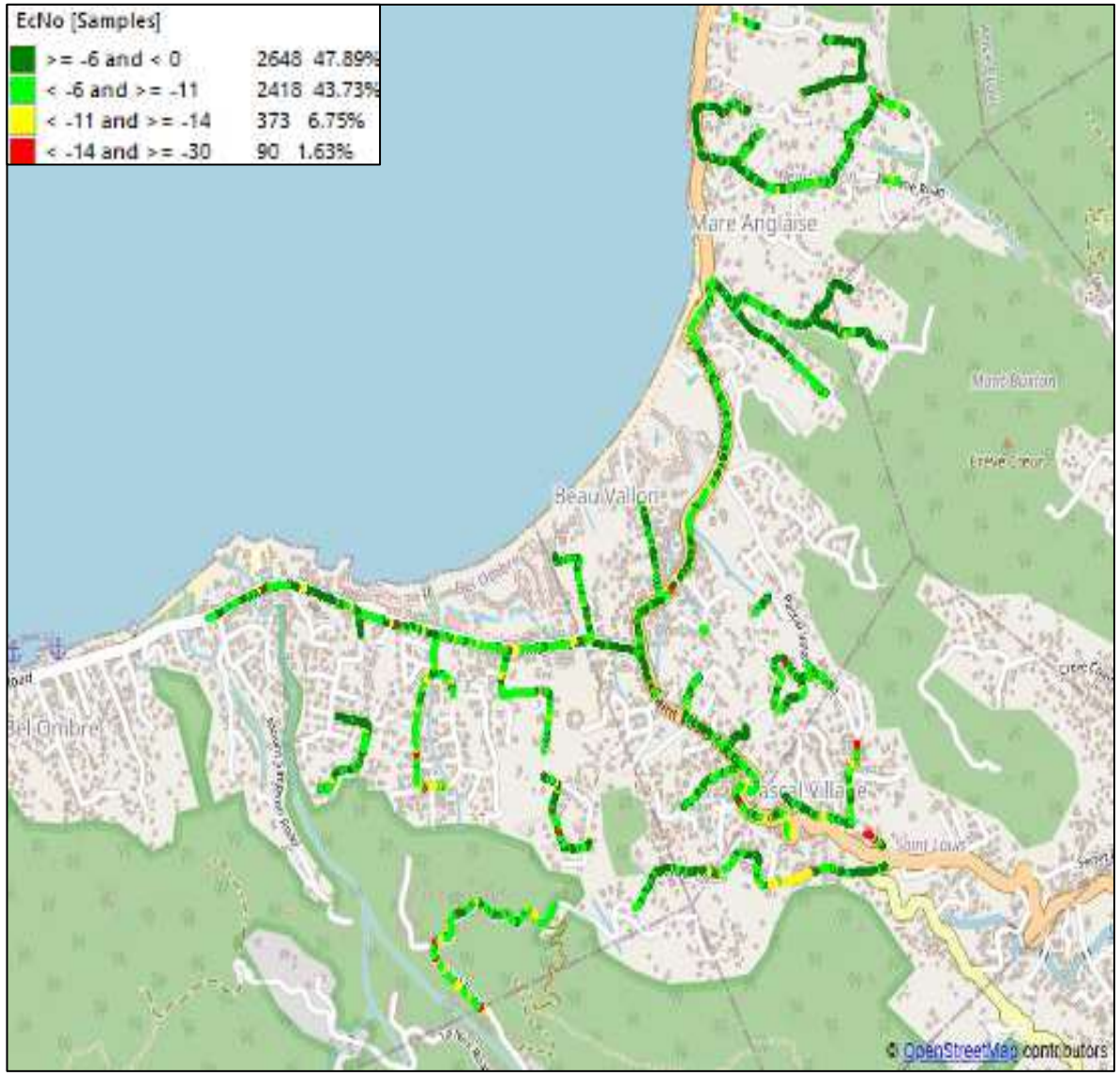


Phase-2 Long Call EC/NO PLOT

Airtel LC MO

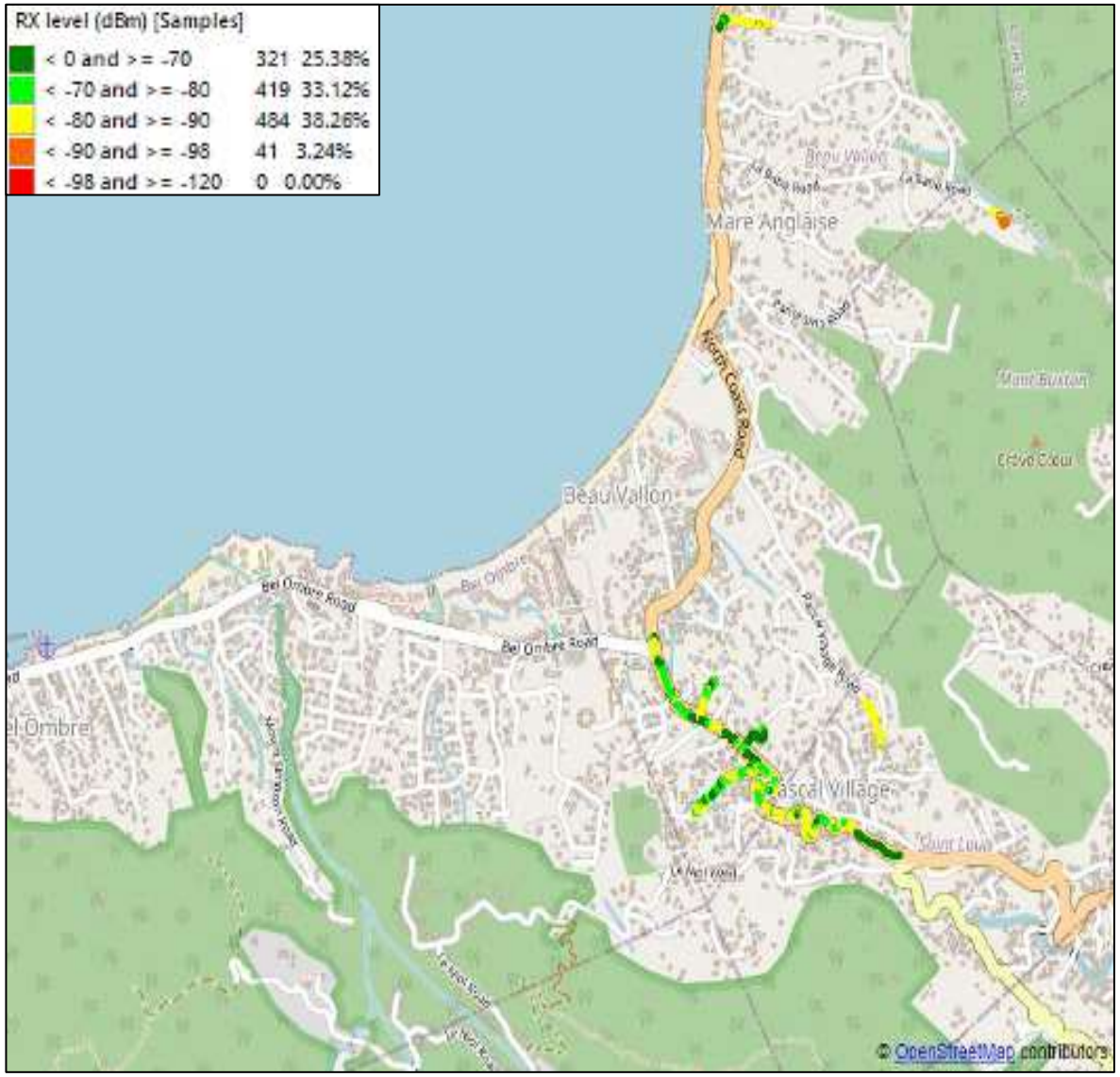


CWS LC MO

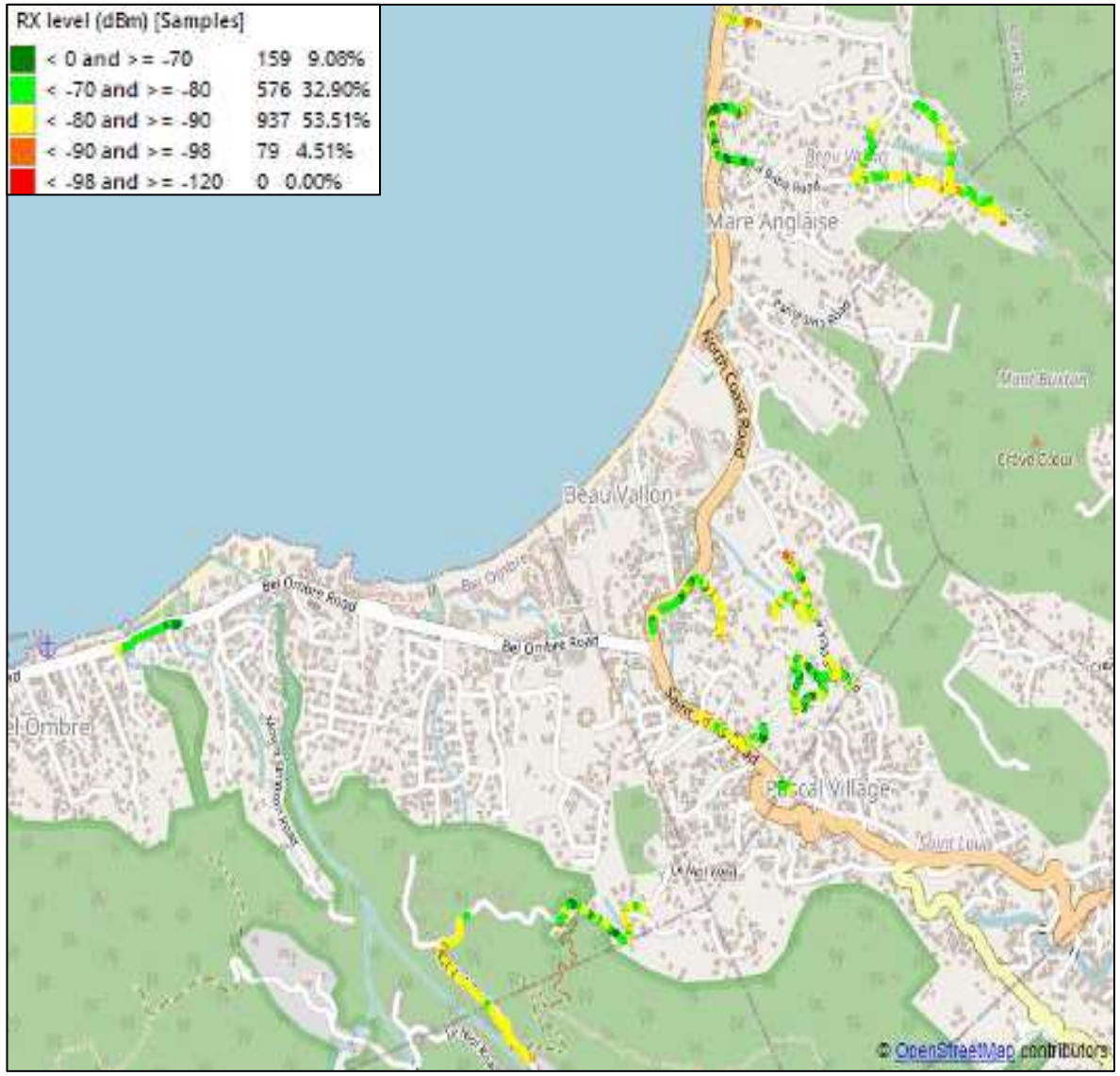


Phase-1 Long Call RX level sub PLOT

Airtel LC MO

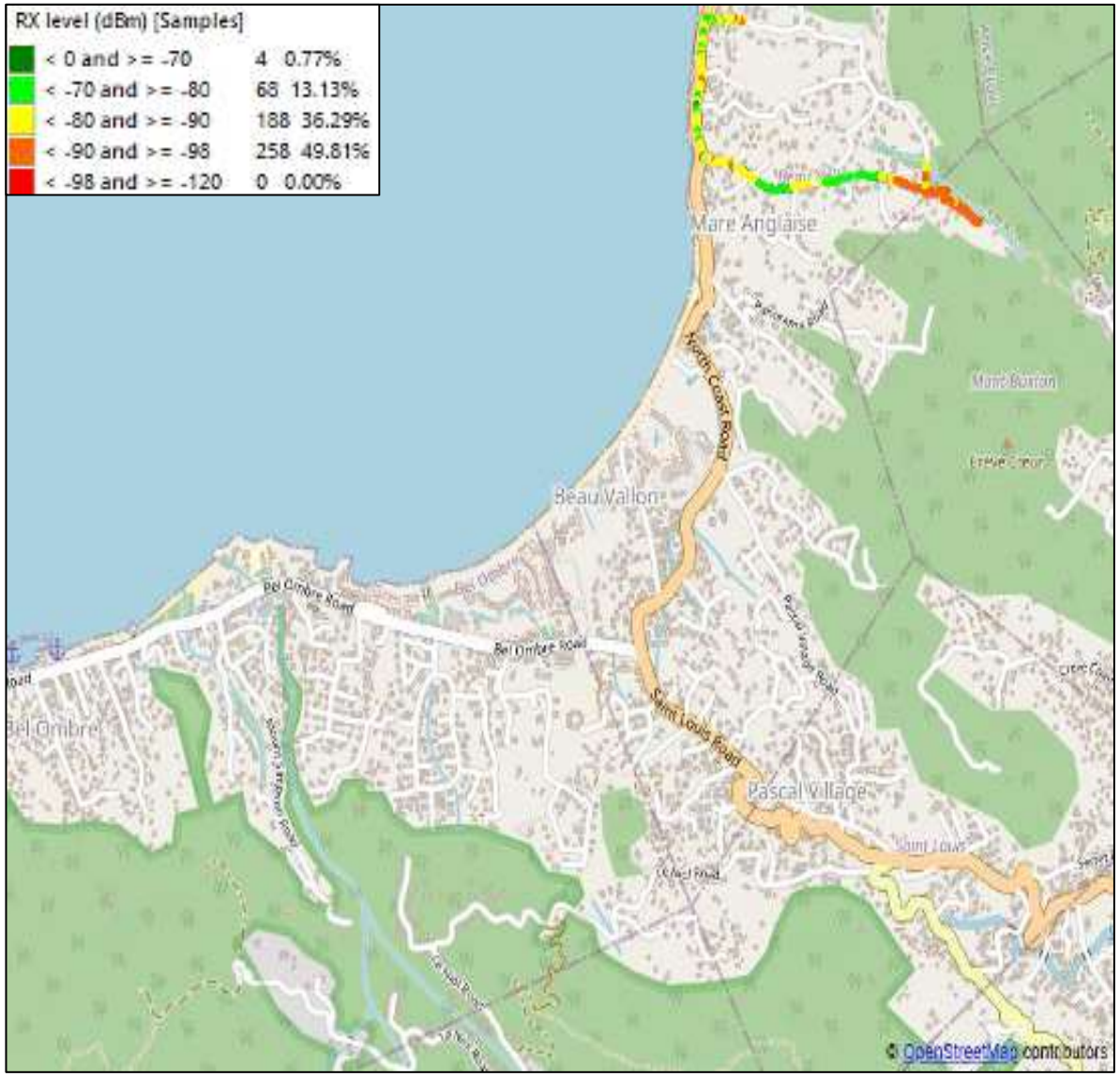


CWS LC MO

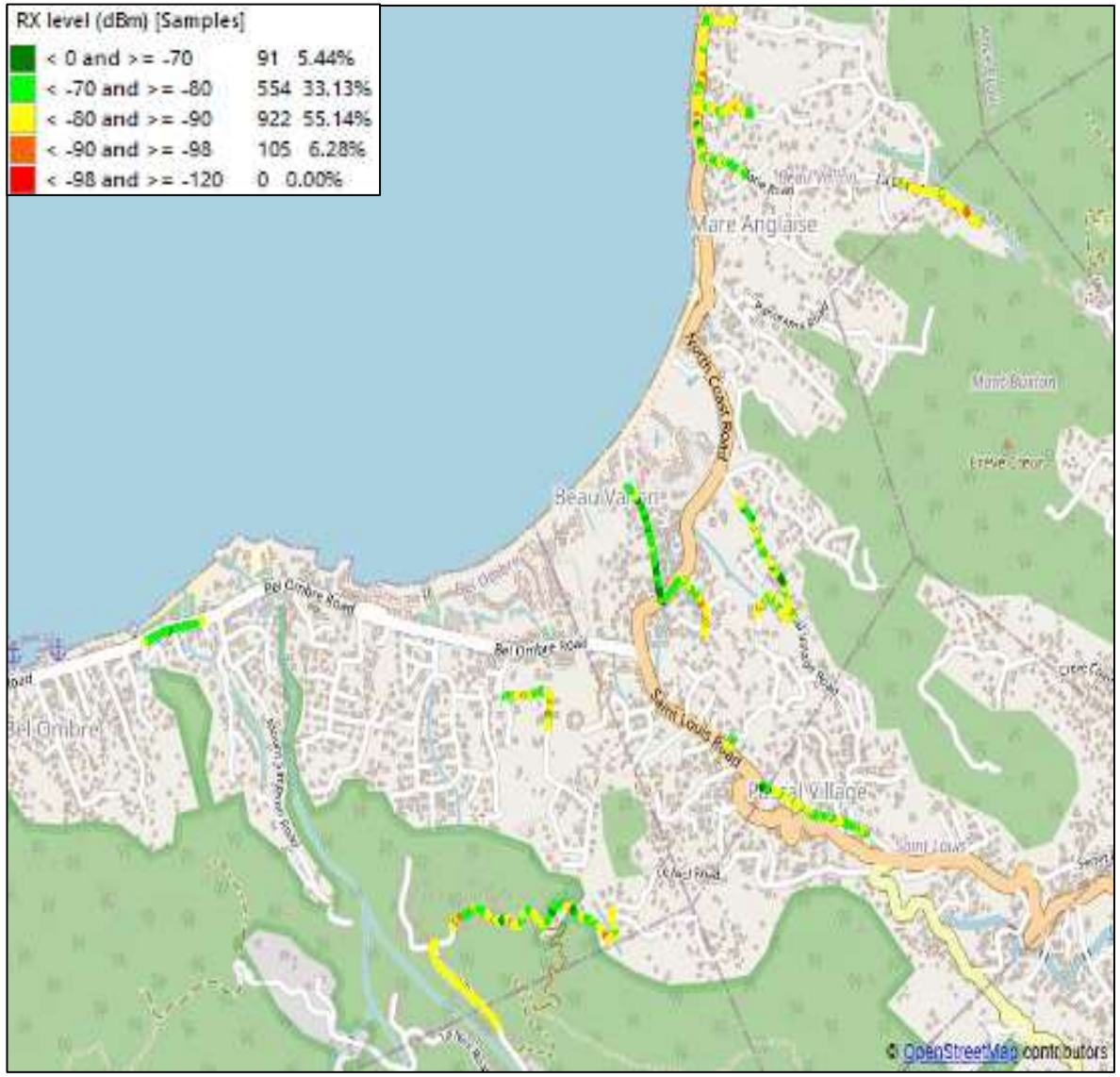


Phase-2 Long Call RX level sub PLOT

Airtel LC MO

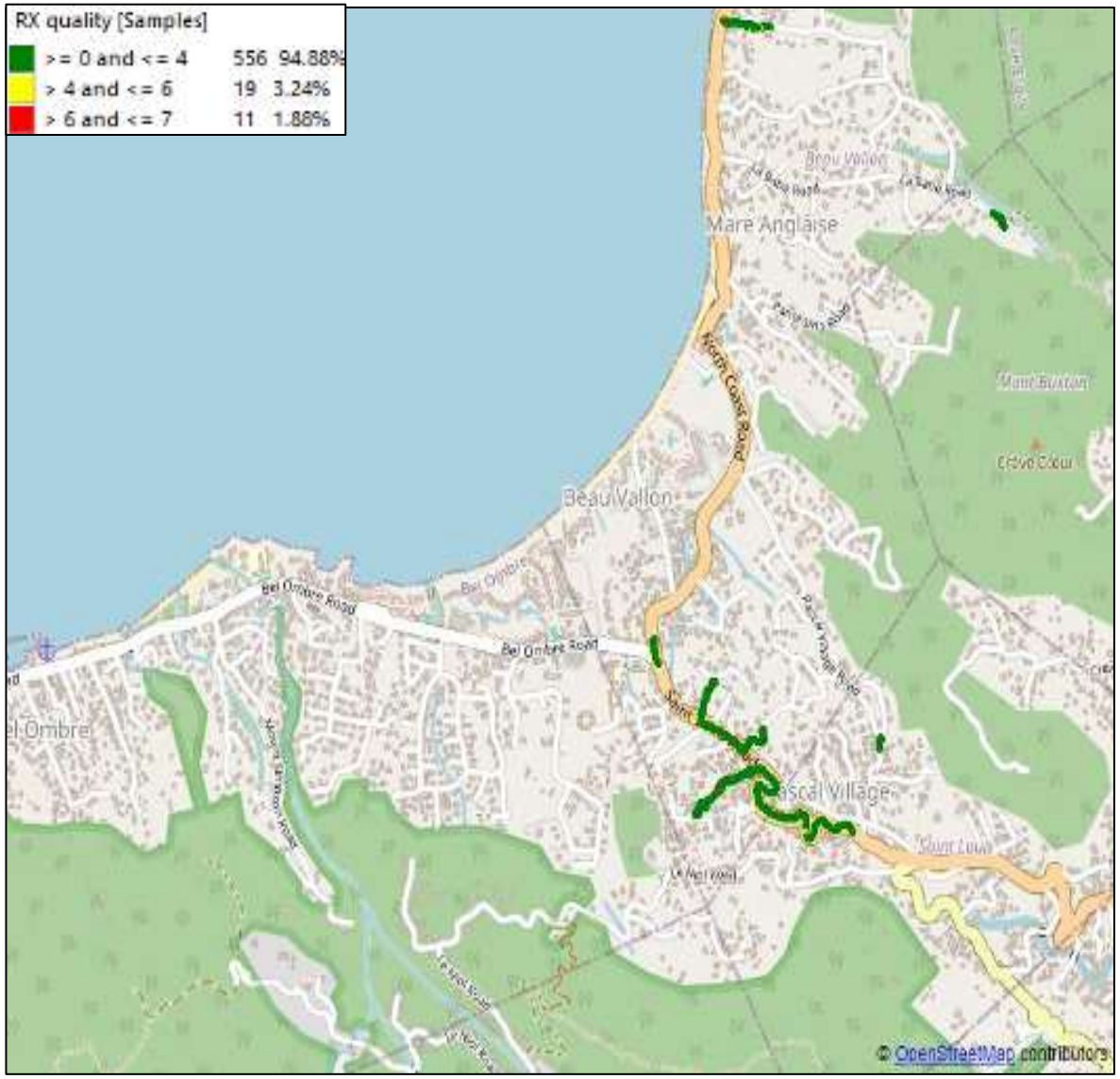


CWS LC MO

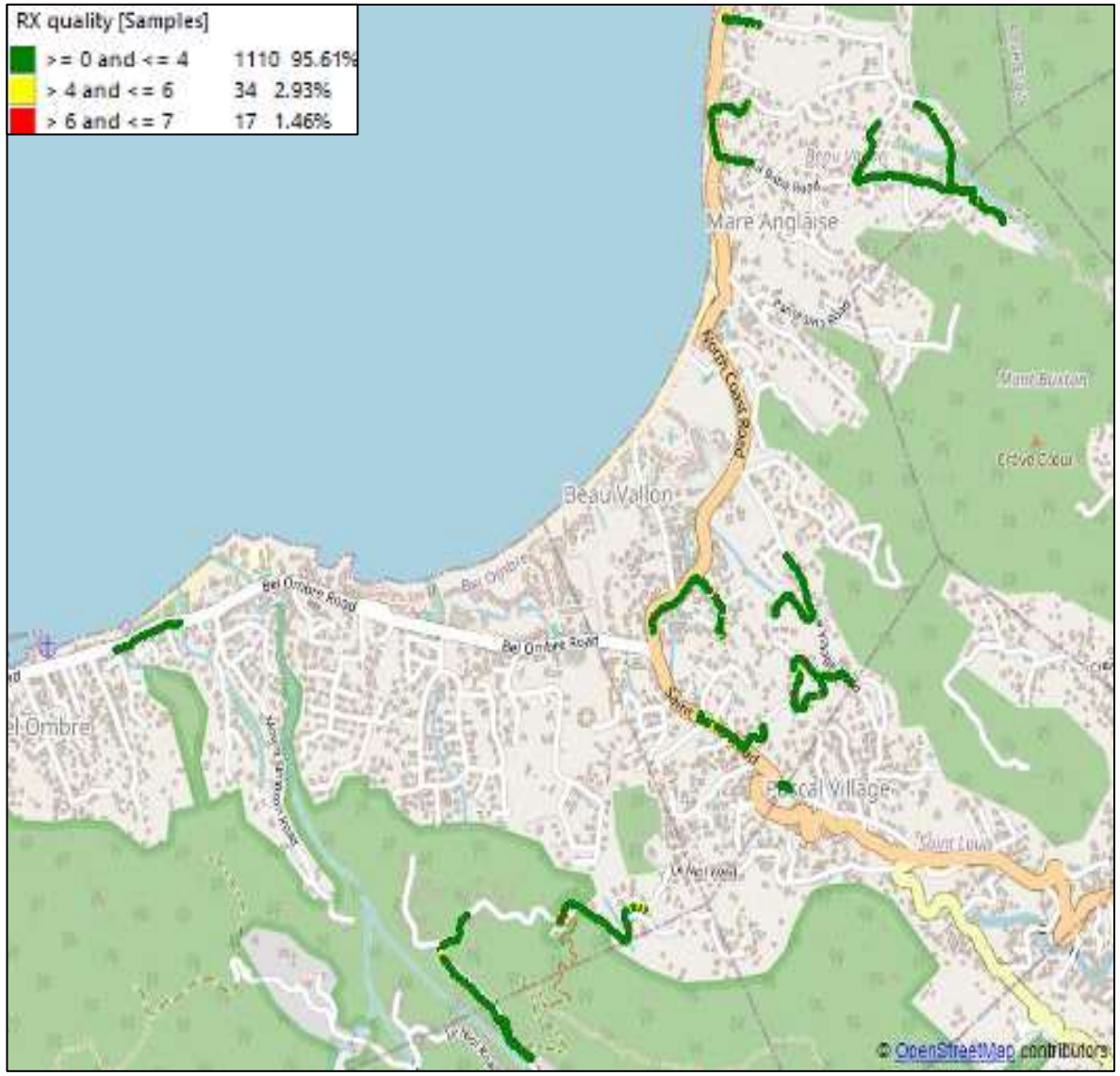


Phase-1 Long Call RX quality sub PLOT

Airtel LC MO

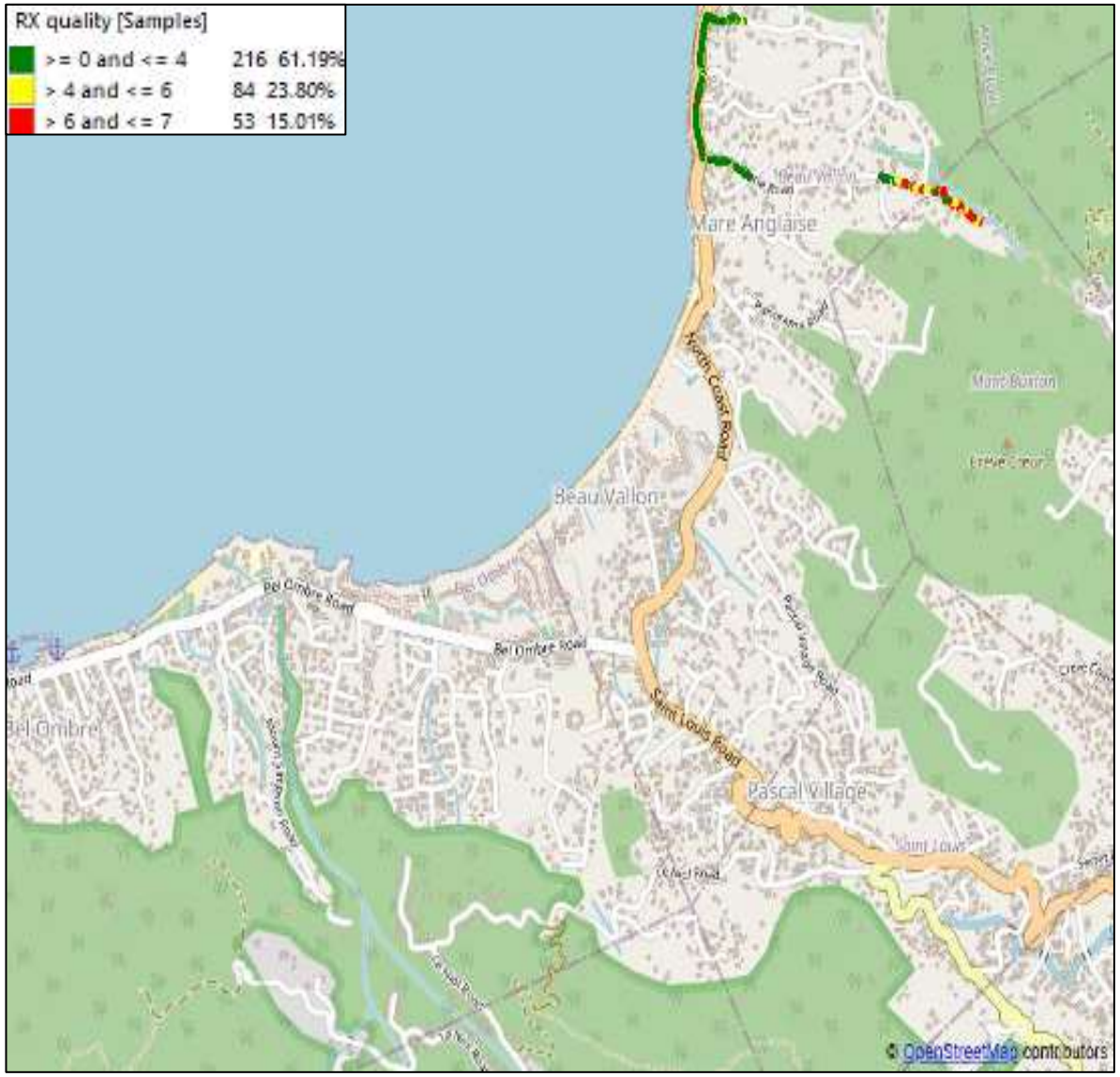


CWS LC MO

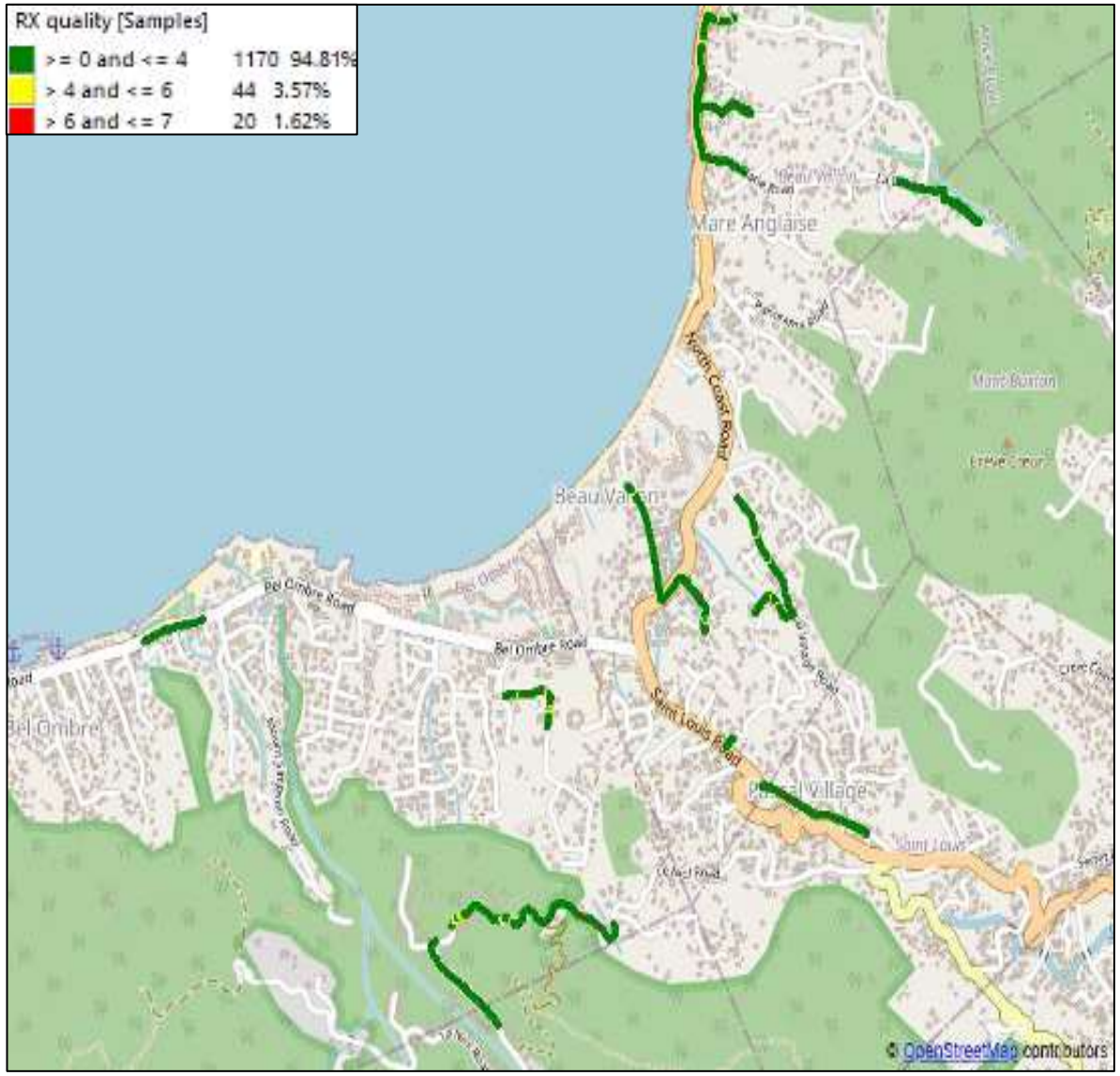


Phase-2 Long Call RX quality sub PLOT

Airtel LC MO



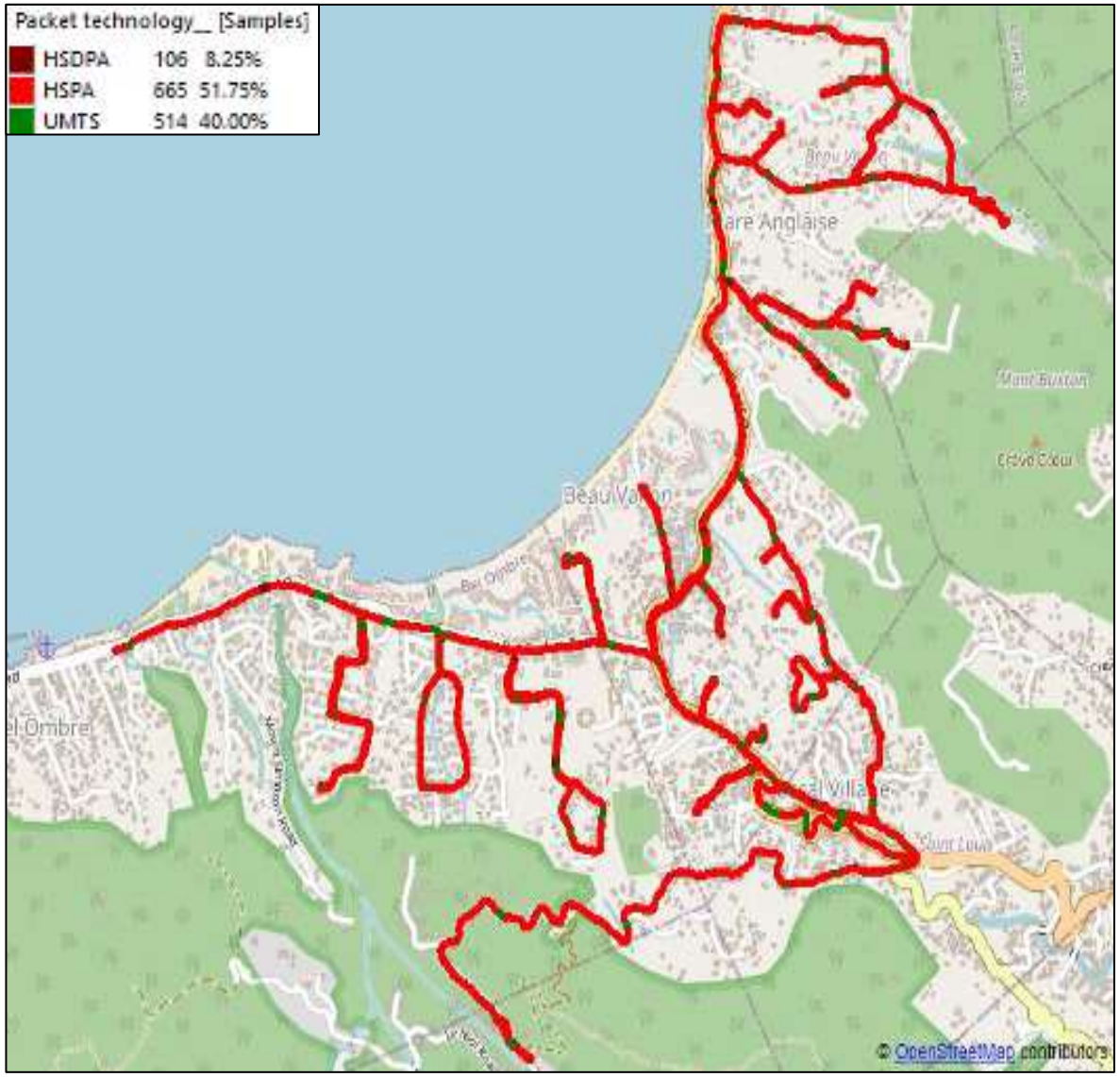
CWS LC MO



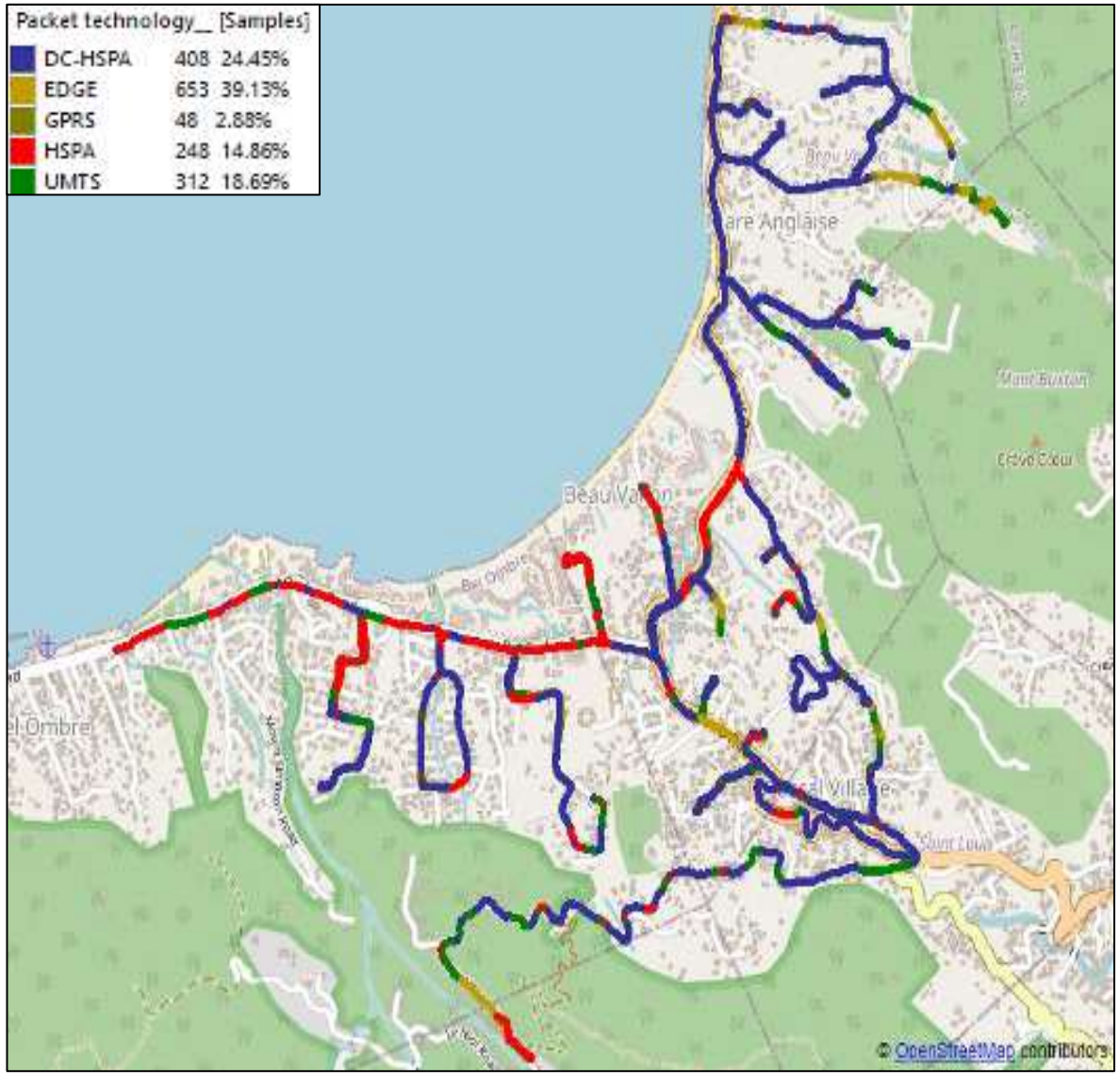
3G PREFERRED DATA DRIVE PLOTS

Phase-1 3G PREFERRED DATA TEST - TECHNOLOGY PLOT

Airtel Data 3G

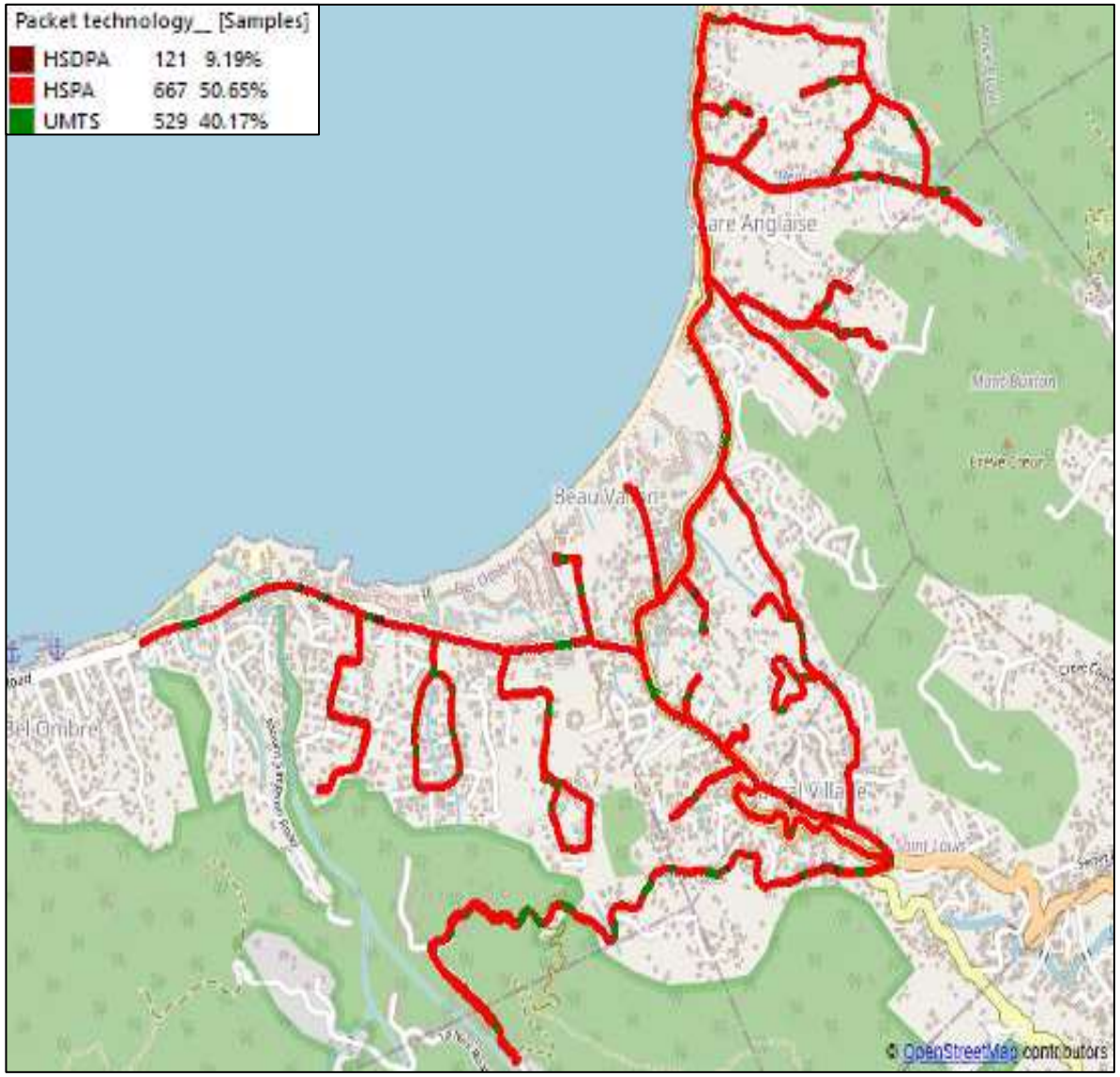


CWS Data 3G

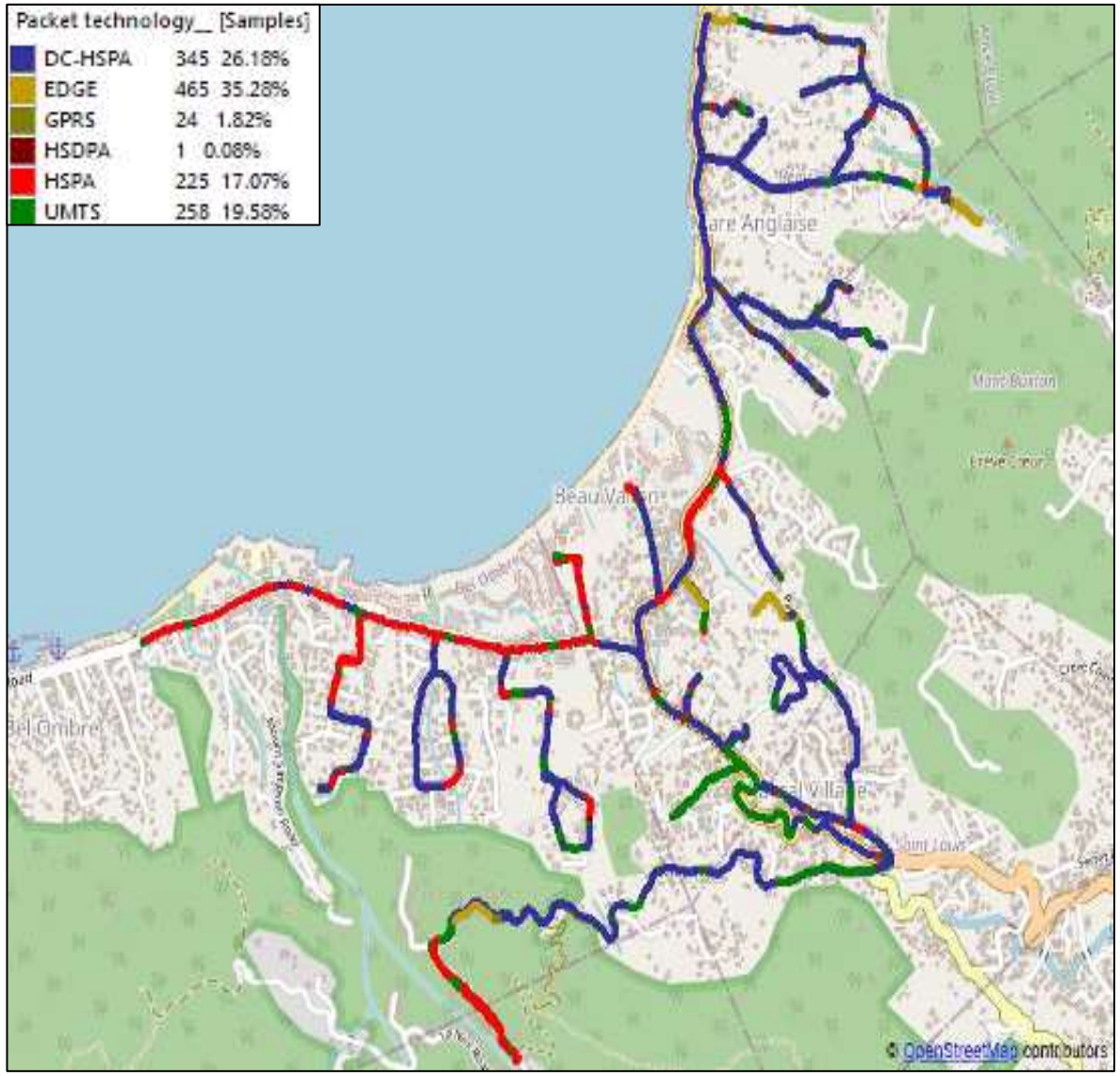


Phase-2 3G PREFERRED DATA TEST - TECHNOLOGY PLOT

Airtel Data 3G

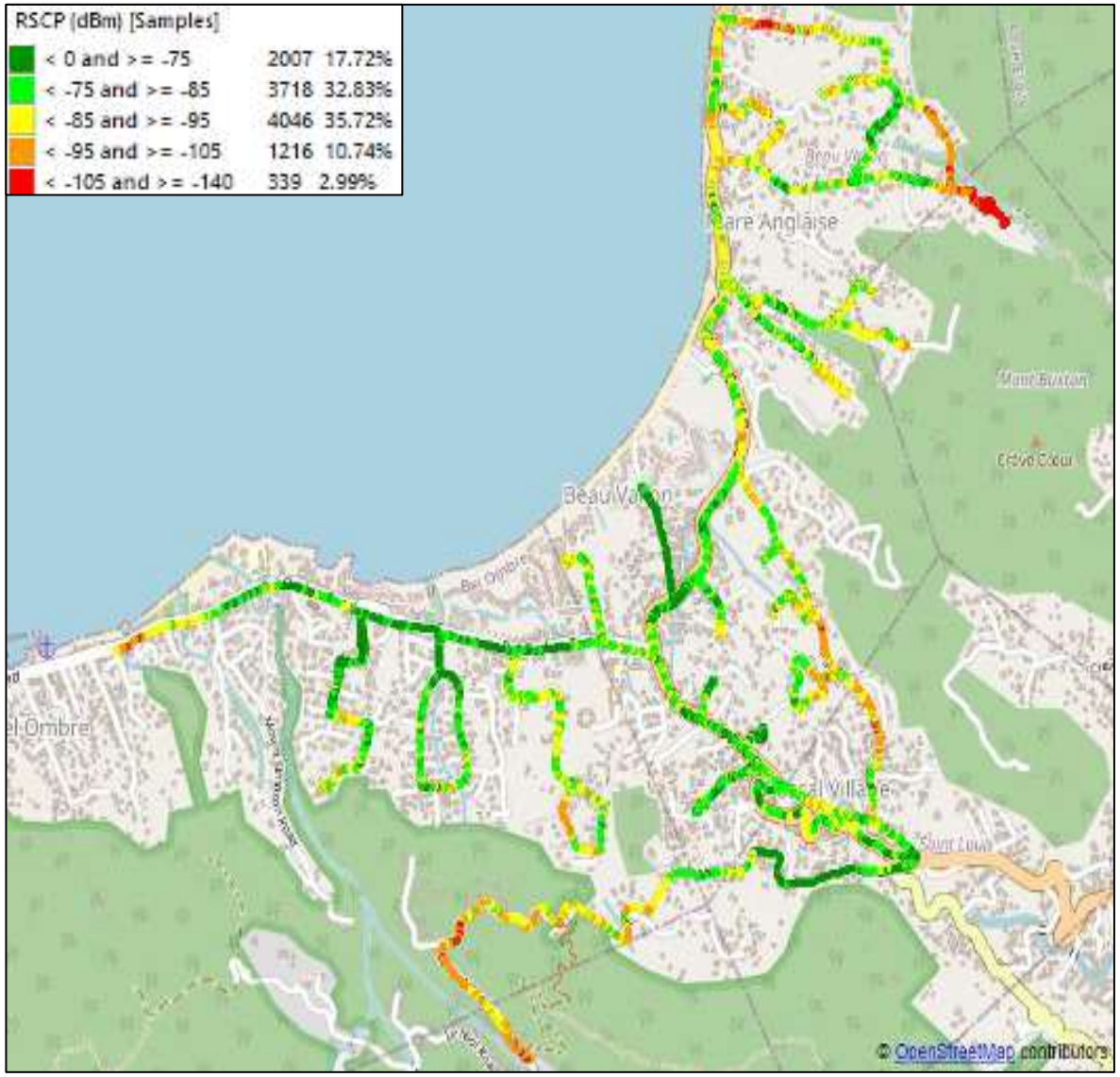


CWS Data 3G

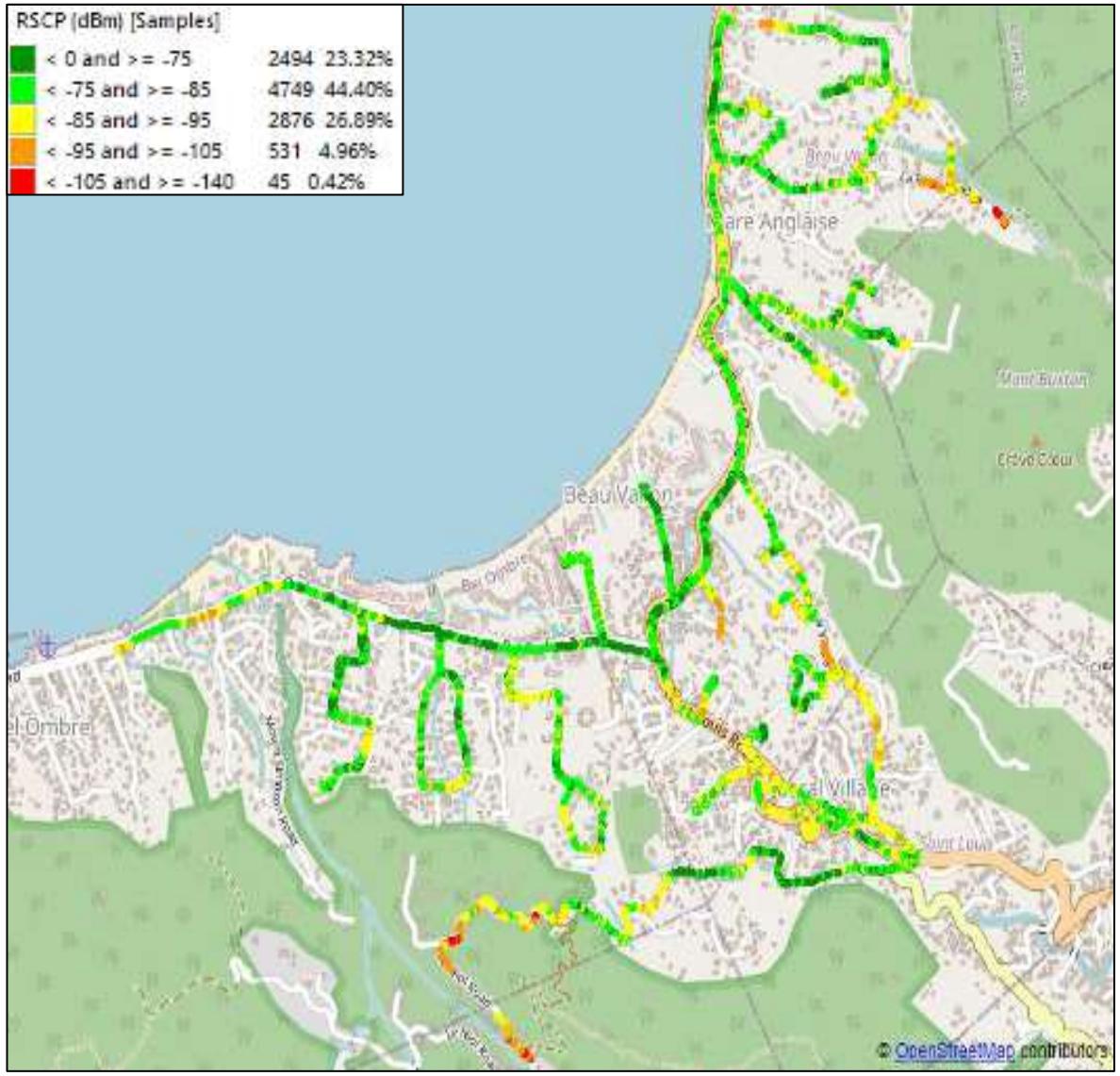


Phase-1 3G PREFERRED DATA TEST - RSCP PLOT

Airtel Data 3G

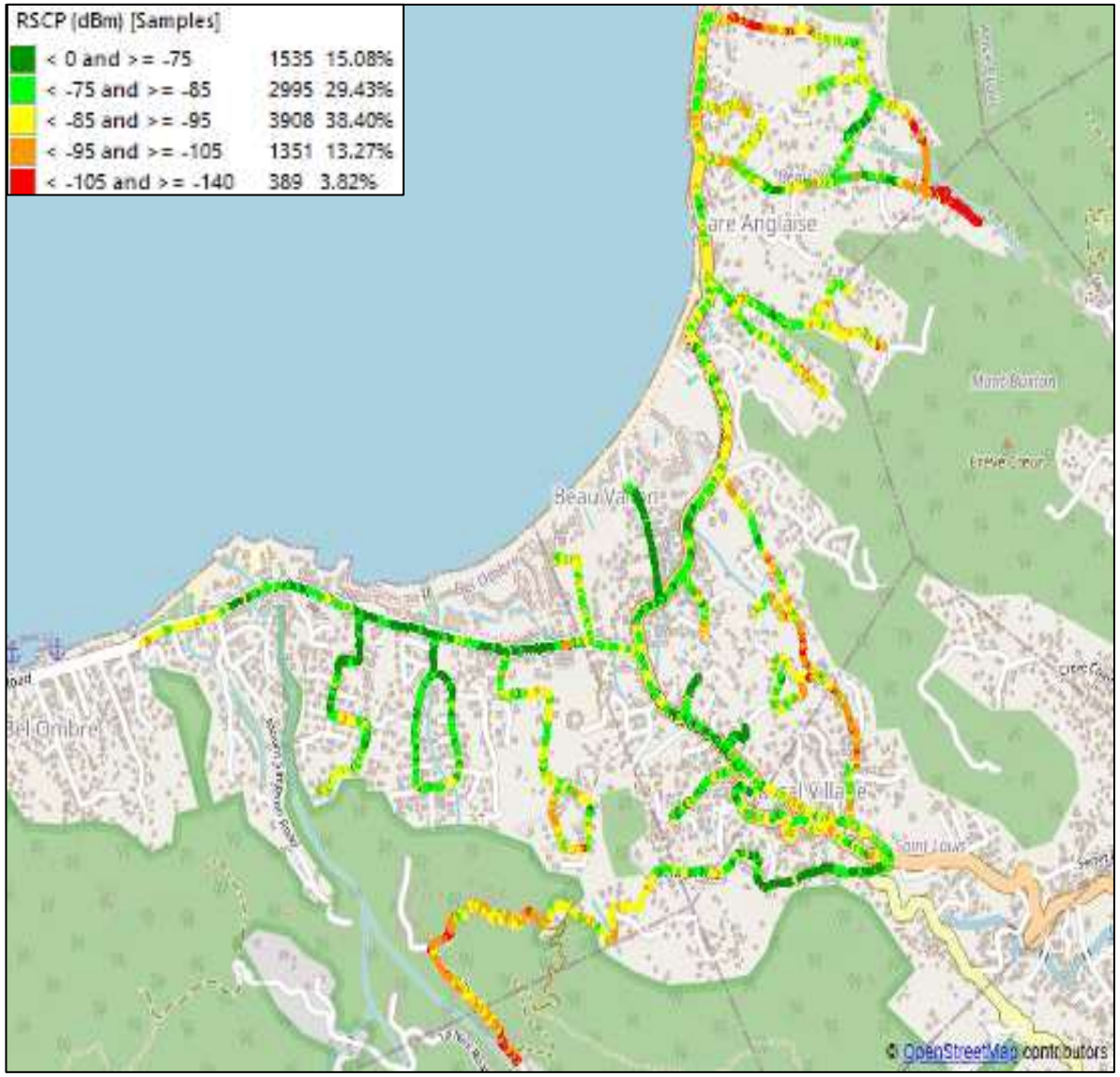


CWS Data 3G

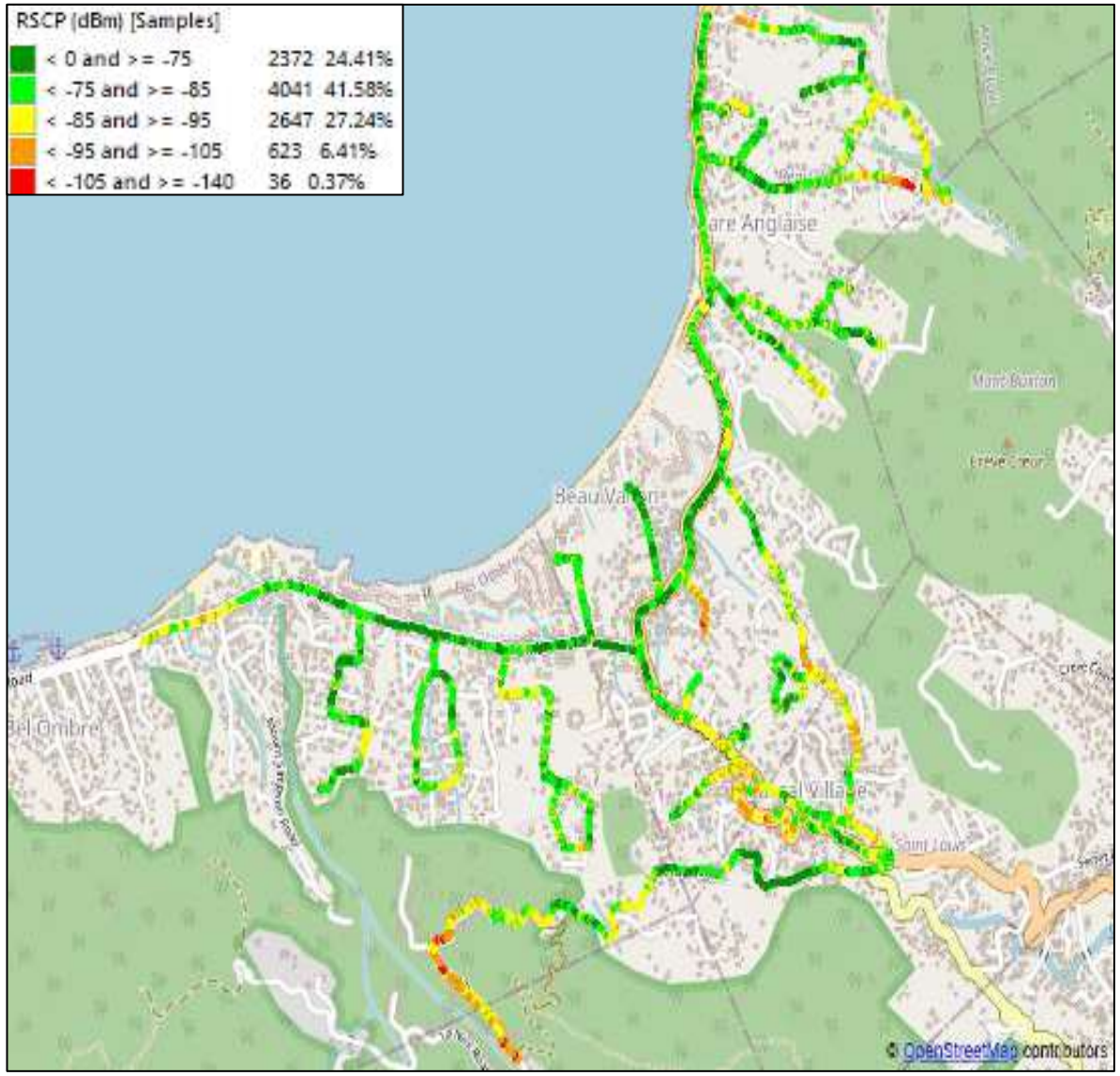


Phase-2 3G PREFERRED DATA TEST - RSCP PLOT

Airtel Data 3G

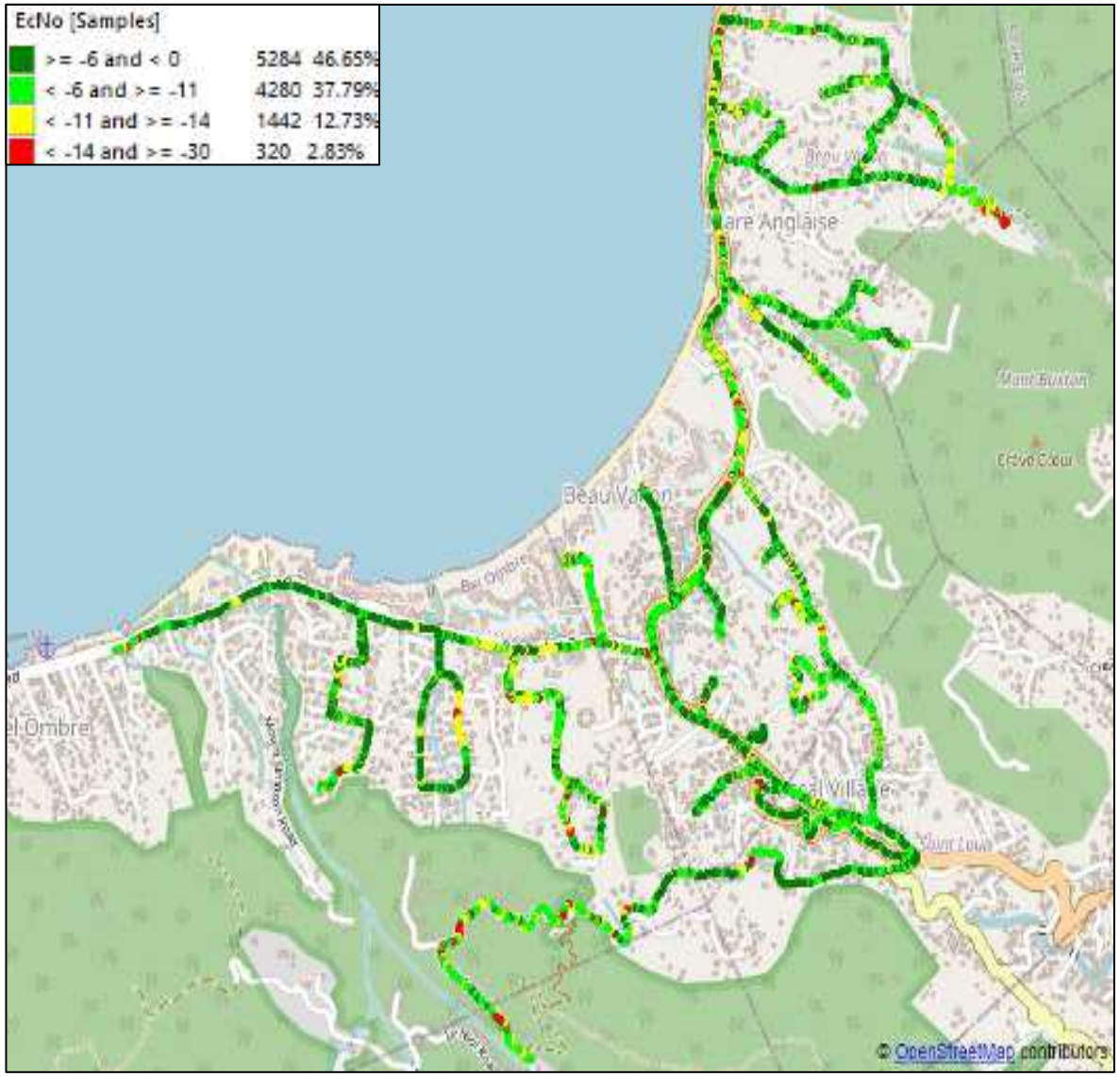


CWS Data 3G

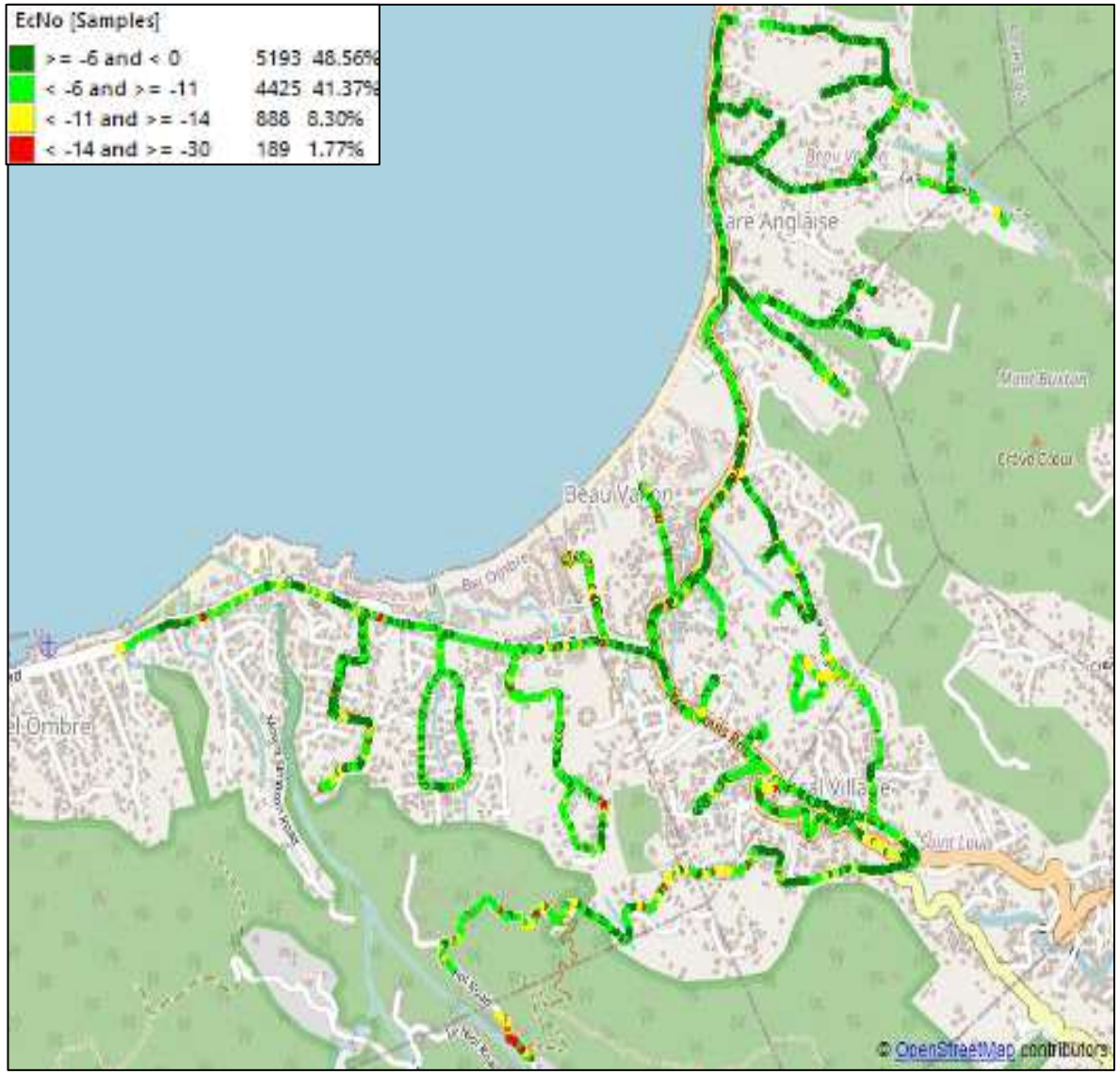


Phase-1 3G PREFERRED DATA TEST - EC/NO PLOT

Airtel Data 3G

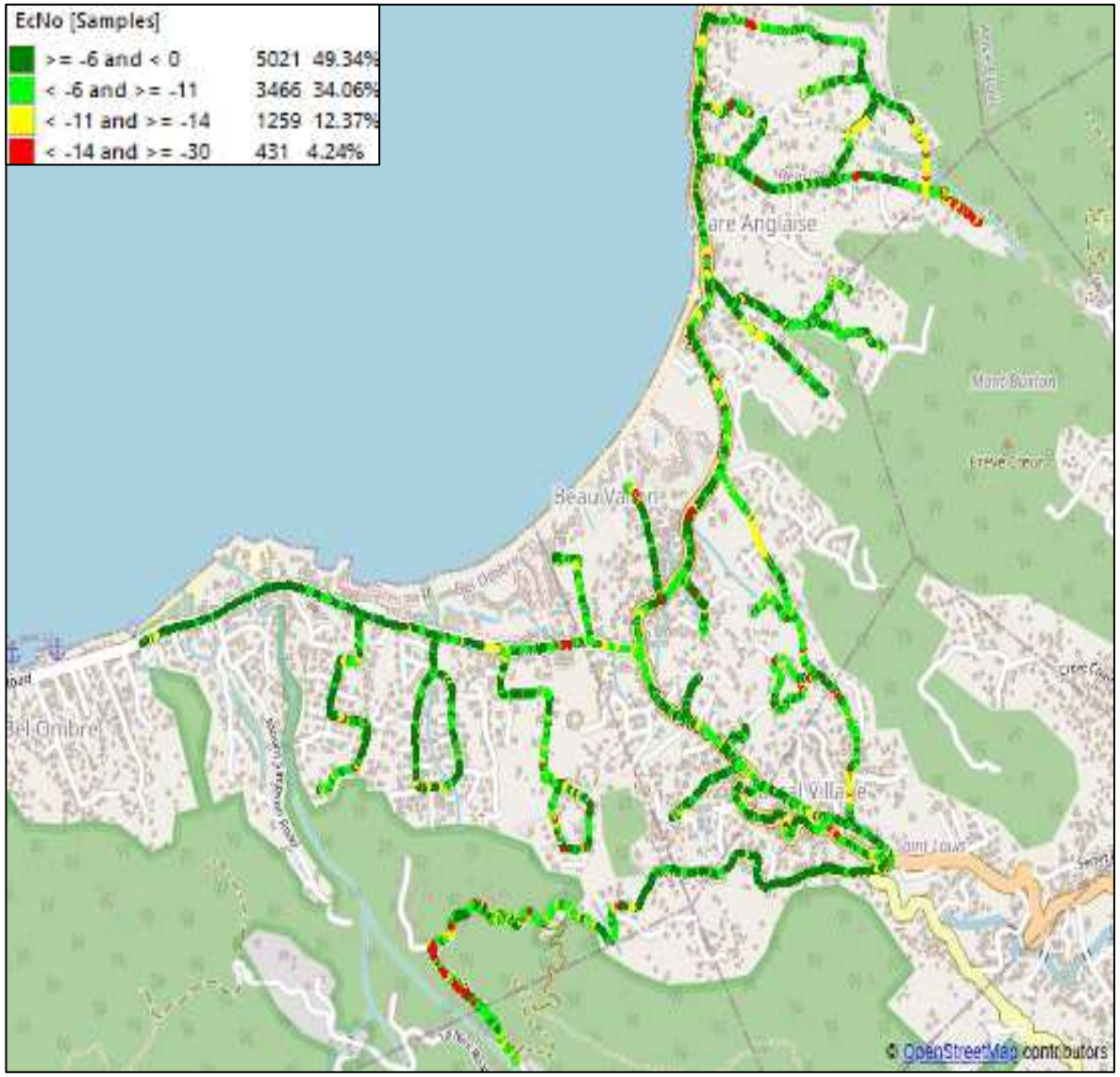


CWS Data 3G

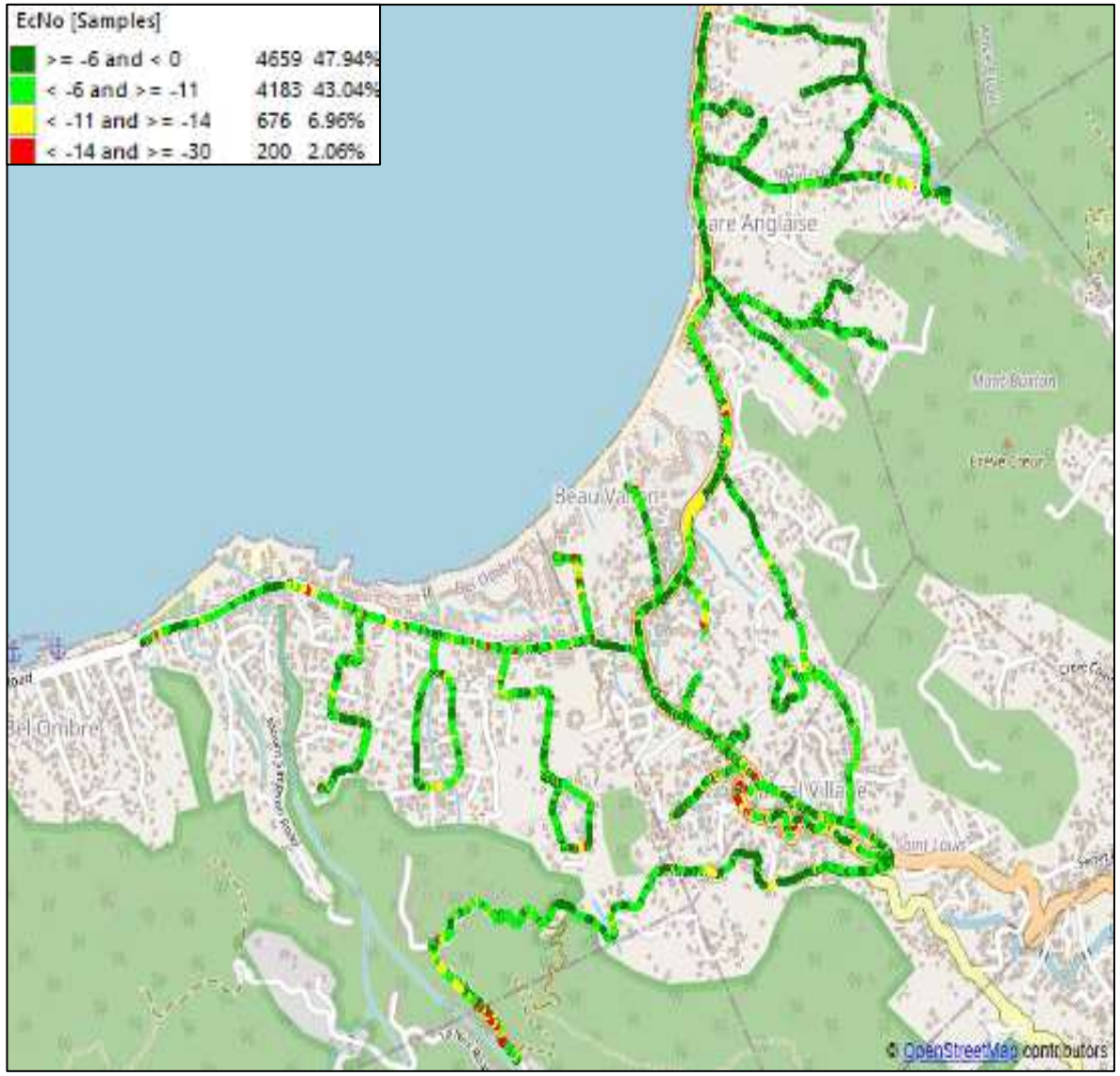


Phase-2 3G PREFERRED DATA TEST - EC/NO PLOT

Airtel Data 3G

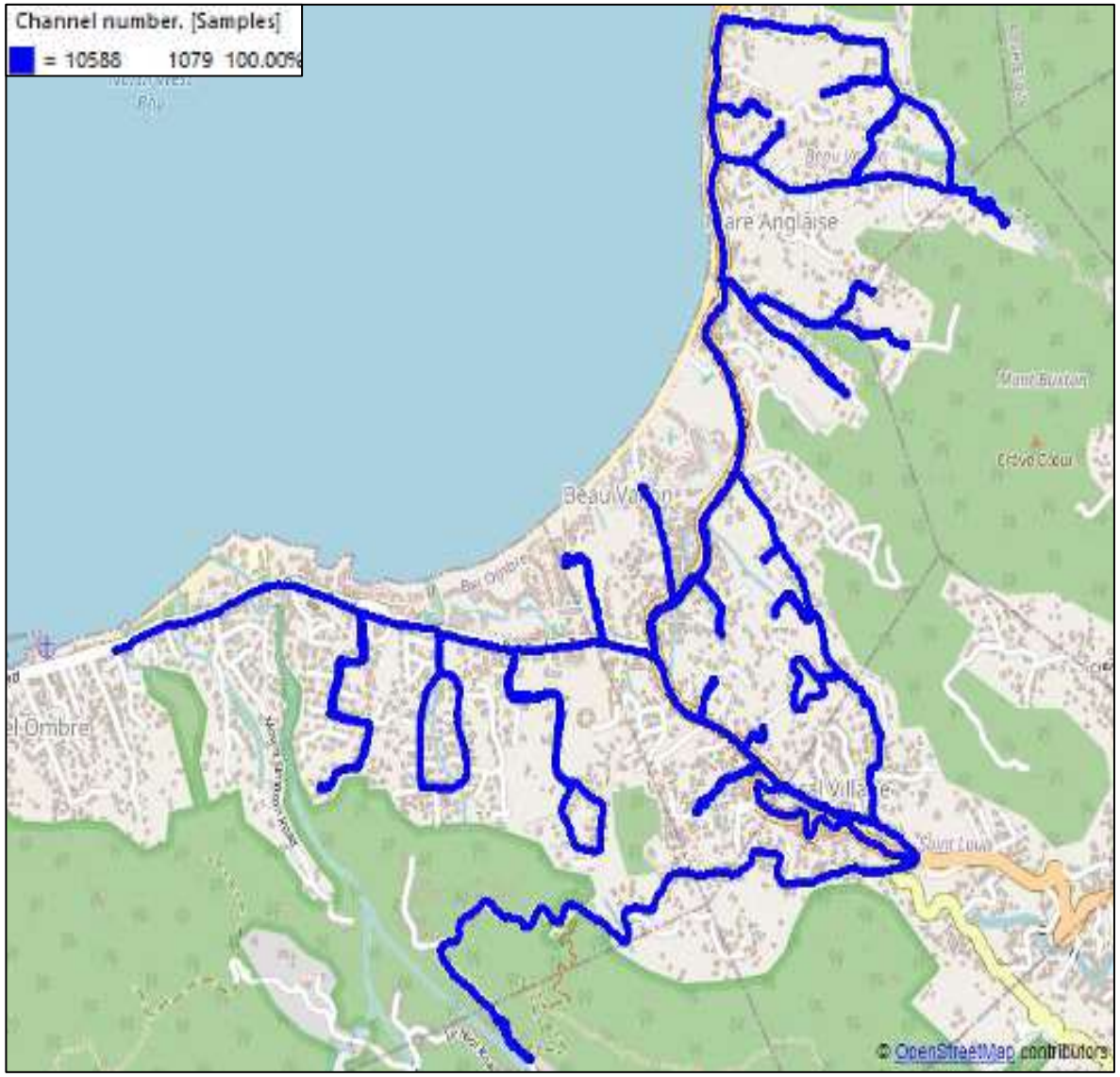


CWS Data 3G

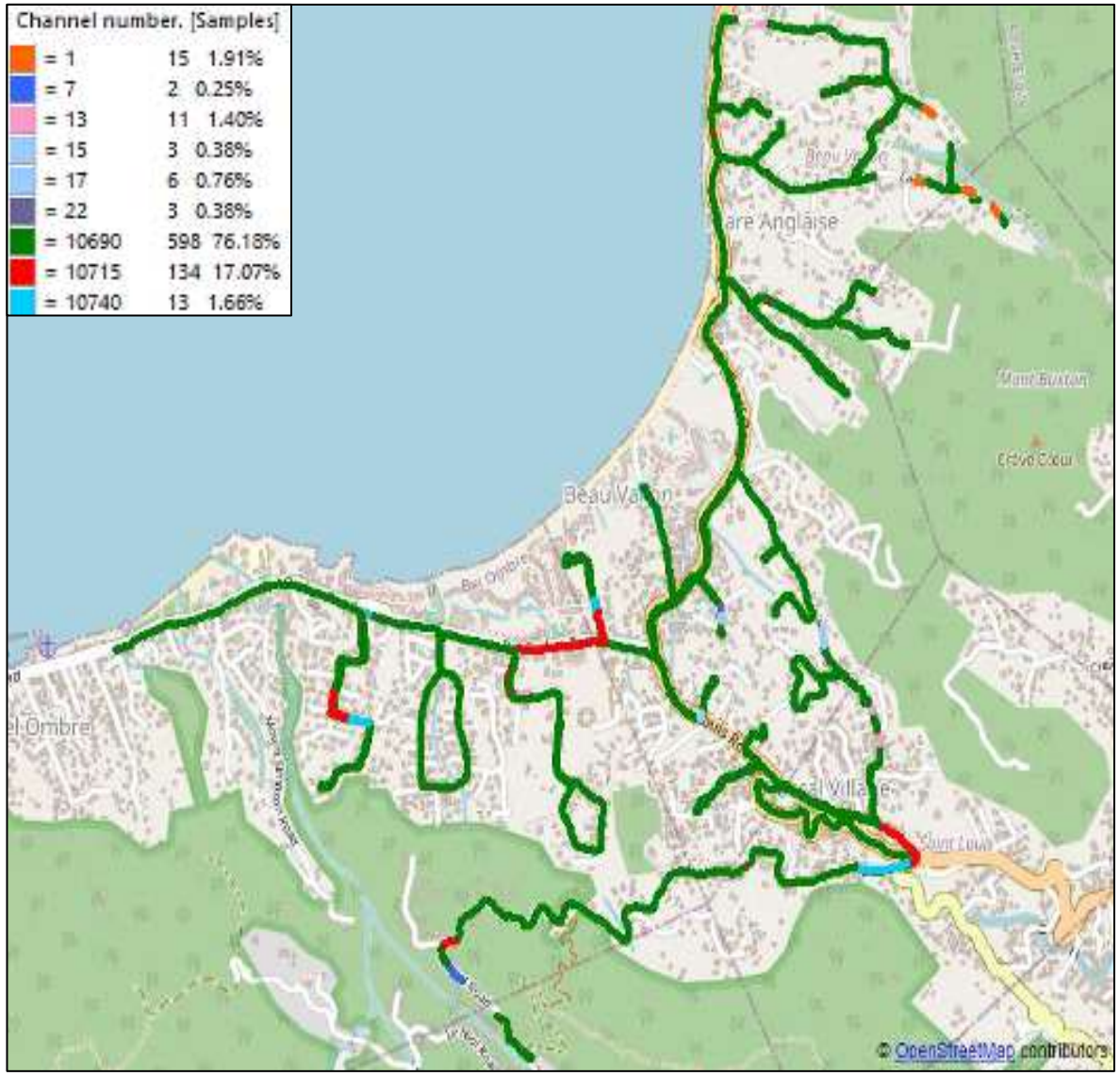


Phase-1 3G PREFERRED DATA TEST - UARFCN PLOT

Airtel Data 3G

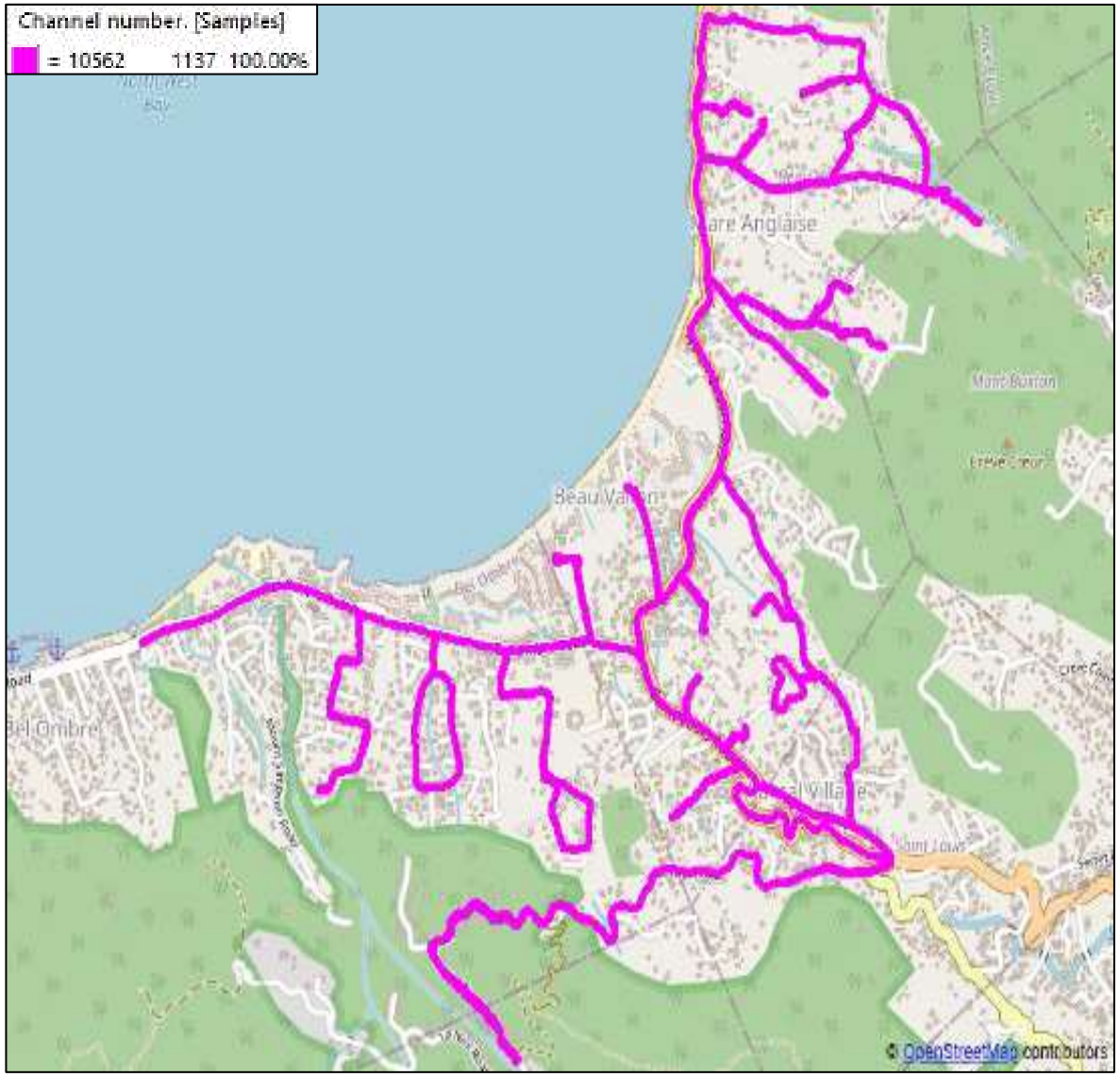


CWS Data 3G

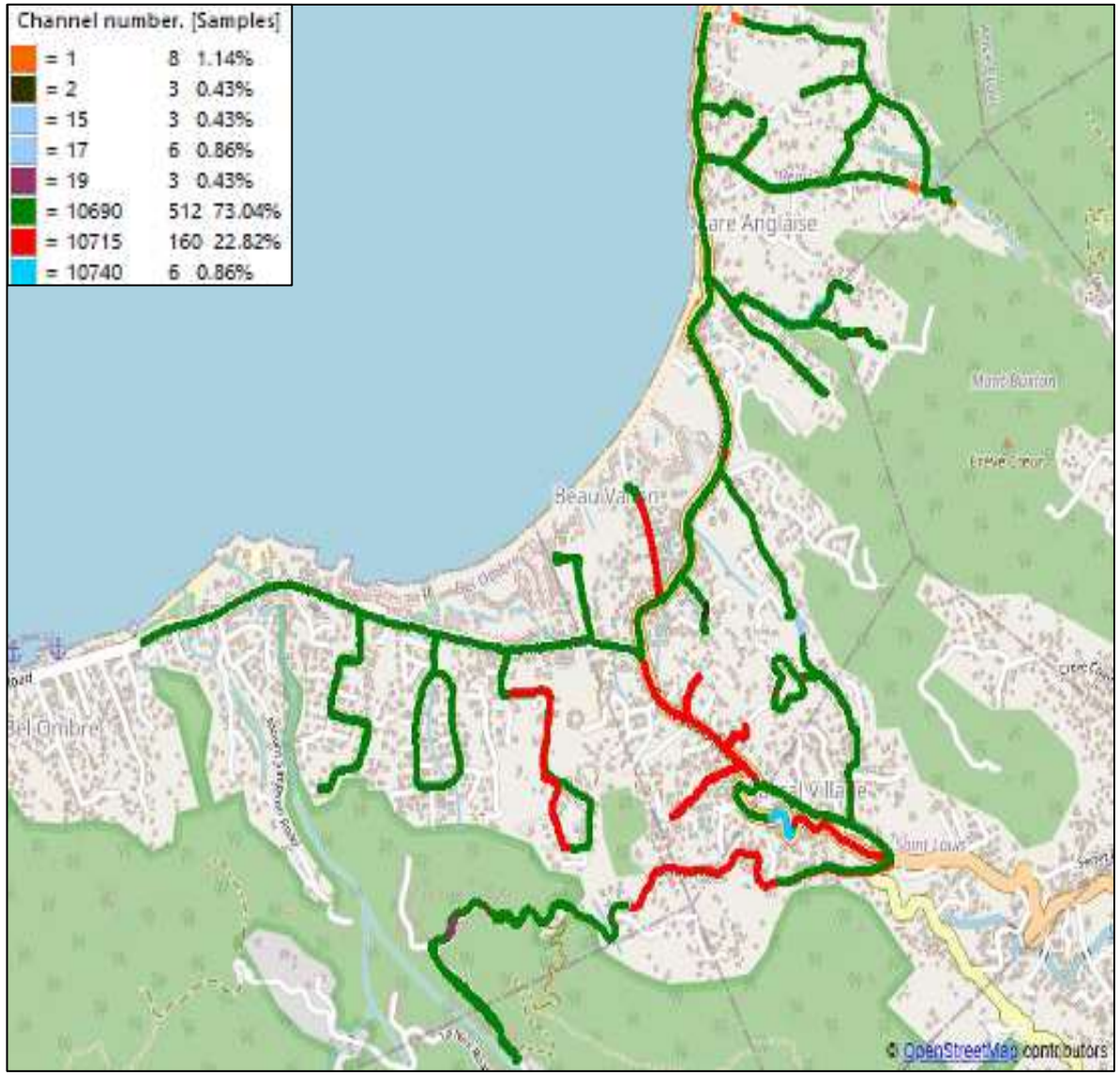


Phase-2 3G PREFERRED DATA TEST - UARFCN PLOT

Airtel Data 3G



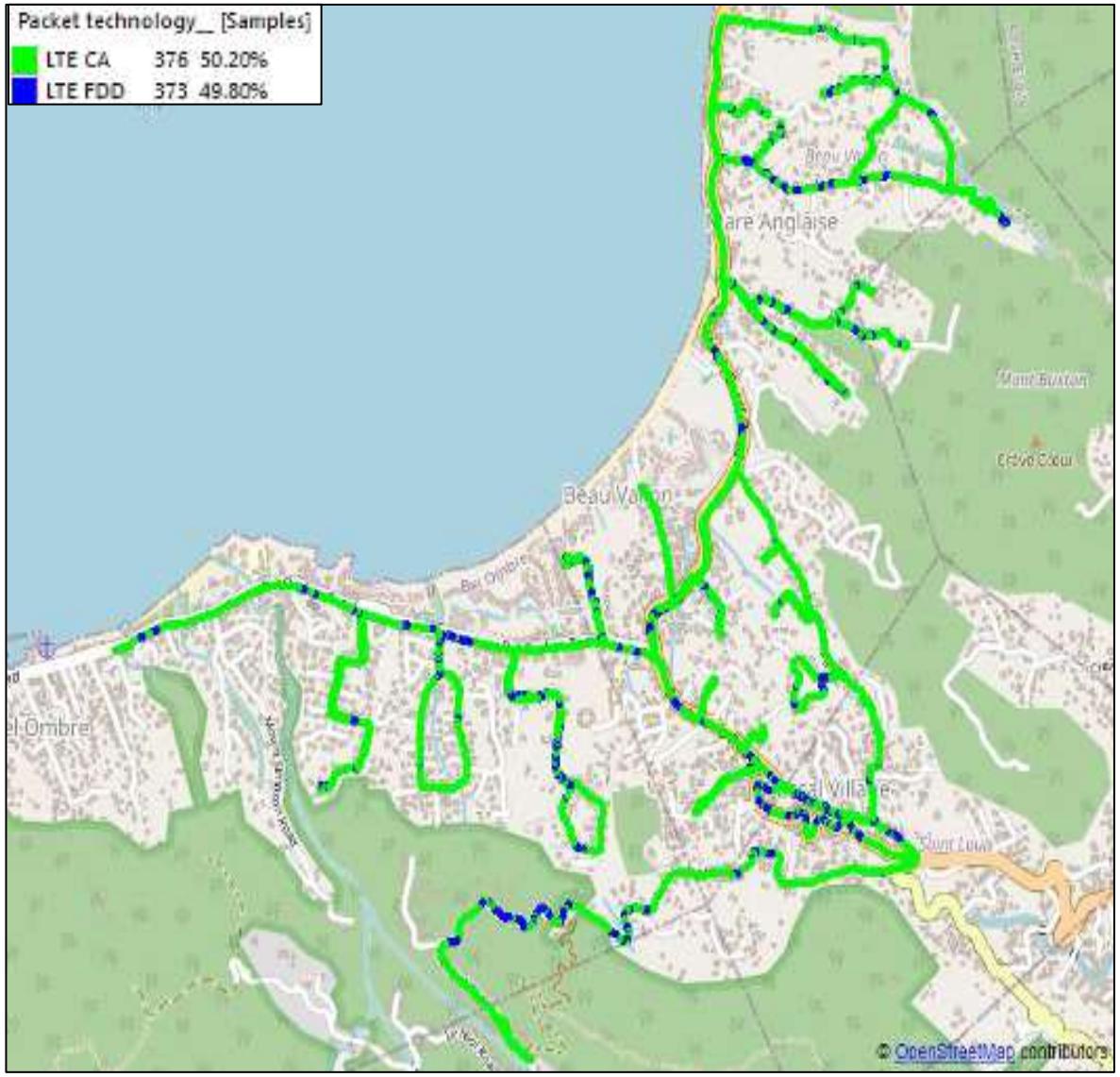
CWS Data 3G



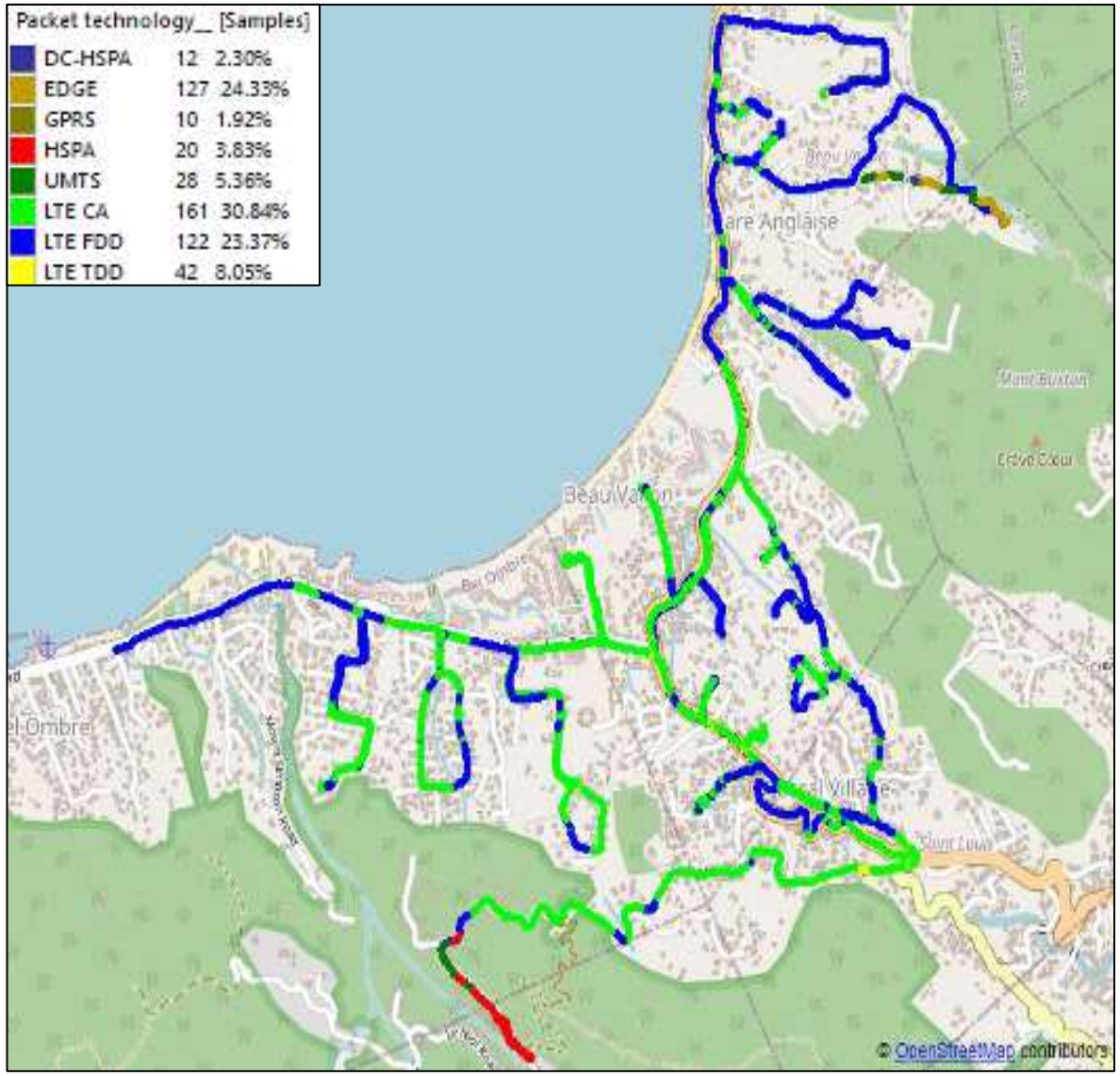
4G PREFERRED
DATA DRIVE PLOTS

Phase-1 4G PREFERRED DATA TEST - TECHNOLOGY PLOT

Airtel Data 4G

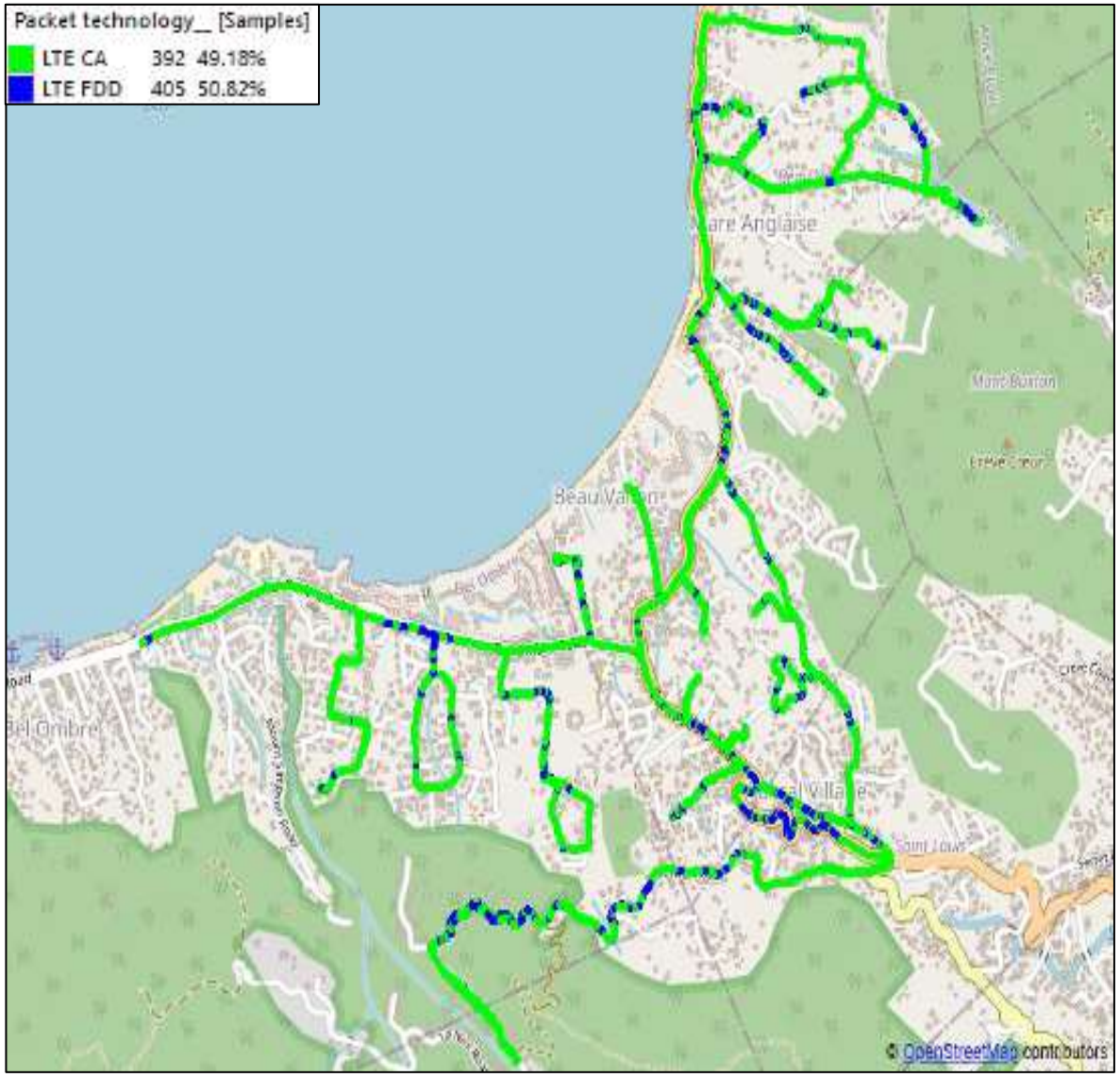


CWS Data 4G

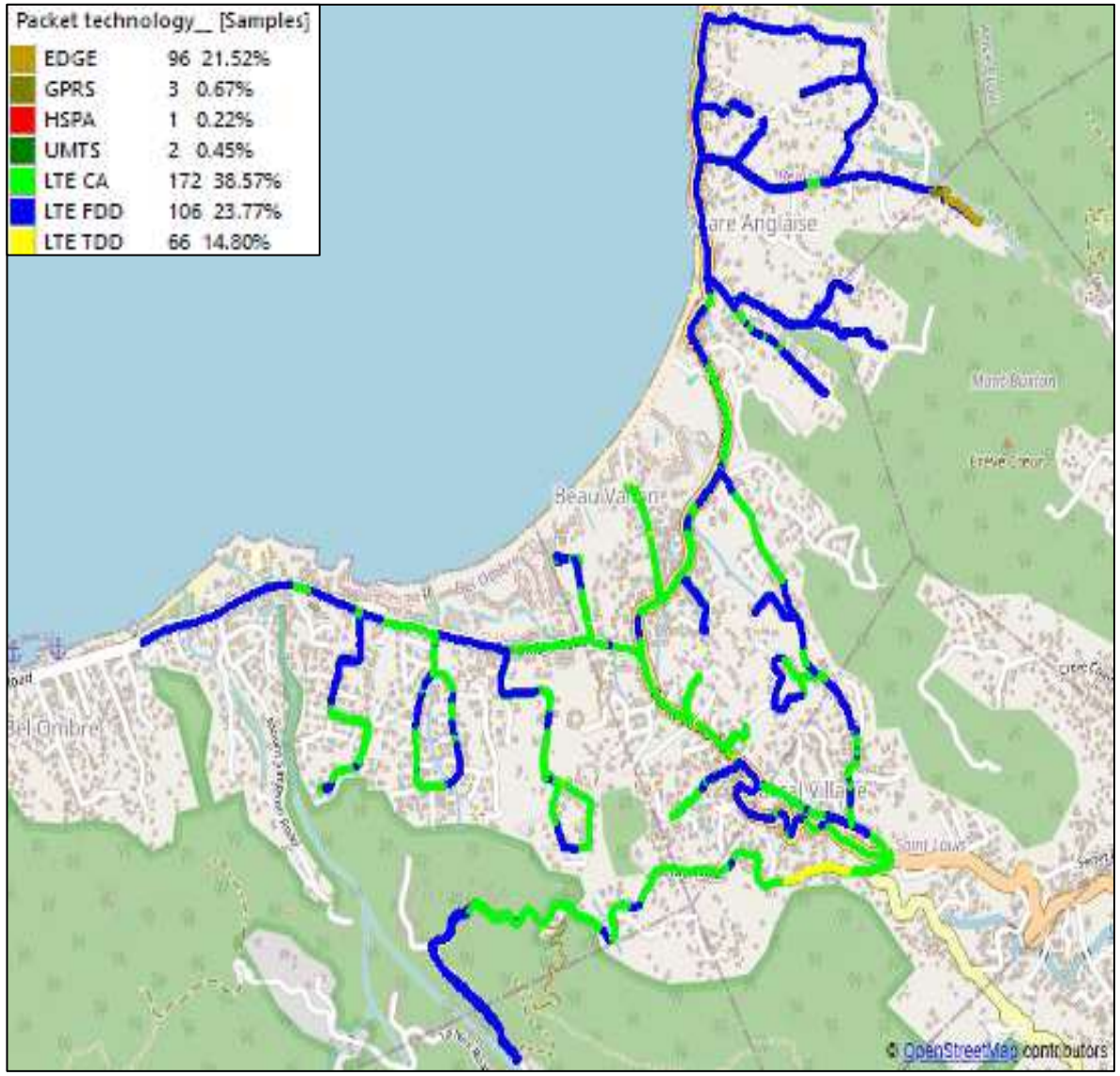


Phase-2 4G PREFERRED DATA TEST - TECHNOLOGY PLOT

Airtel Data 4G

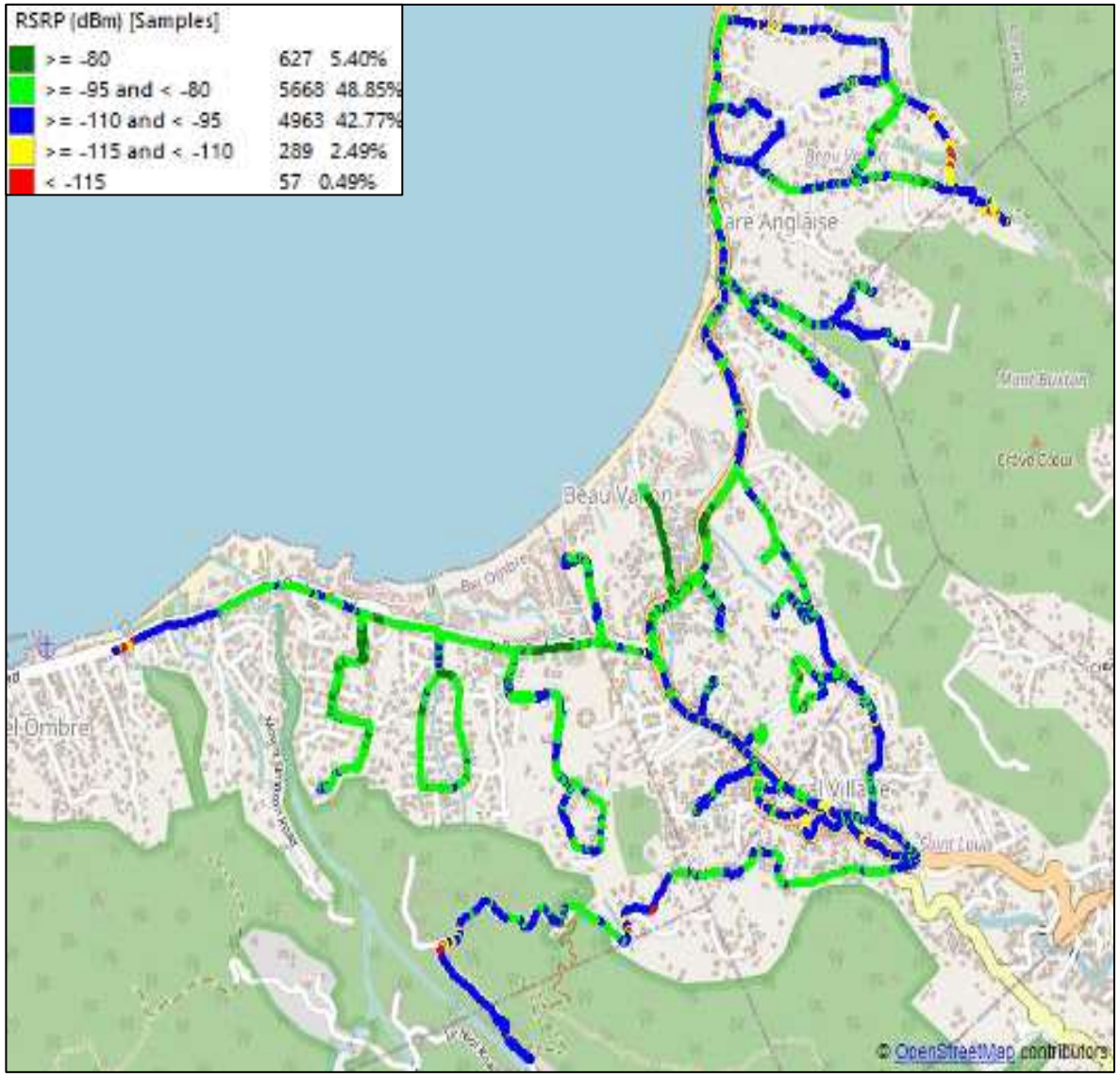


CWS Data 4G

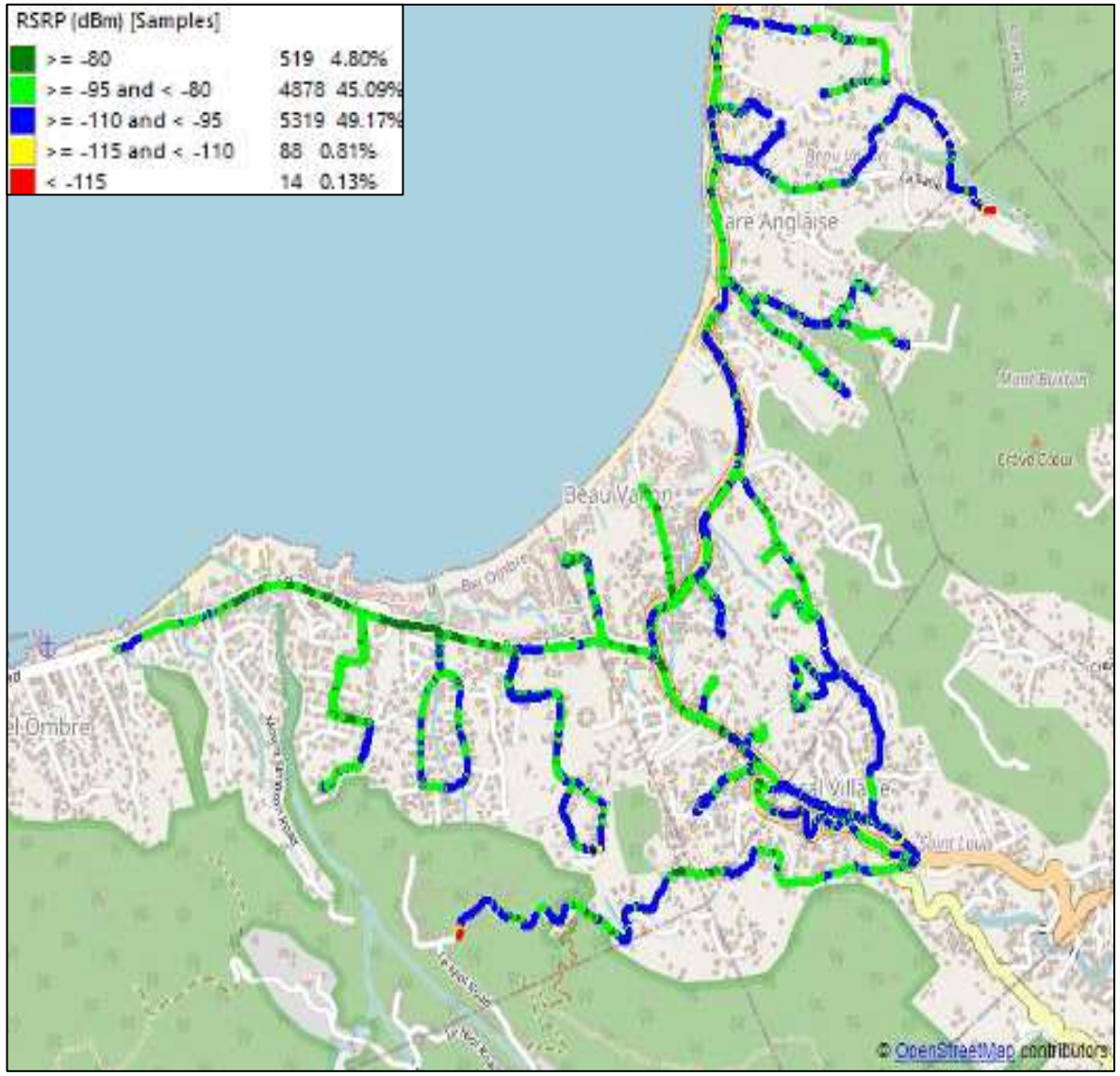


Phase-1 4G PREFERRED DATA TEST - RSRP PLOT

Airtel Data 4G

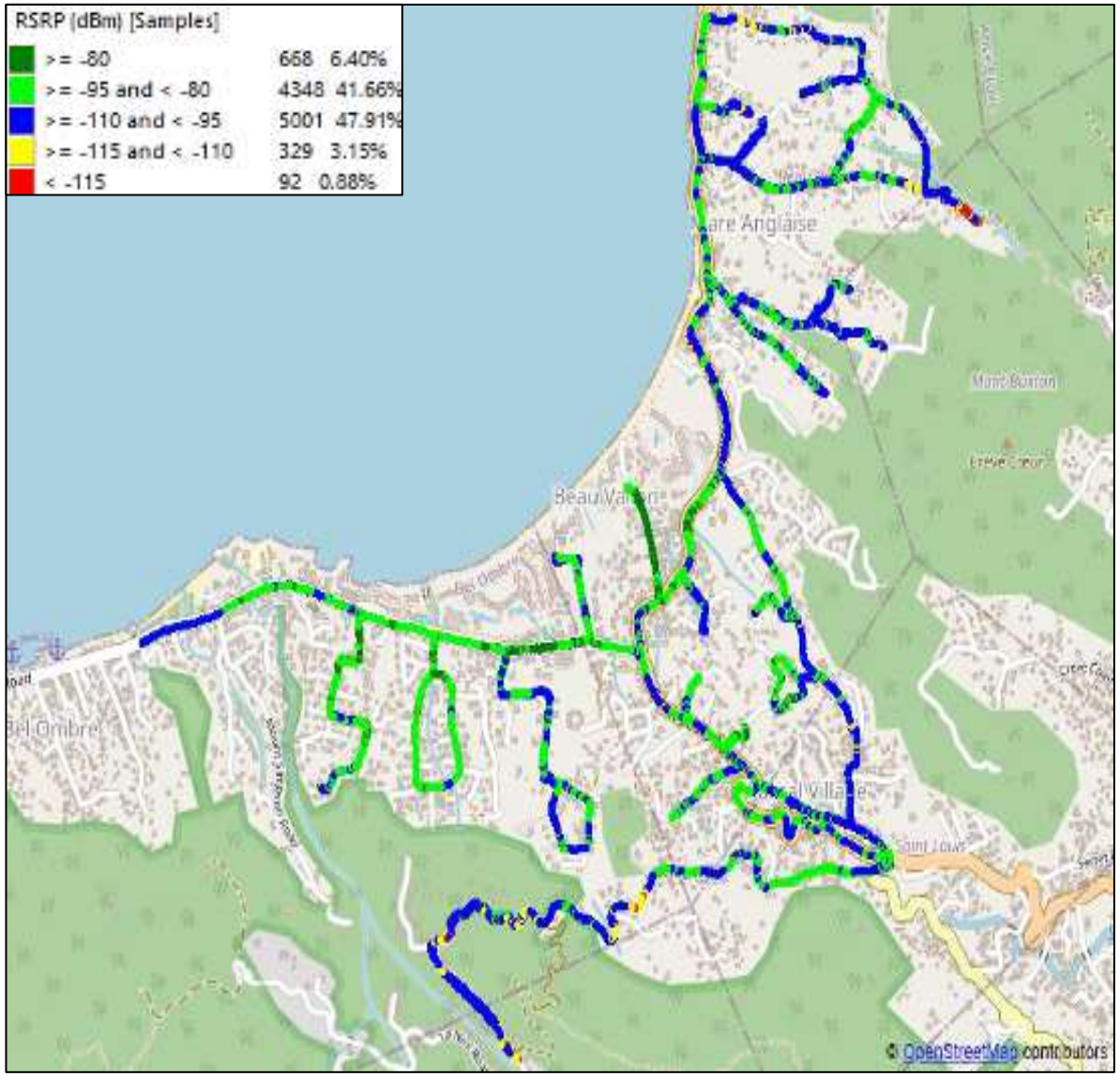


CWS Data 4G

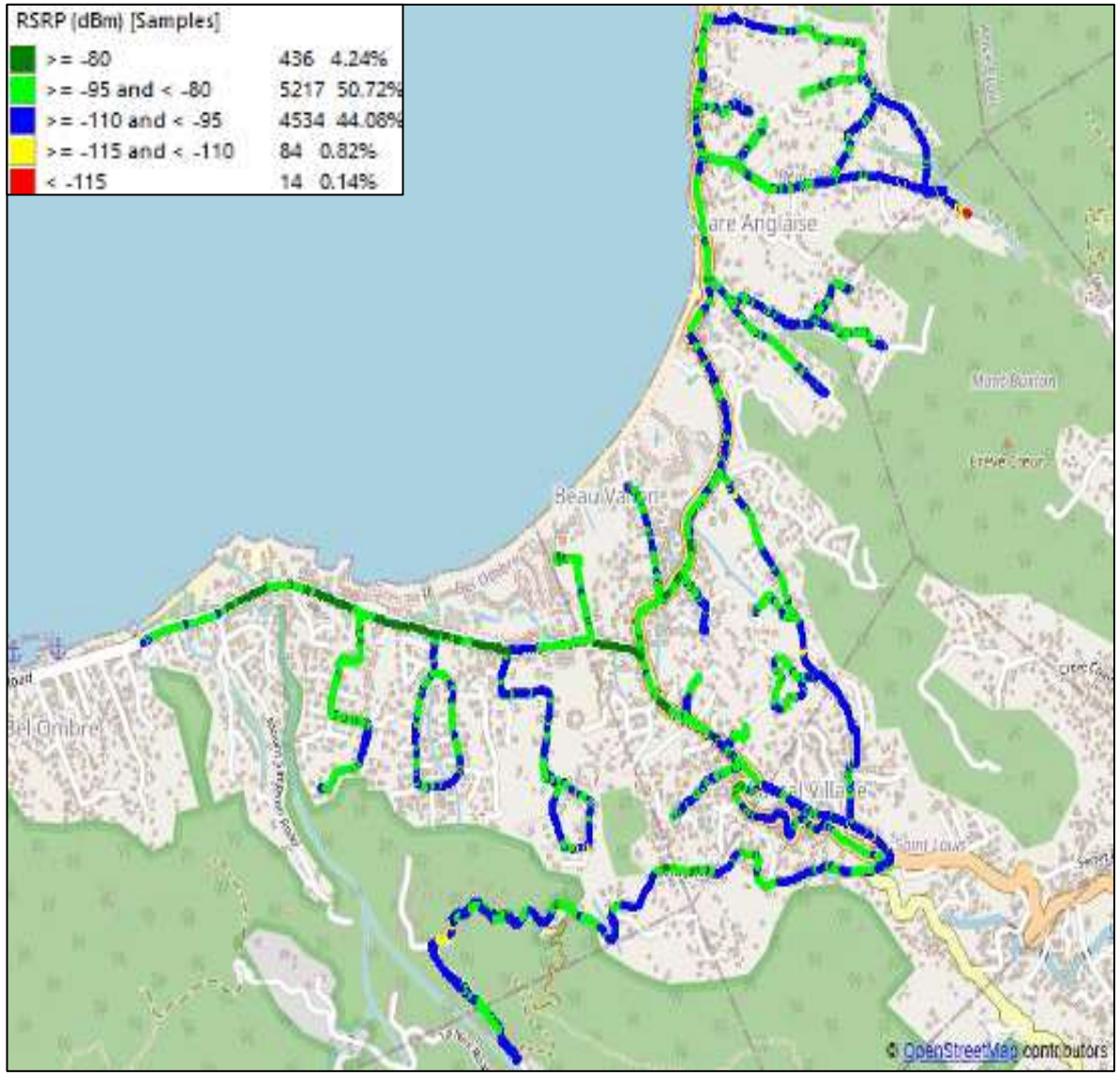


Phase-2 4G PREFERRED DATA TEST - RSRP PLOT

Airtel Data 4G

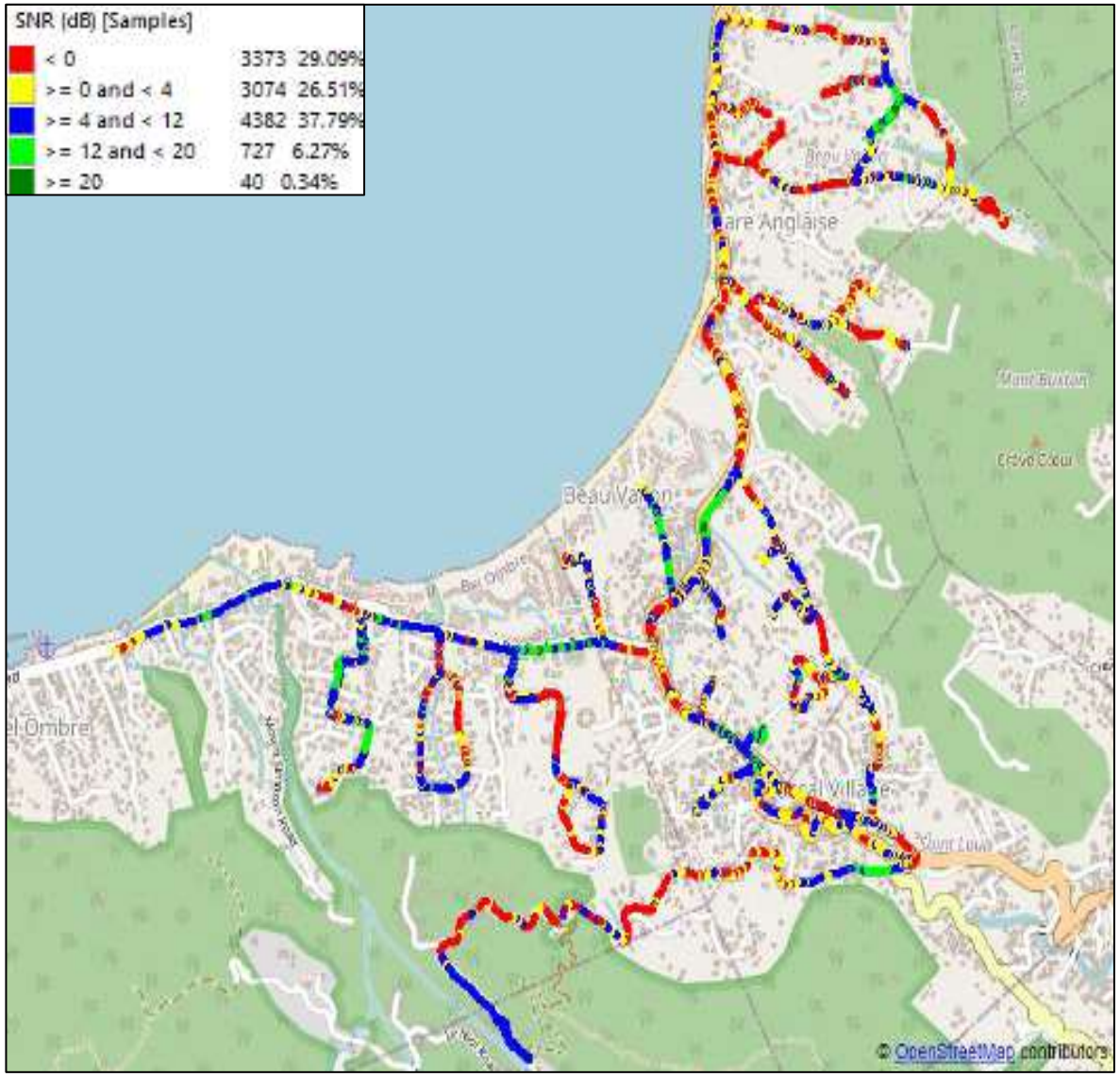


CWS Data 4G

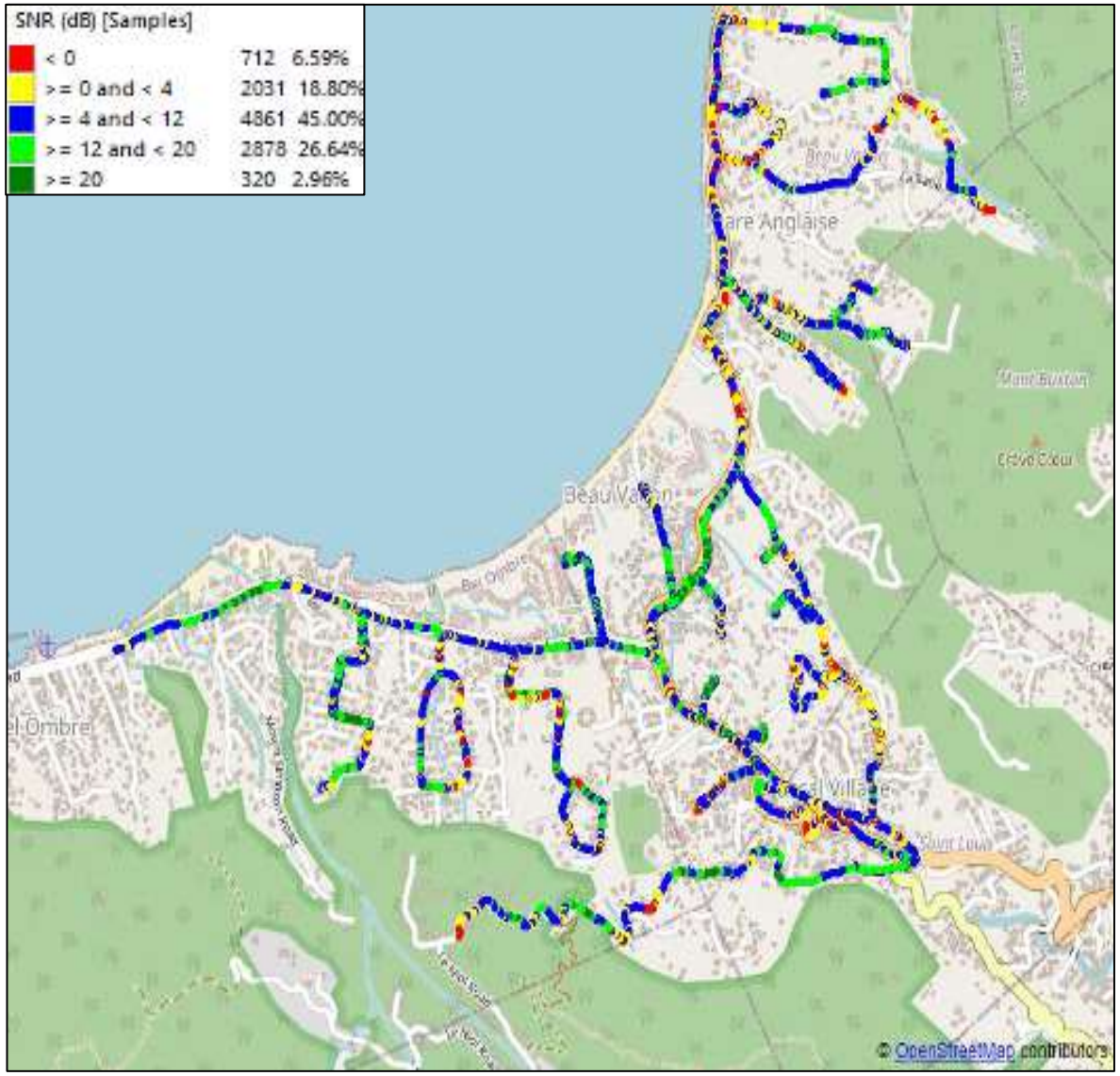


Phase-1 4G PREFERRED DATA TEST - SINR PLOT

Airtel Data 4G

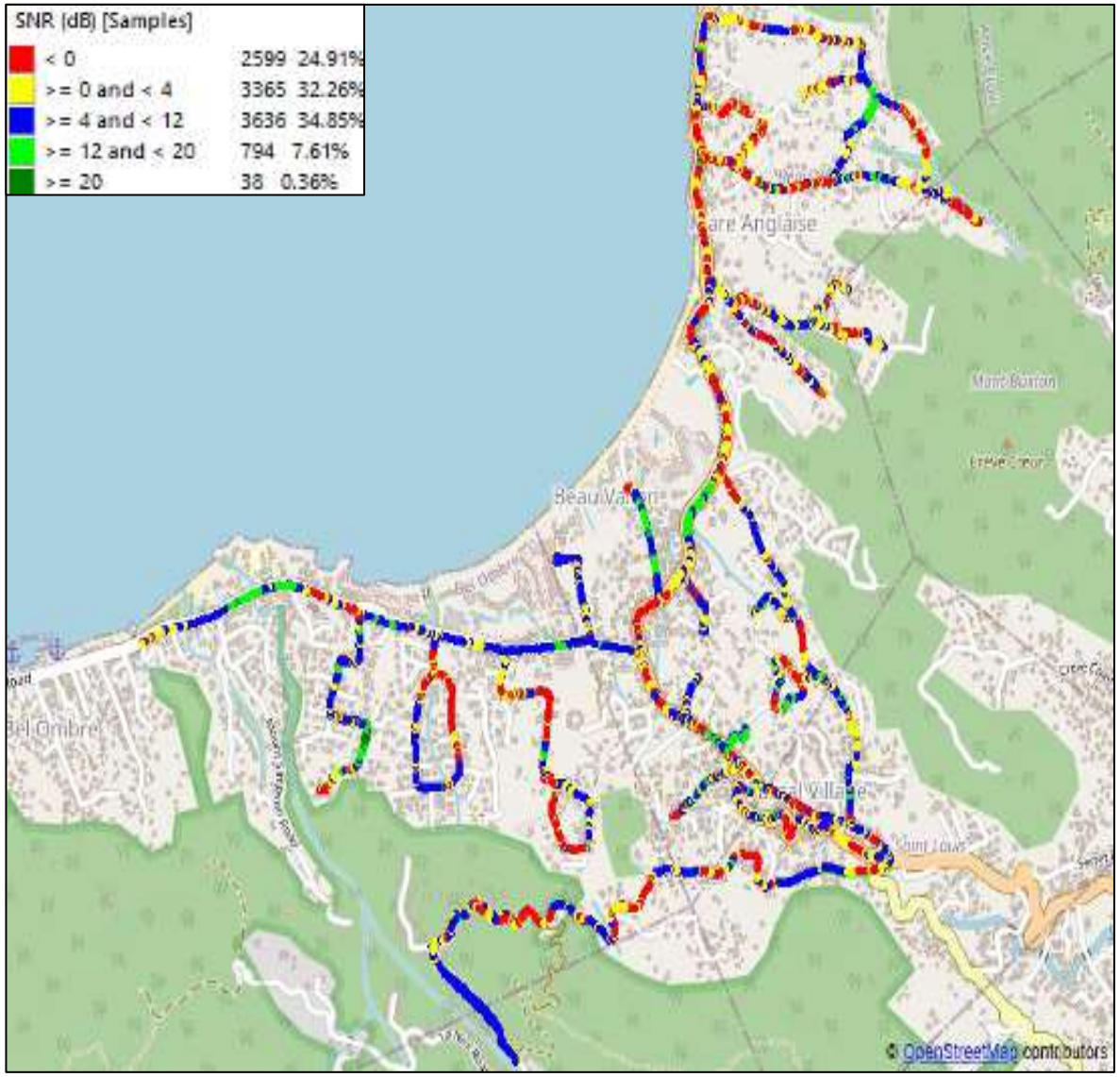


CWS Data 4G

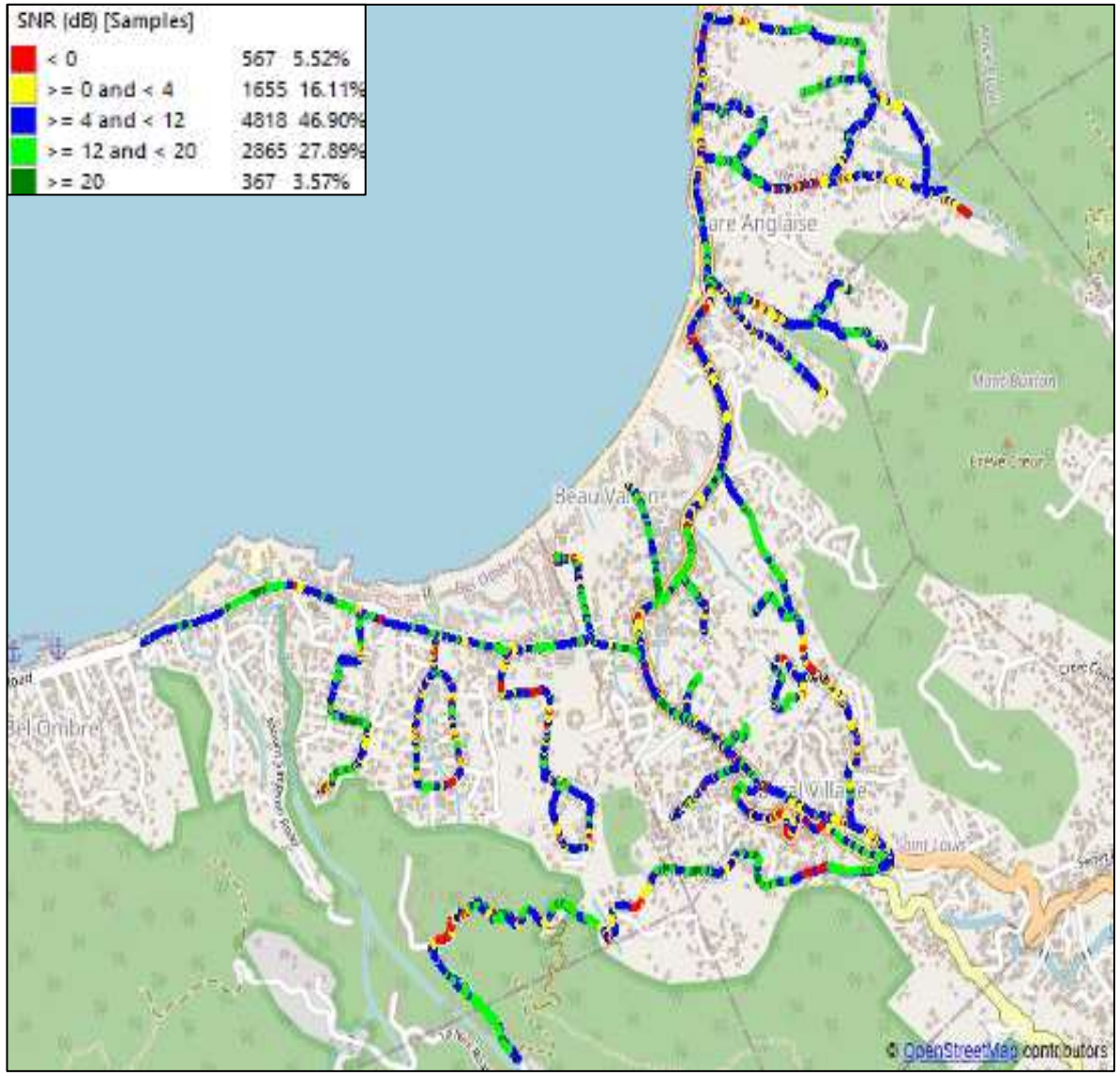


Phase-2 4G PREFERRED DATA TEST - SINR PLOT

Airtel Data 4G

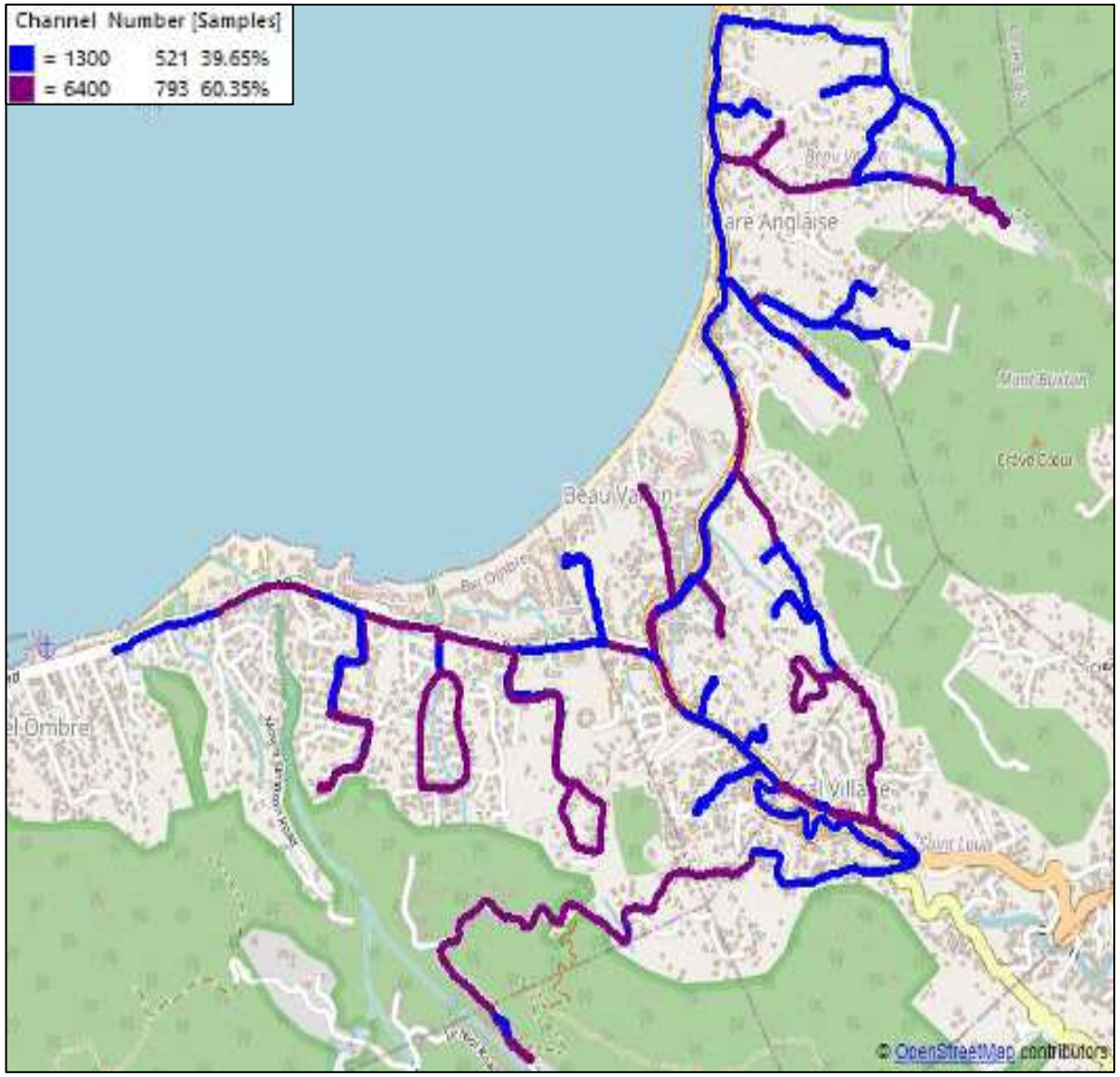


CWS Data 4G

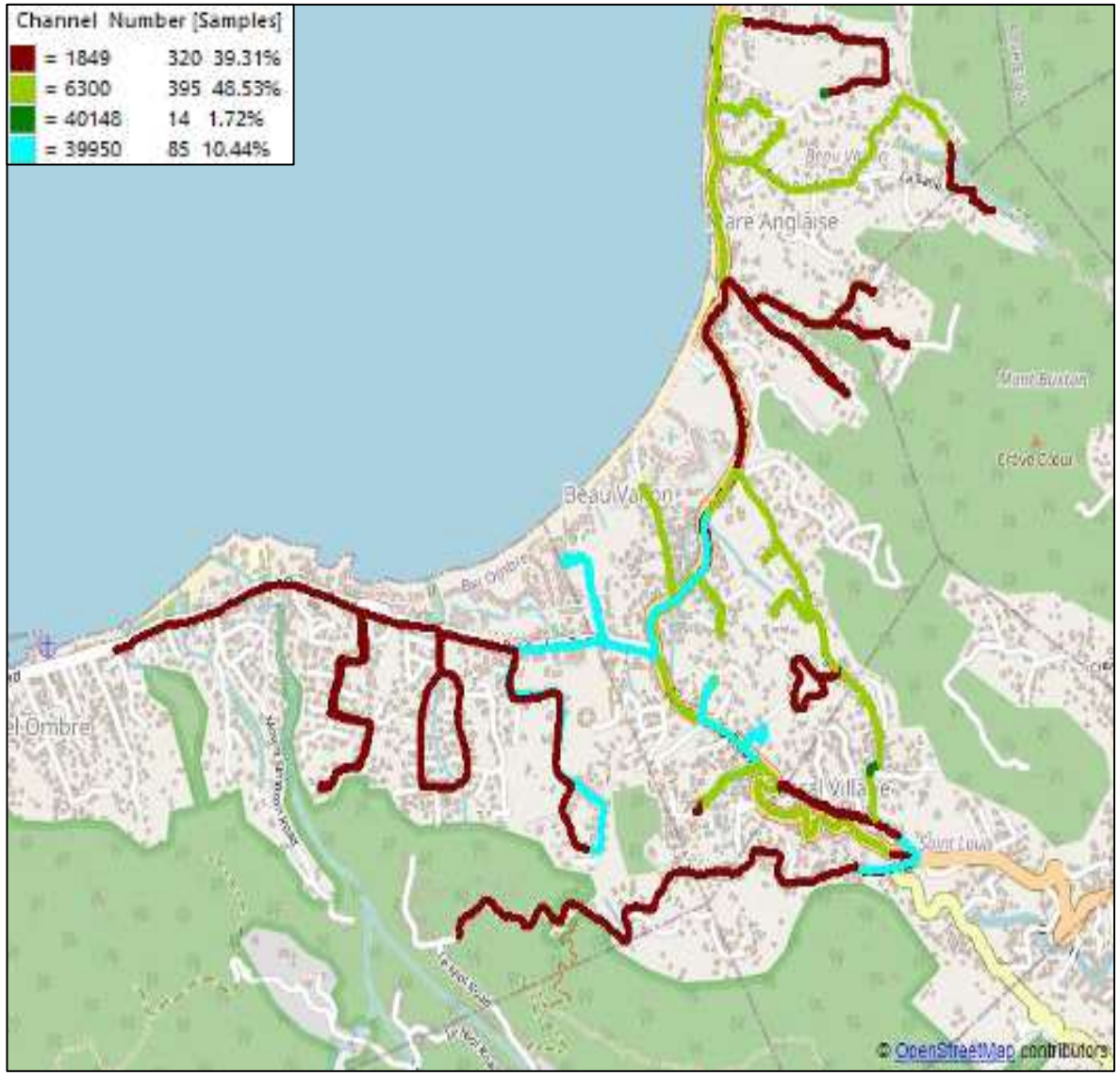


Phase-1 4G PREFERRED DATA TEST - FREQUENCY BAND PLOT

Airtel Data 4G

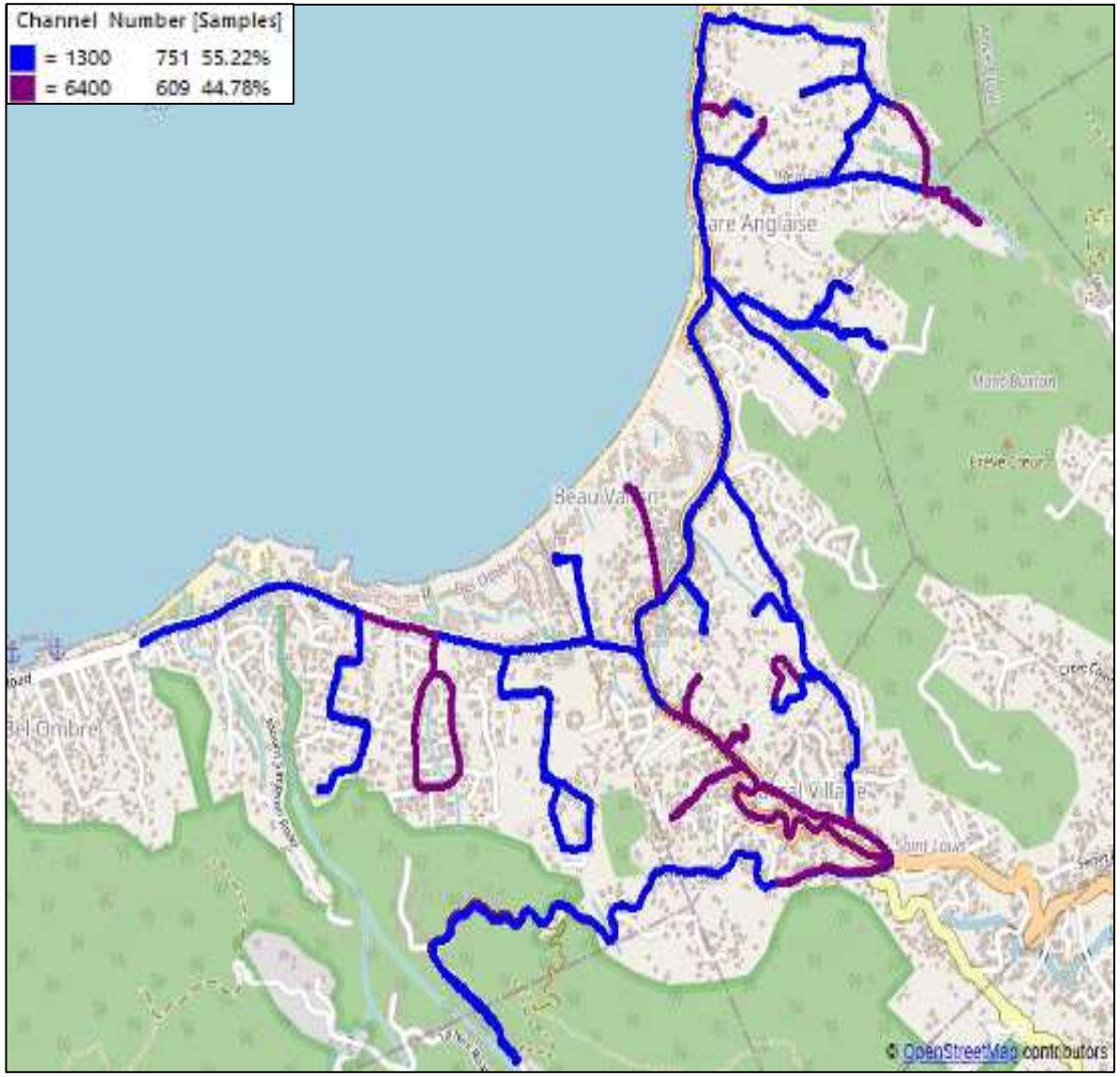


CWS Data 4G

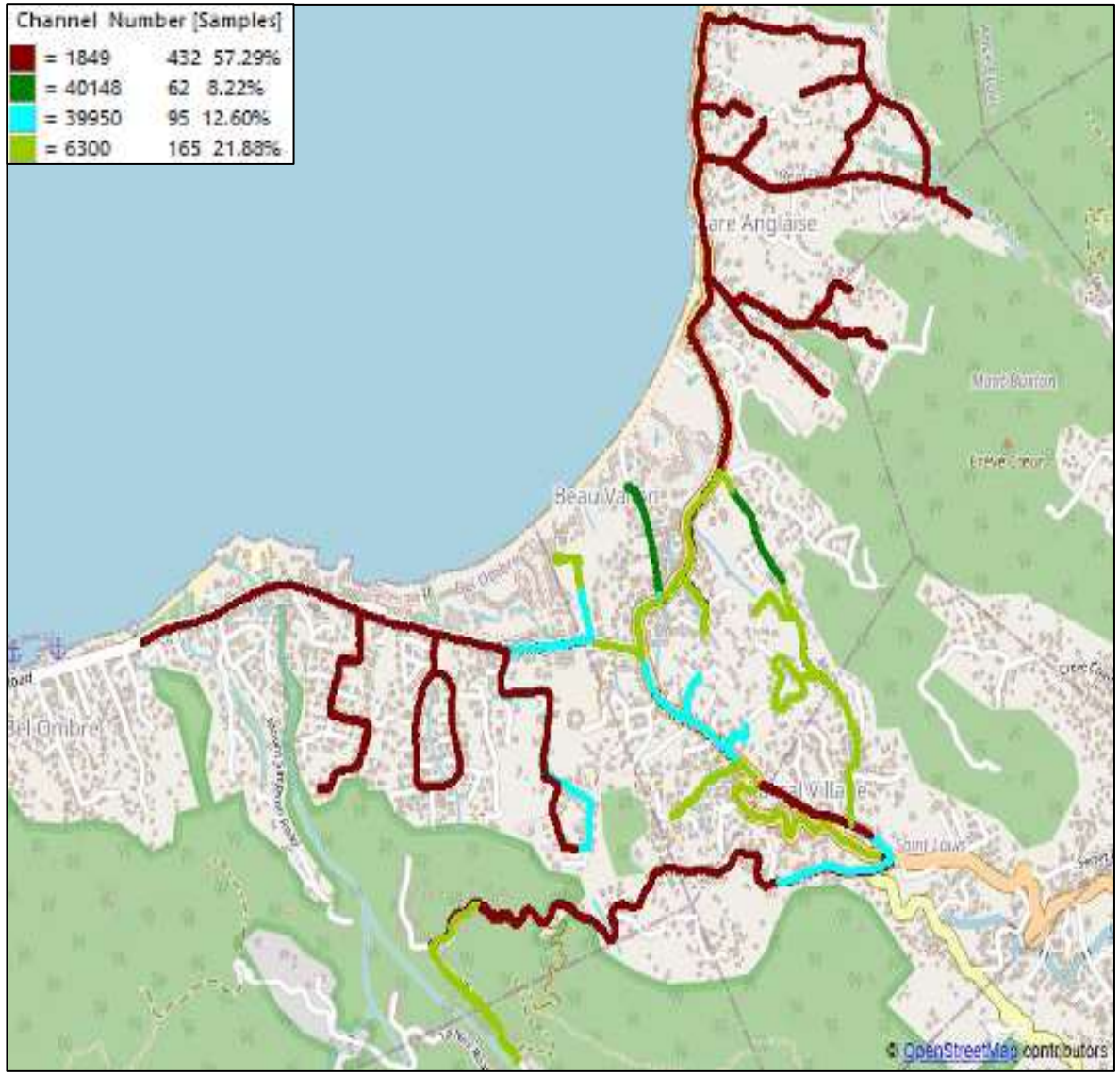


Phase-2 4G PREFERRED DATA TEST - FREQUENCY BAND PLOT

Airtel Data 4G

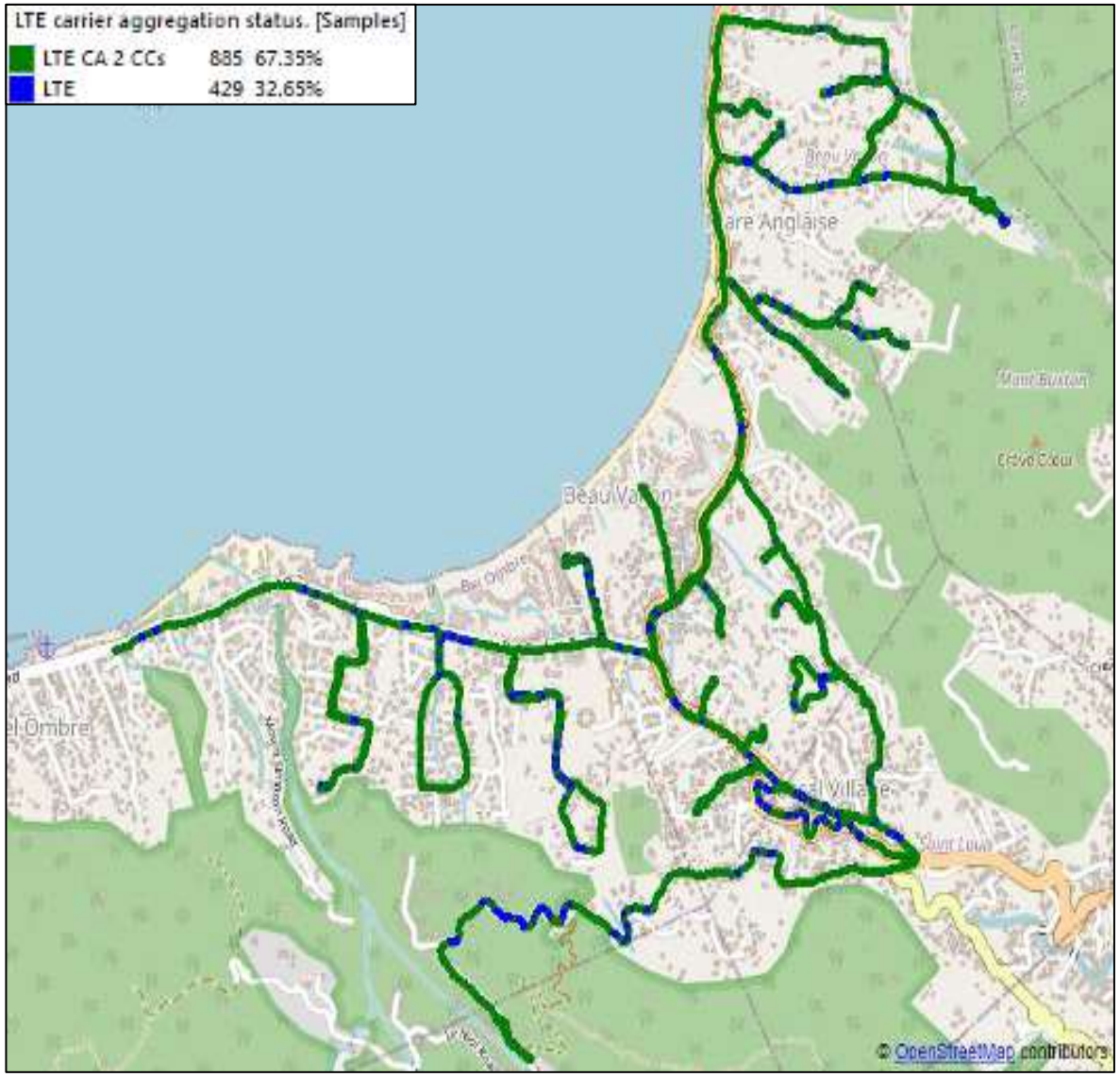


CWS Data 4G

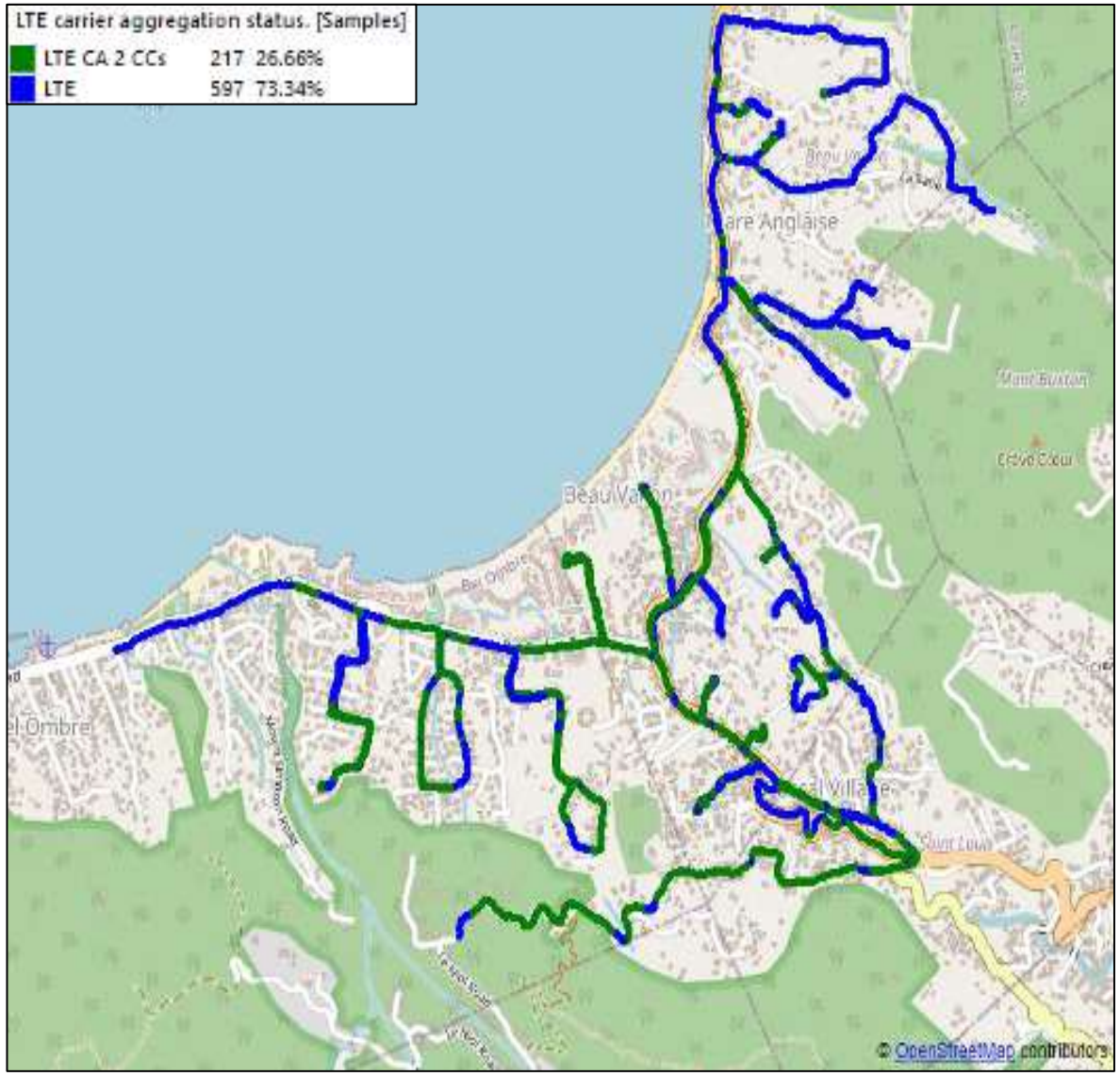


Phase-1 4G PREFERRED DATA TEST - CARRIER AGGREGATION PLOT

Airtel Data 4G

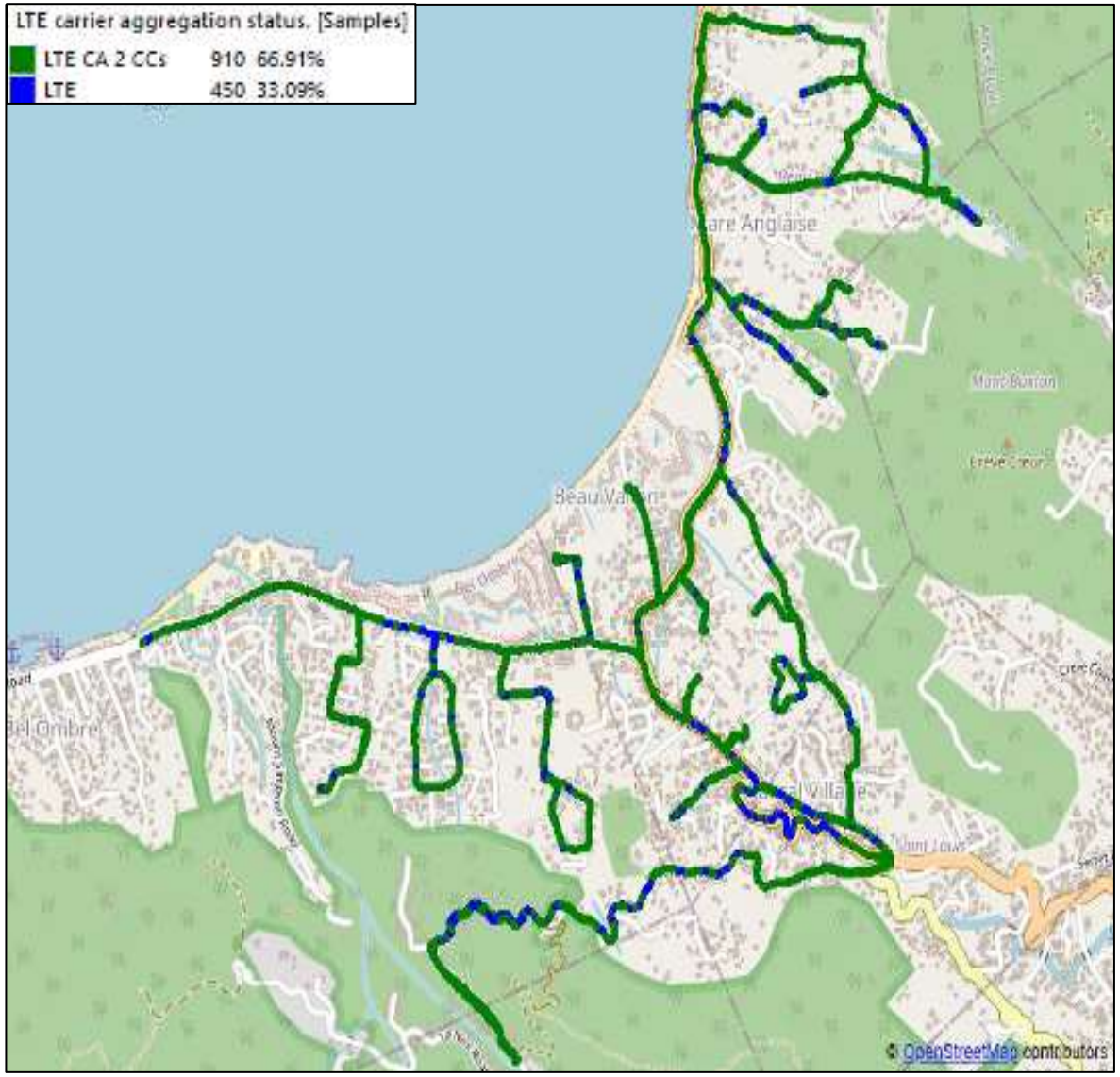


CWS Data 4G

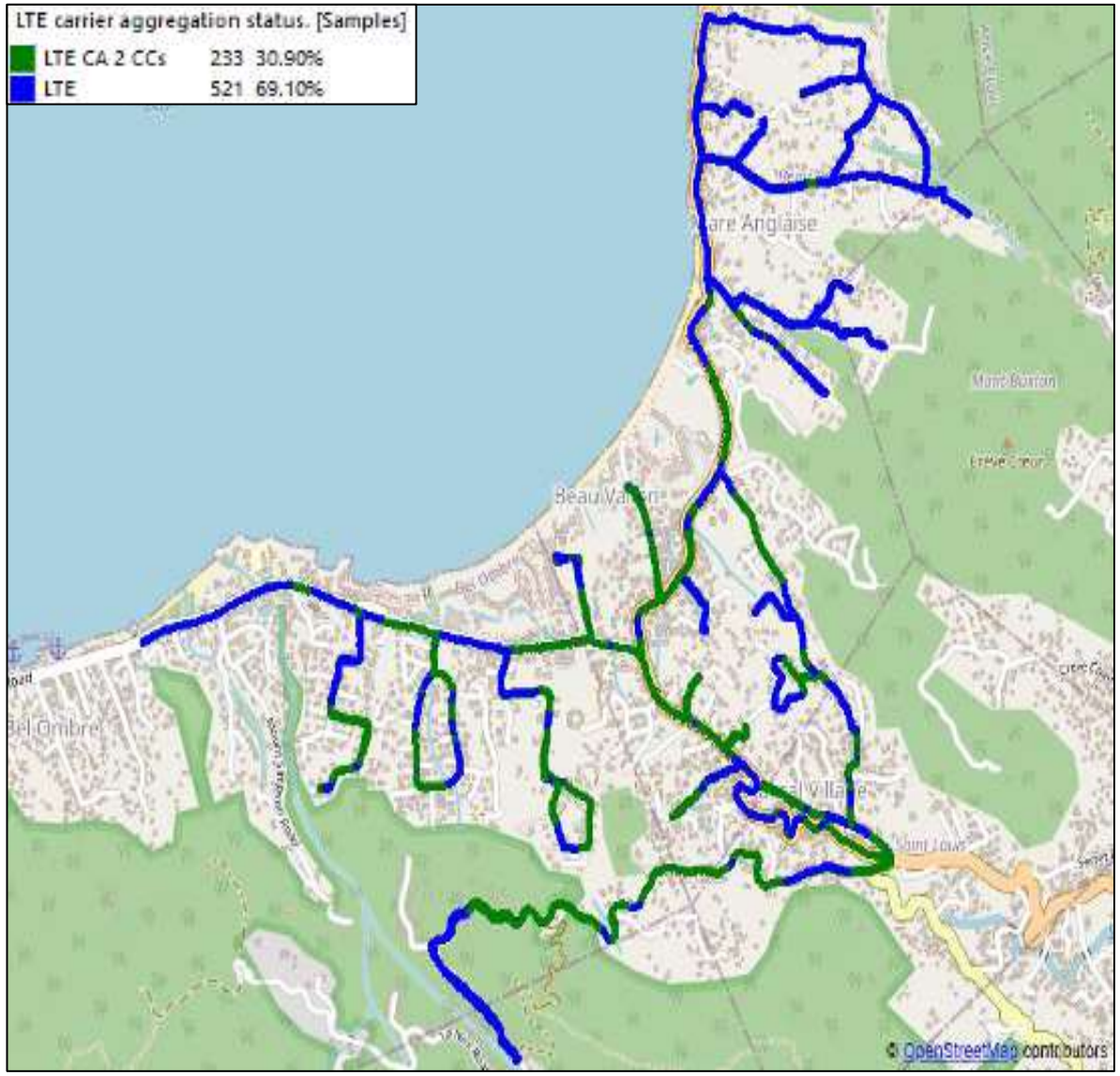


Phase-2 4G PREFERRED DATA TEST - CARRIER AGGREGATION PLOT

Airtel Data 4G

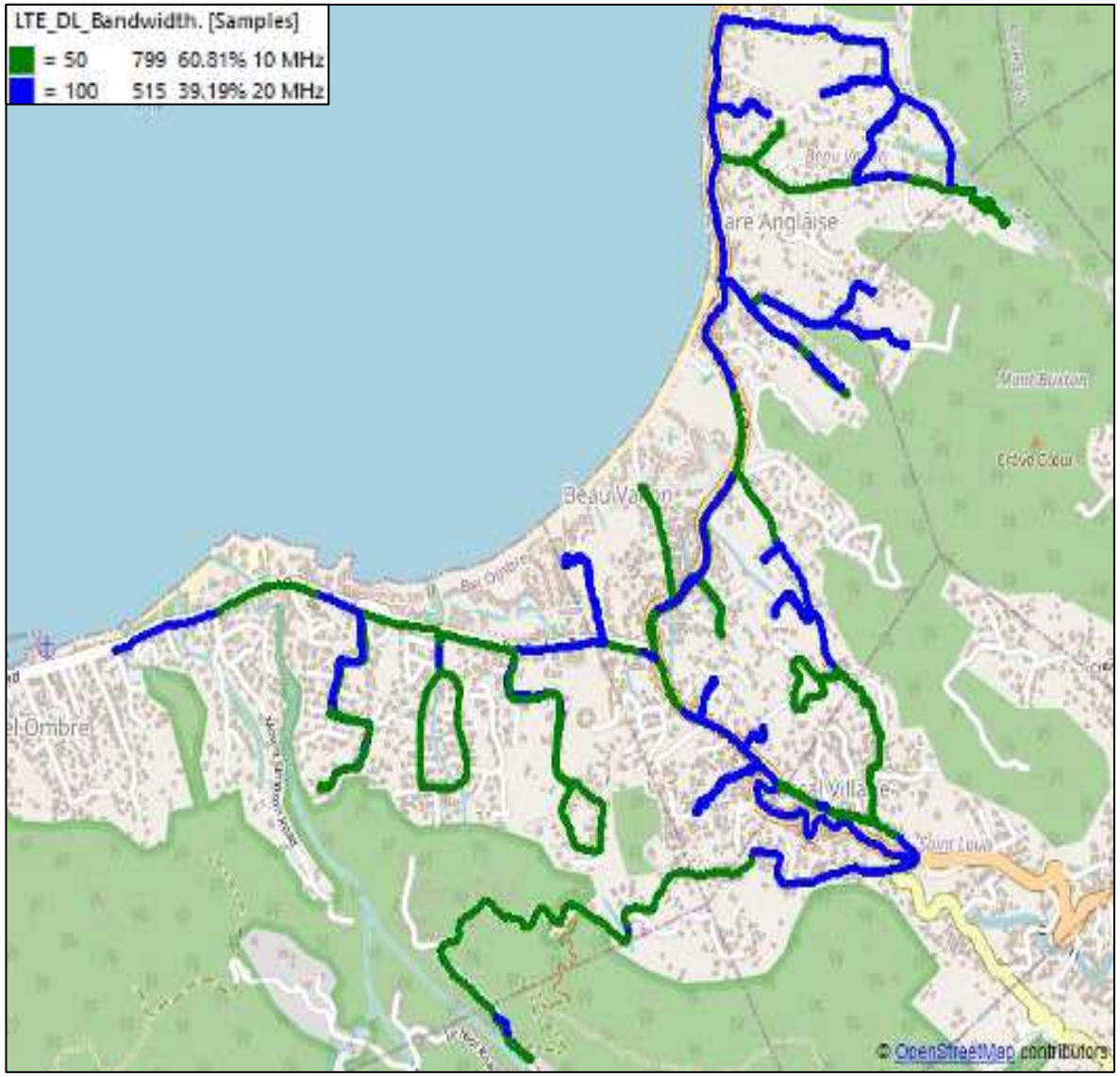


CWS Data 4G

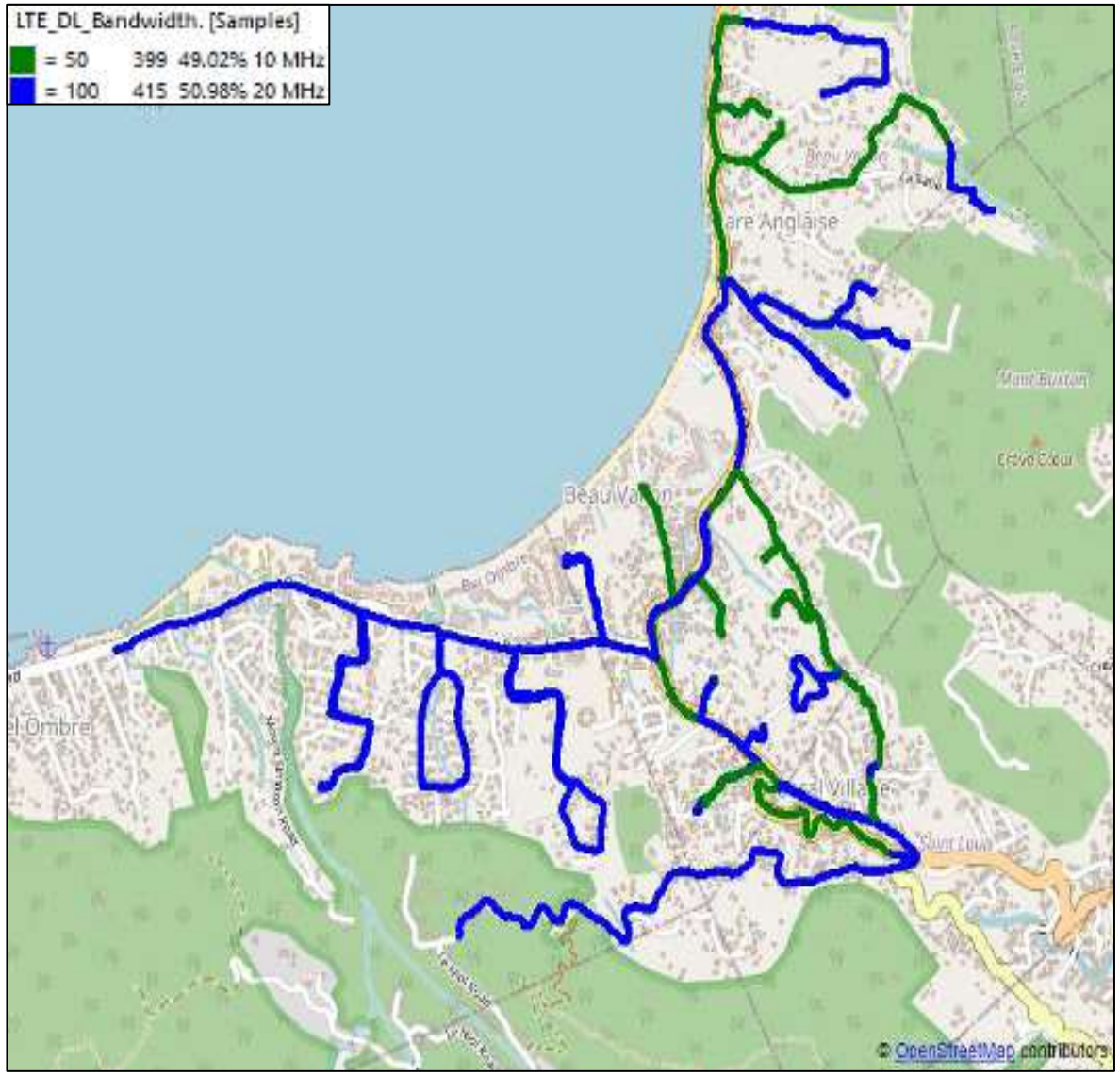


Phase-1 4G PREFERRED DATA TEST – BANDWIDTH PLOT

Airtel Data 4G

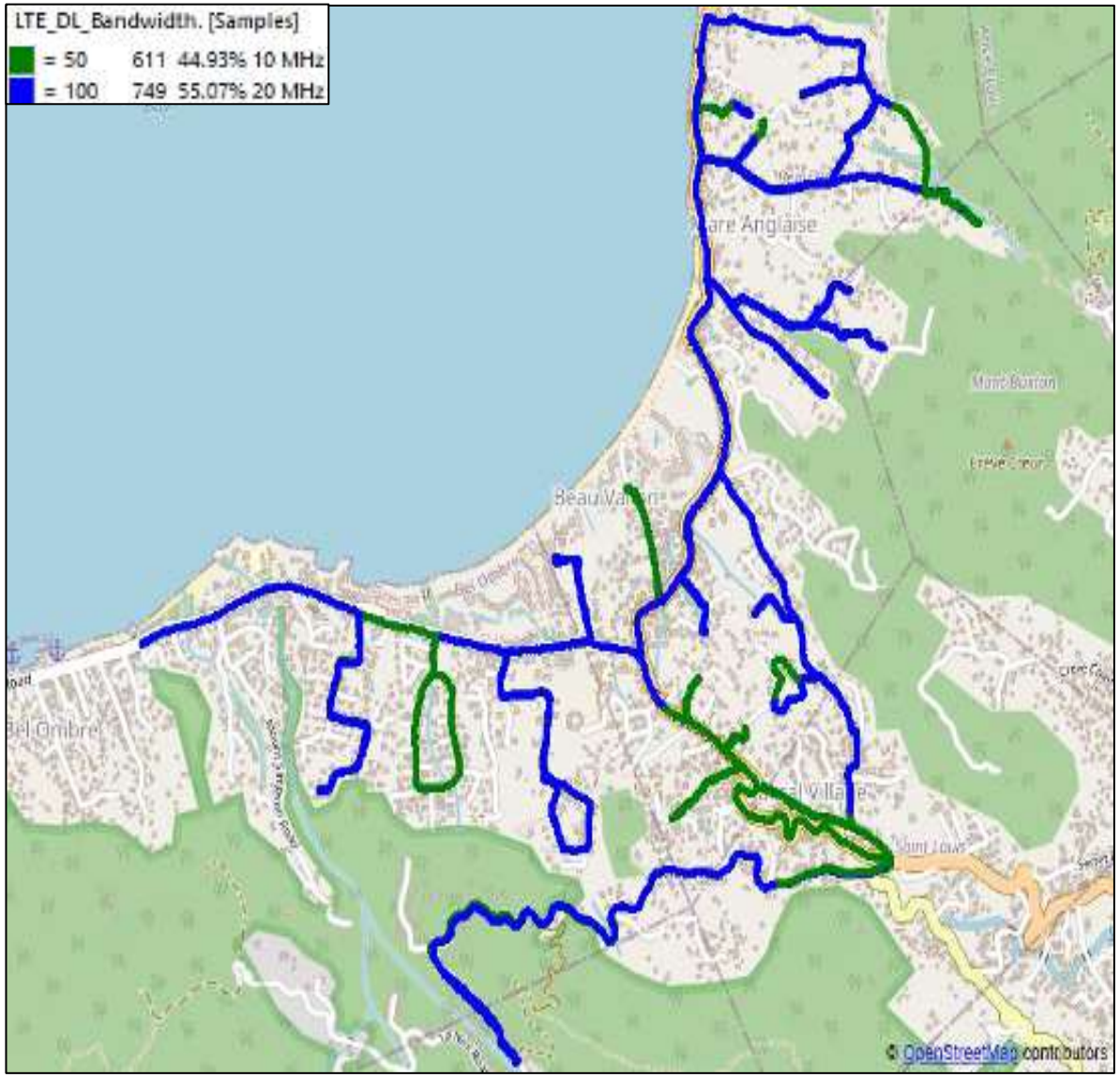


CWS Data 4G

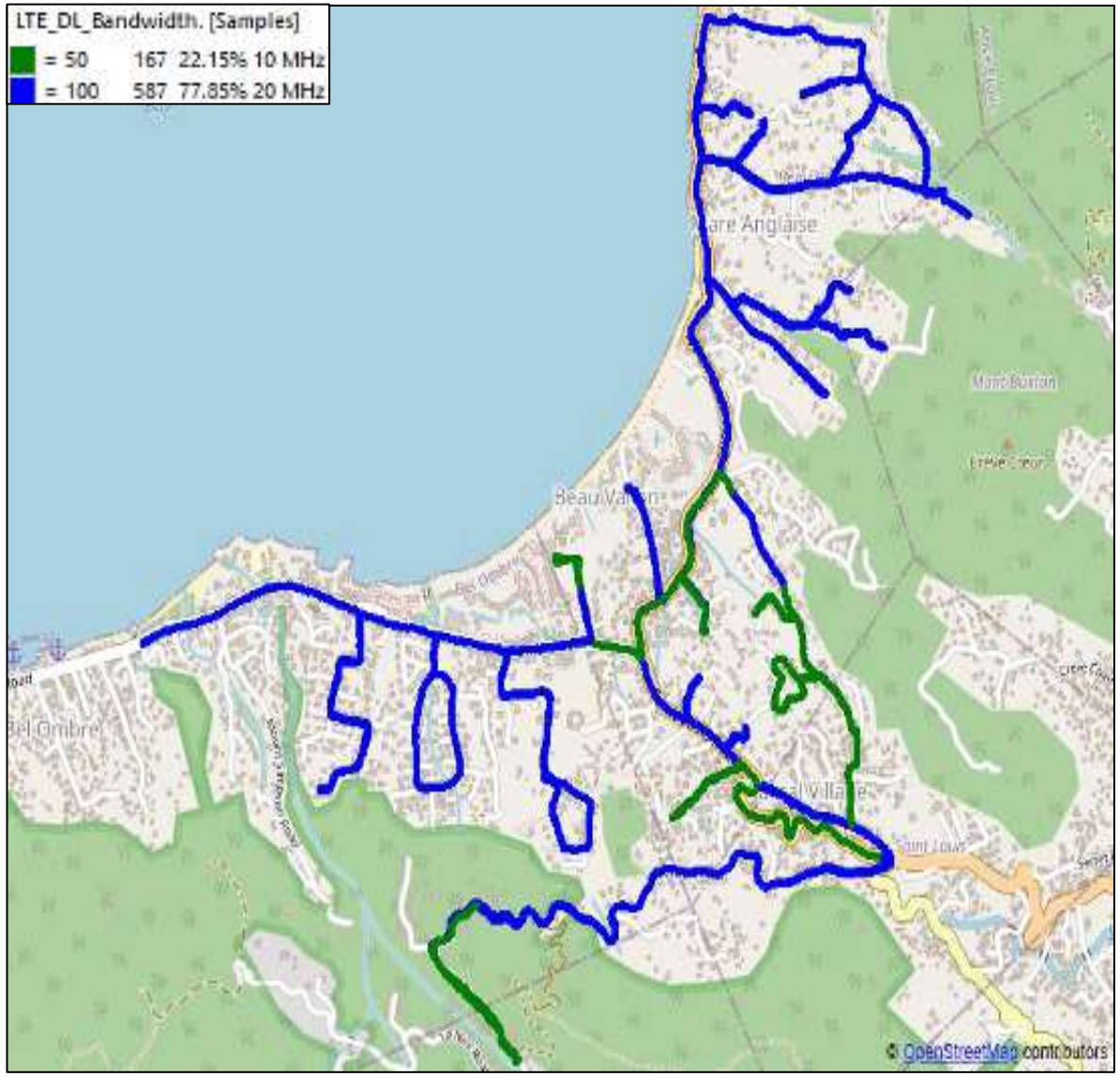


Phase-2 4G PREFERRED DATA TEST – BANDWIDTH PLOT

Airtel Data 4G



CWS Data 4G



Negative Event Analysis

Phase-1 Call Drop & Call Attempt Failure Airtel , CWS Summary

Call Attempt Failure cause from Airtel	Count
Total Call Attempt Failure	0

Call Attempt Failure cause from CWS	Count
Total Call Attempt Failure	0

Call Drop cause from Airtel	Count
Total Call Drop	0

Call Drop cause from CWS	Count
Total Call Drop	0

Phase-2 Call Drop & Call Attempt Failure Airtel , CWS Summary

Call Attempt Failure cause from Airtel	Count
Total Call Attempt Failure	0

Call Attempt Failure cause from CWS	Count
Total Call Attempt Failure	1
Network end	1

Call Drop cause from Airtel	Count
Total Call Drop	0

Call Drop cause from CWS	Count
Total Call Drop	0

Phase-2 Call Attempt Failure Analysis 1 From MS7 CWC MO

	Time	System	Serving band	
1.	16:22:00.188	UMTS FDD	2100	Cal

	1. best active RSCP	Time	Ch	SC	1. best
7163.	-85.3	16:21:24.171	10690	119	
7164.		16:21:24.171	10690	119	-8.4
7165.	-88.1	16:21:24.517	10690	64	
7166.		16:21:24.517	10690	64	-7.4
7167.	-82.7	16:21:25.118	10690	119	
7168.		16:21:25.118	10690	119	-6.8
7169.	-87	16:21:25.713	10690	119	
7170.		16:21:25.713	10690	119	-8.8
7171.	-85.8	16:21:26.240	10690	119	
7172.		16:21:26.240	10690	119	-9.3
7173.	-87	16:21:26.682	10690	64	
7174.		16:21:26.682	10690	64	-11.3
7175.	-92.5	16:21:27.240	10690	119	
7176.		16:21:27.240	10690	119	-8.3
7177.	-87.8	16:21:27.883	10690	64	
7178.		16:21:27.883	10690	64	-7.2
7179.	-99.7	16:21:28.300	10690	380	
7180.		16:21:28.300	10690	380	-16.5
7181.	-89.7	16:21:57.756	10690	64	
7182.		16:21:57.756	10690	64	-8
7183.	-95.5	16:21:58.256	10690	64	
7184.		16:21:58.256	10690	64	-11.4
7185.	-88.2	16:21:58.868	10690	64	
7186.		16:21:58.868	10690	64	-5.2
7187.	-87.7	16:21:59.256	10690	64	
7188.		16:21:59.256	10690	64	-5.2
7189.	-91.5	16:21:59.833	10690	64	
7190.		16:21:59.833	10690	64	-6.4
7191.	-90.8	16:22:00.286	10690	64	
7192.		16:22:00.286	10690	64	-7.2
7193.	-89	16:22:00.848	10690	64	
7194.		16:22:00.848	10690	64	-5.6
7195.	-91.5	16:22:01.256	10690	64	
7196.		16:22:01.256	10690	64	-7.1
7197.	-88	16:22:02.117	10690	64	
7198.		16:22:02.117	10690	64	-4.2

	Event ID	System	Transf. dir.	Time	Subchannel	Message name
22415.	RRCSM	UMTS FDD	Downlink	16:21:57.656	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_2
22416.	RRCSM	UMTS FDD	Downlink	16:21:57.656	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_3
22417.	RRCSM	UMTS FDD	Downlink	16:21:57.676	BCCH_BCH	SYSTEM_INFORMATION_BCH
22418.	RRCSM	UMTS FDD	Downlink	16:21:57.696	BCCH_BCH	SYSTEM_INFORMATION_BCH
22419.	RRCSM	UMTS FDD	Downlink	16:21:57.716	BCCH_BCH	SYSTEM_INFORMATION_BCH
22420.	RRCSM	UMTS FDD	Downlink	16:21:57.716	BCCH	MASTER_INFORMATION_BLOCK
22421.	RRCSM	UMTS FDD	Downlink	16:21:57.716	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_7
22422.	RRCSM	UMTS FDD	Downlink	16:21:57.736	BCCH_BCH	SYSTEM_INFORMATION_BCH
22423.	RRCSM	UMTS FDD	Downlink	16:21:57.749	CCCH	RRC_CONNECTION_SETUP
22424.	RRCSM	UMTS FDD	Uplink	16:21:57.801	DCCH	RRC_CONNECTION_SETUP_COMPLETE
22425.	RRCSM	UMTS FDD	Uplink	16:21:57.802	DCCH	INITIAL_DIRECT_TRANSFER
22426.	L3SM	UMTS FDD	Uplink	16:21:57.802	DCCH	CM_SERVICE_REQUEST
22427.	RRCSM	UMTS FDD	Uplink	16:21:57.802	DCCH	INITIAL_DIRECT_TRANSFER
22428.	L3SM	UMTS FDD	Uplink	16:21:57.802	DCCH	ROUTING_AREA_UPDATE_REQUEST
22429.	RRCSM	UMTS FDD	Downlink	16:21:58.095	DCCH	MEASUREMENT_CONTROL
22430.	RRCSM	UMTS FDD	Downlink	16:21:58.105	DCCH	SECURITY_MODE_COMMAND
22431.	RRCSM	UMTS FDD	Uplink	16:21:58.105	DCCH	SECURITY_MODE_COMPLETE
22432.	RRCSM	UMTS FDD	Uplink	16:21:58.176	DCCH	UPLINK_DIRECT_TRANSFER
22433.	L3SM	UMTS FDD	Uplink	16:21:58.176	DCCH	SETUP
22434.	RRCSM	UMTS FDD	Downlink	16:21:58.205	DCCH	DOWNLINK_DIRECT_TRANSFER
22435.	L3SM	UMTS FDD	Downlink	16:21:58.205	DCCH	TMSI_REALLOCATION_COMMAND
22436.	RRCSM	UMTS FDD	Uplink	16:21:58.206	DCCH	UPLINK_DIRECT_TRANSFER
22437.	L3SM	UMTS FDD	Uplink	16:21:58.206	DCCH	TMSI_REALLOCATION_COMPLETE
22438.	RRCSM	UMTS FDD	Downlink	16:21:58.325	DCCH	DOWNLINK_DIRECT_TRANSFER
22439.	L3SM	UMTS FDD	Downlink	16:21:58.325	DCCH	CALL_PROCEEDING
22440.	RRCSM	UMTS FDD	Uplink	16:21:58.388	DCCH	MEASUREMENT_REPORT
22441.	RRCSM	UMTS FDD	Downlink	16:21:58.515	DCCH	ACTIVE_SET_UPDATE
22442.	RRCSM	UMTS FDD	Uplink	16:21:58.527	DCCH	ACTIVE_SET_UPDATE_COMPLETE
22443.	RRCSM	UMTS FDD	Downlink	16:21:58.615	DCCH	MEASUREMENT_CONTROL
22444.	RRCSM	UMTS FDD	Uplink	16:22:00.178	DCCH	UPLINK_DIRECT_TRANSFER
22445.	L3SM	UMTS FDD	Uplink	16:22:00.178	DCCH	DISCONNECT
22446.	RRCSM	UMTS FDD	Downlink	16:22:00.285	DCCH	DOWNLINK_DIRECT_TRANSFER
22447.	L3SM	UMTS FDD	Downlink	16:22:00.285	DCCH	RELEASE
22448.	RRCSM	UMTS FDD	Uplink	16:22:00.286	DCCH	UPLINK_DIRECT_TRANSFER
22449.	L3SM	UMTS FDD	Uplink	16:22:00.286	DCCH	RELEASE_COMPLETE
22450.	RRCSM	UMTS FDD	Downlink	16:22:00.365	DCCH	DOWNLINK_DIRECT_TRANSFER

Analysis:

- This call failure event occurred on short call at 16:22:00:188 time when UE was latched with 3G network.
- After sending “CM Service Request” message to core network, then core network responds with “Call Proceeding ” message. After that call setup has been failed.
- During the failure, UE was latched with PSC 64 and RF condition RSCP -95.5 dBm good but Ec/No -11.4 dB are very good.
- Need to check MT.

Phase-2 Call Attempt Failure Analysis 1 From MS8 CWC MT

	1. best active RSCP	Time	Ch	SC	1. best active Ec/N0
5527.	-78.7	16:21:23.113	10690	21	
5528.		16:21:23.113	10690	21	-7.1
5529.	-78.1	16:21:23.556	10690	21	
5530.		16:21:23.556	10690	21	-5.4
5531.	-78.4	16:21:24.249	10690	119	
5532.		16:21:24.249	10690	119	-5.4
5533.	-84.6	16:21:24.559	10690	64	
5534.		16:21:24.559	10690	64	-6.8
5535.	-86.7	16:21:25.256	10690	64	
5536.		16:21:25.256	10690	64	-6.5
5537.	-91.9	16:21:25.536	10690	64	
5538.		16:21:25.536	10690	64	-8.9
5539.	-92.8	16:21:26.120	10690	64	
5540.		16:21:26.120	10690	64	-11.6
5541.	-88.4	16:21:26.916	10690	119	
5542.		16:21:26.916	10690	119	-8.9
5543.	-91.6	16:21:27.266	10690	64	
5544.		16:21:27.266	10690	64	-8.9
5545.	-101.1	16:21:27.942	10690	119	
5546.		16:21:27.942	10690	119	-16.5
5547.	-90.9	16:22:00.094	10690	64	
5548.		16:22:00.094	10690	64	-5.6
5549.	-86.7	16:22:00.364	10690	64	
5550.		16:22:00.364	10690	64	-5.8
5551.	-88.9	16:22:00.766	10690	64	
5552.		16:22:00.766	10690	64	-7
5553.	-88.8	16:22:01.447	10690	64	
5554.		16:22:01.447	10690	64	-6.1
5555.	-89.6	16:22:01.966	10690	64	
5556.		16:22:01.966	10690	64	-7.9
5557.	-86.7	16:22:02.550	10690	64	
5558.		16:22:02.550	10690	64	-4.7
5559.	-91.9	16:22:02.899	10690	64	
5560.		16:22:02.899	10690	64	-5.6
5561.	-89.5	16:22:03.222	10690	64	

	Event ID	System	Transf. dir.	Time	Subchannel	Message name
22543.	RRCSM	LTE FDD	Downlink	16:21:59.802	DCCH	SecurityModeCommand
22544.	RRCSM	LTE FDD	Uplink	16:21:59.803	DCCH	SecurityModeComplete
22545.	RRCSM	LTE FDD	Downlink	16:21:59.804	DCCH	RRCConnectionReconfiguration
22546.	RRCSM	LTE FDD	Uplink	16:21:59.809	DCCH	RRCConnectionReconfigurationComplete
22547.	RRCSM	LTE FDD	Downlink	16:21:59.823	DCCH	UECapabilityEnquiry
22548.	RRCSM	LTE FDD	Uplink	16:21:59.824	DCCH	UECapabilityInformation
22549.	RRCSM	UMTS FDD	Uplink	16:21:59.824		INTER_RAT_HANDOVER_INFO
22550.	RRCSM	LTE FDD	Downlink	16:21:59.824	DCCH	RRCConnectionReconfiguration
22551.	RRCSM	LTE FDD	Uplink	16:21:59.826	DCCH	RRCConnectionReconfigurationComplete
22552.	RRCSM	LTE FDD	Downlink	16:21:59.838	DCCH	RRCConnectionRelease
22553.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22554.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22555.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22556.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22557.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22558.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22559.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22560.	RRCSM	UMTS FDD	Downlink	16:21:59.838	BCCH	SYSTEM_INFORMATION_CONTAINER
22561.	RRCSM	UMTS FDD	Uplink	16:22:00.128	CCCH	RRC_CONNECTION_REQUEST
22562.	RRCSM	UMTS FDD	Downlink	16:22:00.156	BCCH_BCH	SYSTEM_INFORMATION_BCH
22563.	RRCSM	UMTS FDD	Downlink	16:22:00.156	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_1
22564.	RRCSM	UMTS FDD	Downlink	16:22:00.176	BCCH_BCH	SYSTEM_INFORMATION_BCH
22565.	RRCSM	UMTS FDD	Downlink	16:22:00.196	BCCH_BCH	SYSTEM_INFORMATION_BCH
22566.	RRCSM	UMTS FDD	Downlink	16:22:00.196	BCCH	MASTER_INFORMATION_BLOCK
22567.	RRCSM	UMTS FDD	Downlink	16:22:00.196	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_7
22568.	RRCSM	UMTS FDD	Downlink	16:22:00.216	BCCH_BCH	SYSTEM_INFORMATION_BCH
22569.	RRCSM	UMTS FDD	Downlink	16:22:00.216	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_2
22570.	RRCSM	UMTS FDD	Downlink	16:22:00.216	BCCH	SYSTEM_INFORMATION_BLOCK_TYPE_3
22571.	RRCSM	UMTS FDD	Downlink	16:22:00.236	BCCH_BCH	SYSTEM_INFORMATION_BCH
22572.	RRCSM	UMTS FDD	Downlink	16:22:00.256	BCCH_BCH	SYSTEM_INFORMATION_BCH
22573.	RRCSM	UMTS FDD	Downlink	16:22:00.269	CCCH	RRC_CONNECTION_SETUP
22574.	RRCSM	UMTS FDD	Uplink	16:22:00.325	DCCH	RRC_CONNECTION_SETUP_COMPLETE
22575.	RRCSM	UMTS FDD	Uplink	16:22:00.325	DCCH	INITIAL_DIRECT_TRANSFER
22576.	L3SM	UMTS FDD	Uplink	16:22:00.325	DCCH	PAGING_RESPONSE
22577.	RRCSM	UMTS FDD	Uplink	16:22:00.325	DCCH	INITIAL_DIRECT_TRANSFER

Analysis:

- On MT End, During the setup fail, UE was latched with PSC 64 and RF condition RSCP -90.9 dBm is and EC/NO -5.6 which is good.
- As per the analysis call failure happened from network end.

THANKS