ABSOLUTE SOLUTIONS INC.

UNIVERSAL ACCESS FUND RTP
SITE VALIDATION & ACCEPTANCE REPORT

8 February 2021

EXECUTIVE SUMMARY

This report illustrates the KPIs for Single Site Verification and displays issues that need urgent attention in the Acceptance Test Procedure section. Lastly, it contains recommendations which must be implemented to archive better service performance and telecommunications standards.

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SINGLE SITE VERIFICATION

SITE RF PARAMETERS

Site Name	Cell Name	Latitude	Longitude	Antenna Height	Antenna Type	BCCH	CI	MCC	MNC	BSIC	LAC	RAC	Frequency Band
UAF_Gbanga	UAF_Gbanga_S1	7.275159	-10.064195	28m	Omni	60	542	618	1	9	1000	5	900 MHz
UAF_Gbanga	UAF_Gbanga_S2	7.275159	-10.064195	28m	Omni	61	543	618	1	9	1000	5	900 MHz
UAF_Gbanga	UAF_Gbanga_S3	7.275159	-10.064195	28m	Omni	62	2200	618	1	9	1000	5	900 MHz

CALL QUALITY TEST (CQT)

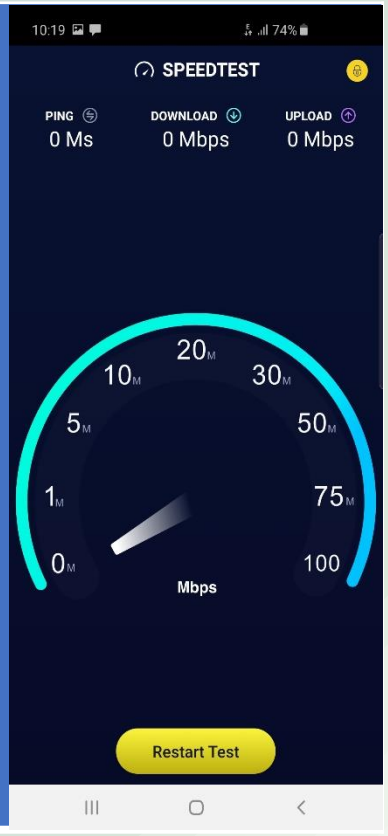
RAN		VOICE CQT					SMS CQT		DATA CQT			
RxLev	RxQual	Voice Quality Score	Call Setup Time	Call Setup Success Rate	Call Failure Rate	Call Drop Rate	SMS Success Rate	SMS Failure Rate	Data Setup Success Rate	Data Failure Rate	Download Throughput	Upload Throughput
-67 dBm	**0**	**2.154**	**14.8 s**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0 Kbps**	**0 Kbps**

SPEED TEST RESULT

Ping: 0 ms

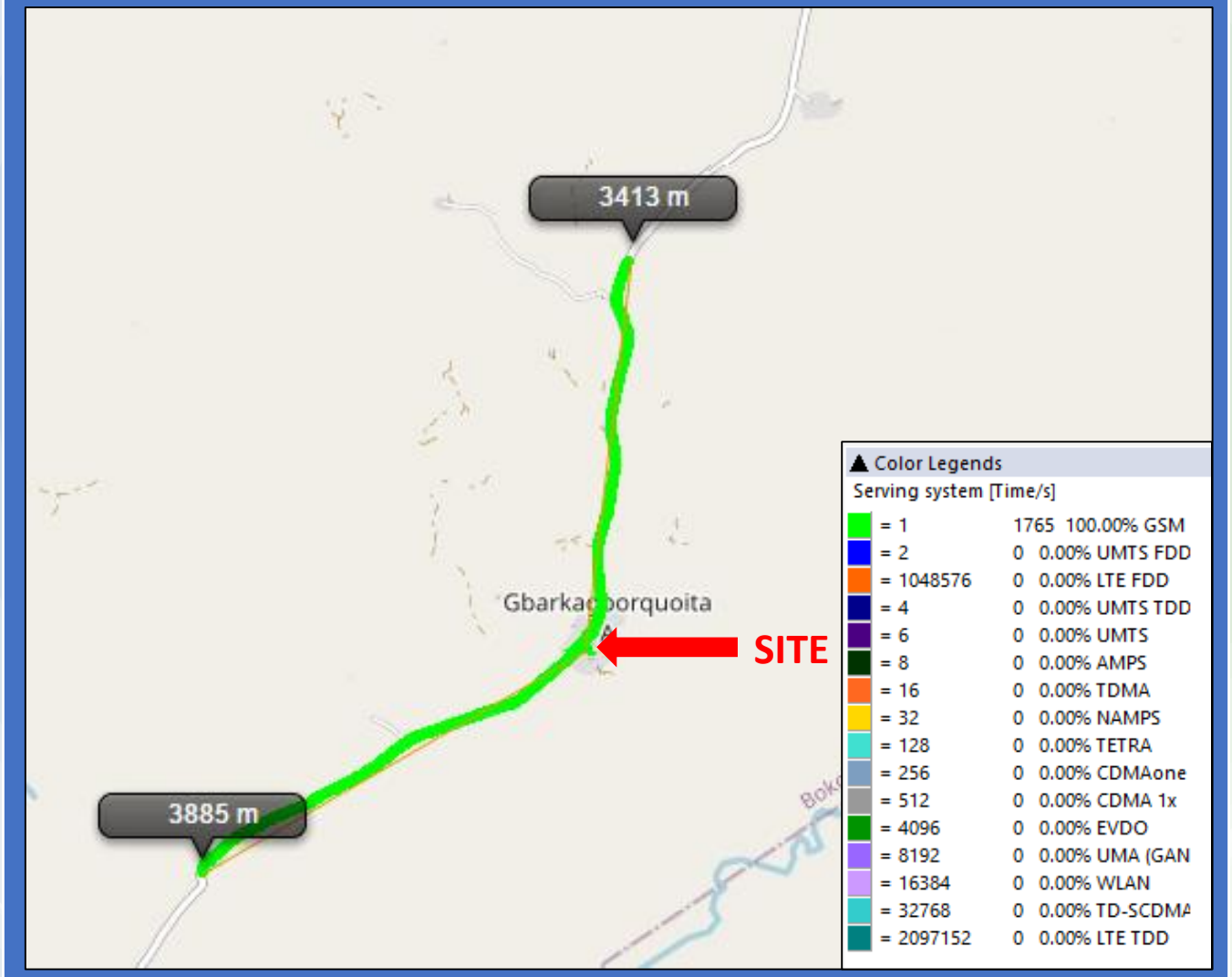
DL: 0 Mbps

UL: 0 Mbps



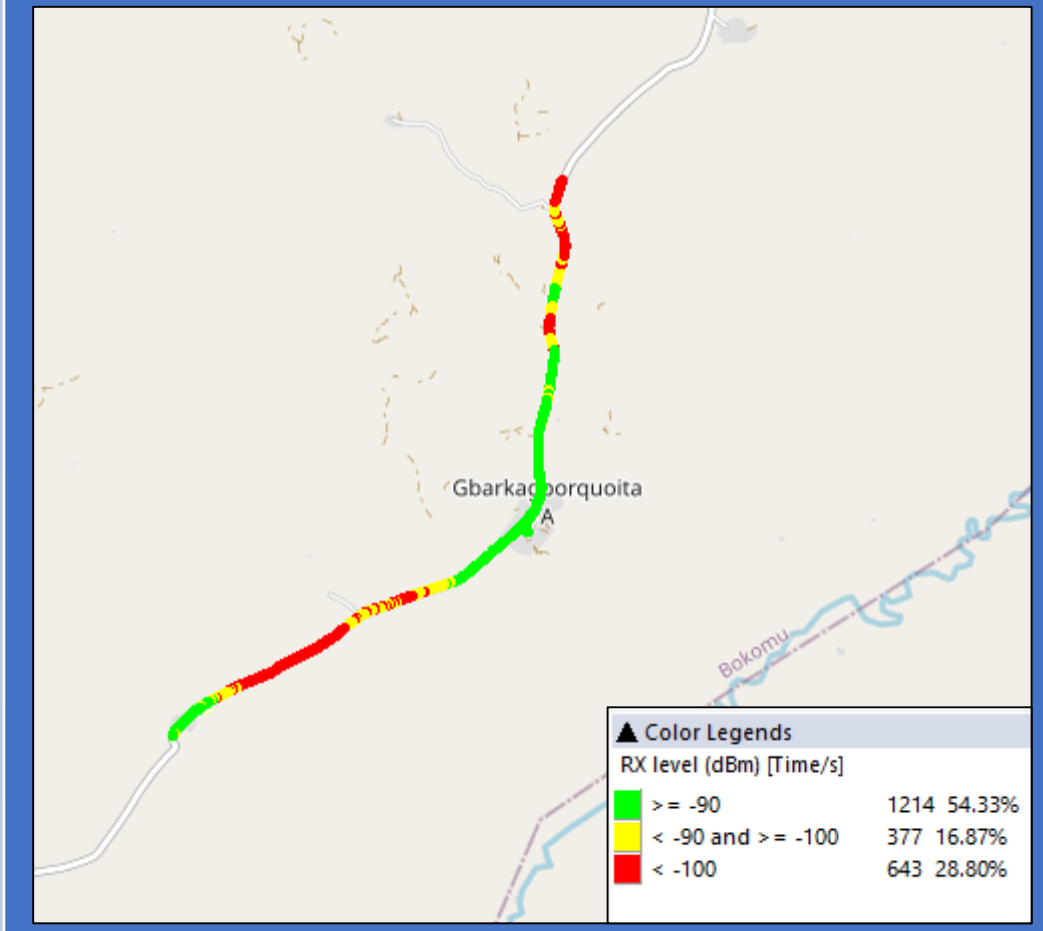
DRIVE TEST (DT)

The site coverage radius is about 3.9 km with 100% in 2G network

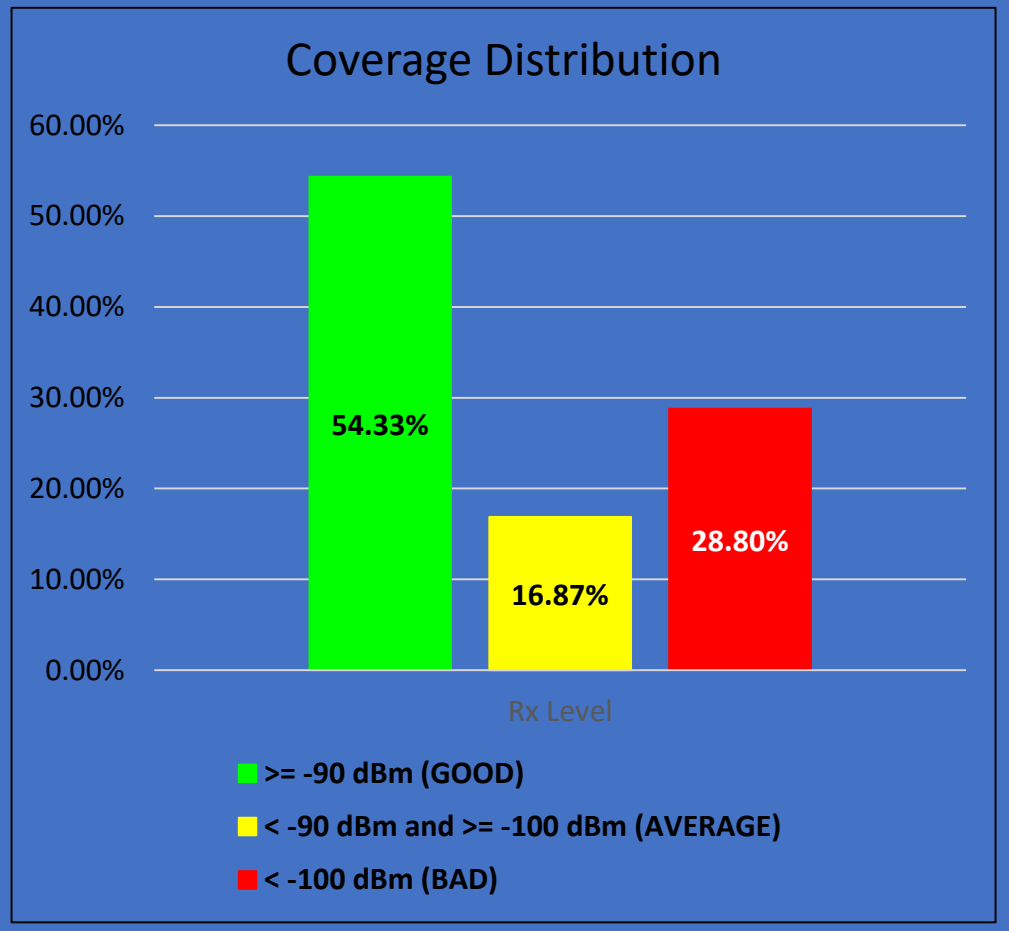


DRIVE TEST (DT)

GSM coverage of the site is normal.

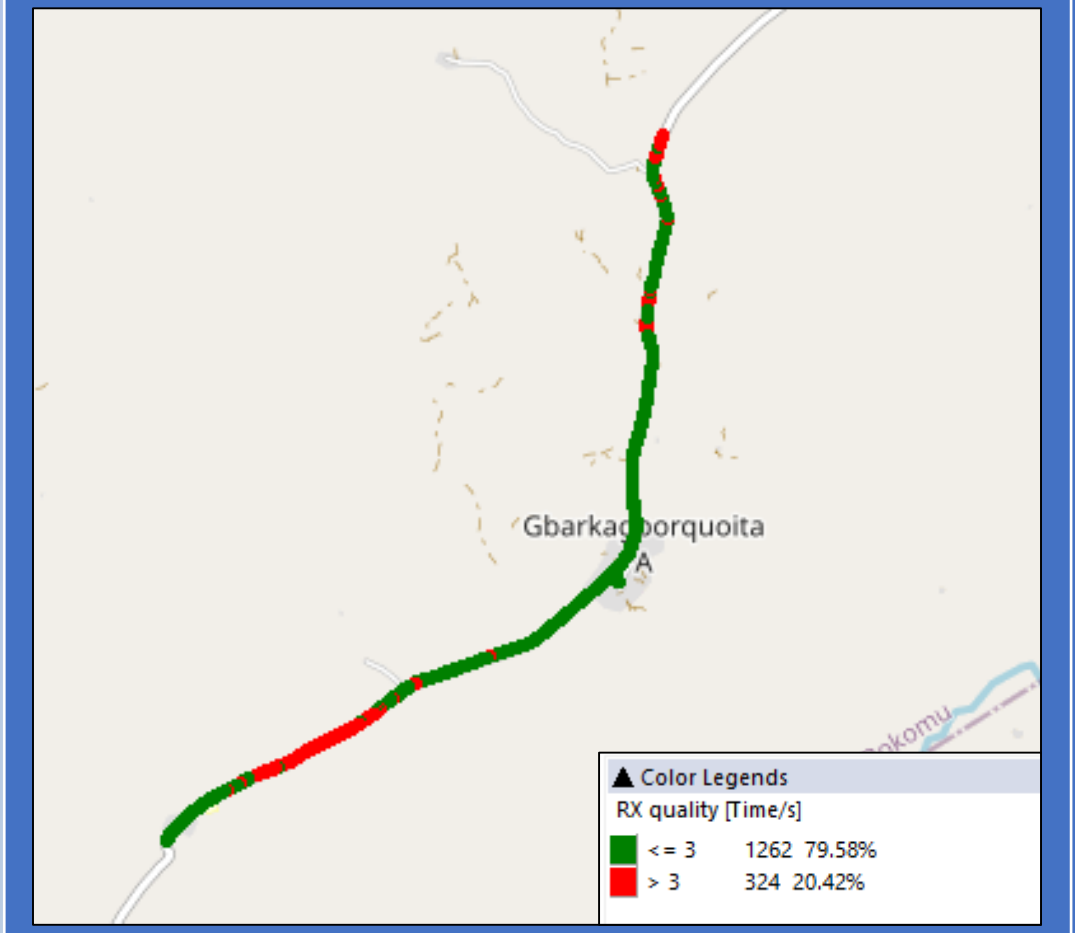


GSM Coverage Distribution

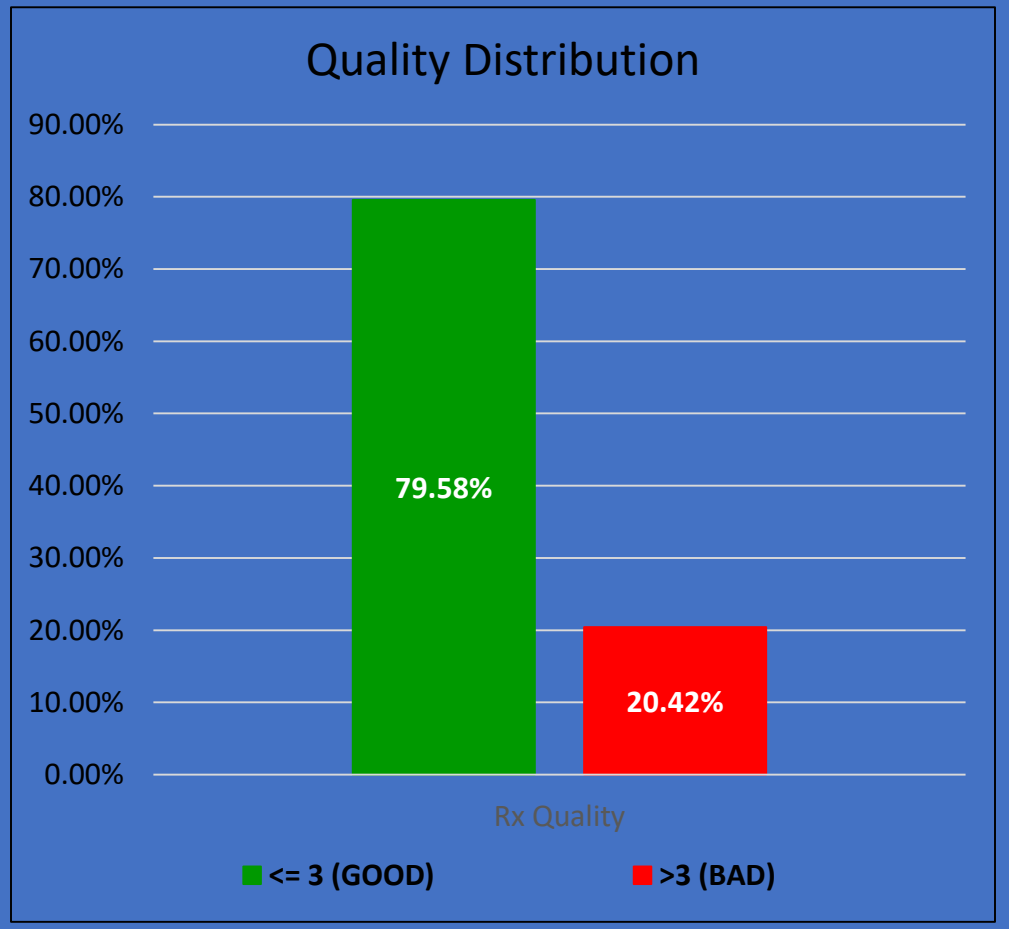


DRIVE TEST (DT)

The site signal quality is normal.

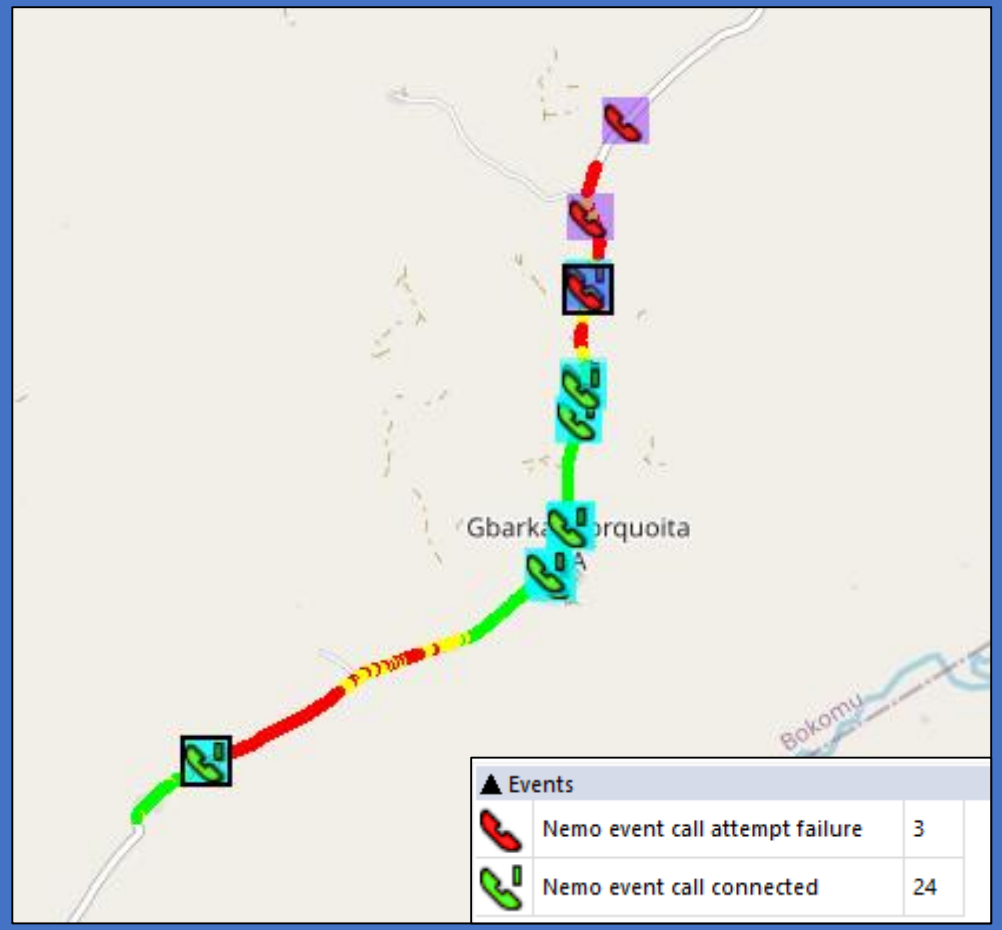


Signal Quality distribution. Bad quality originates from degradation in coverage.



DRIVE TEST (DT)

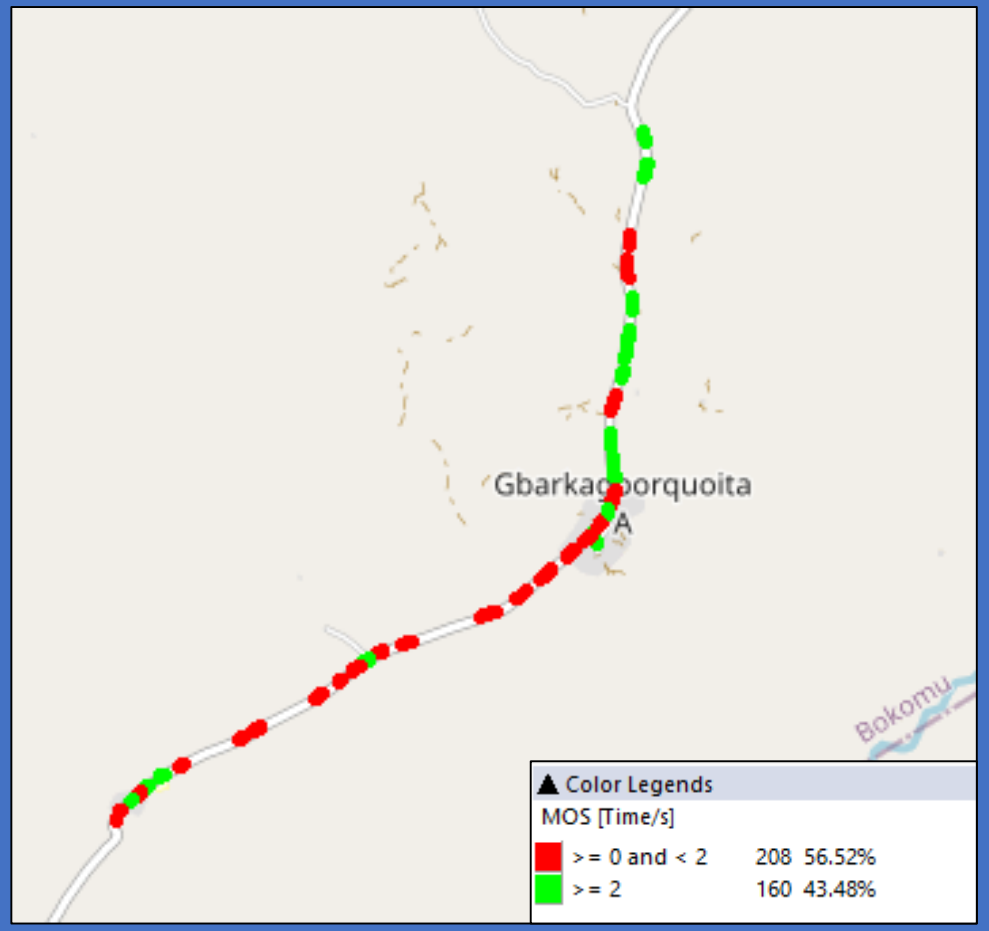
3 Call Setup failures; caused by weak signal level.



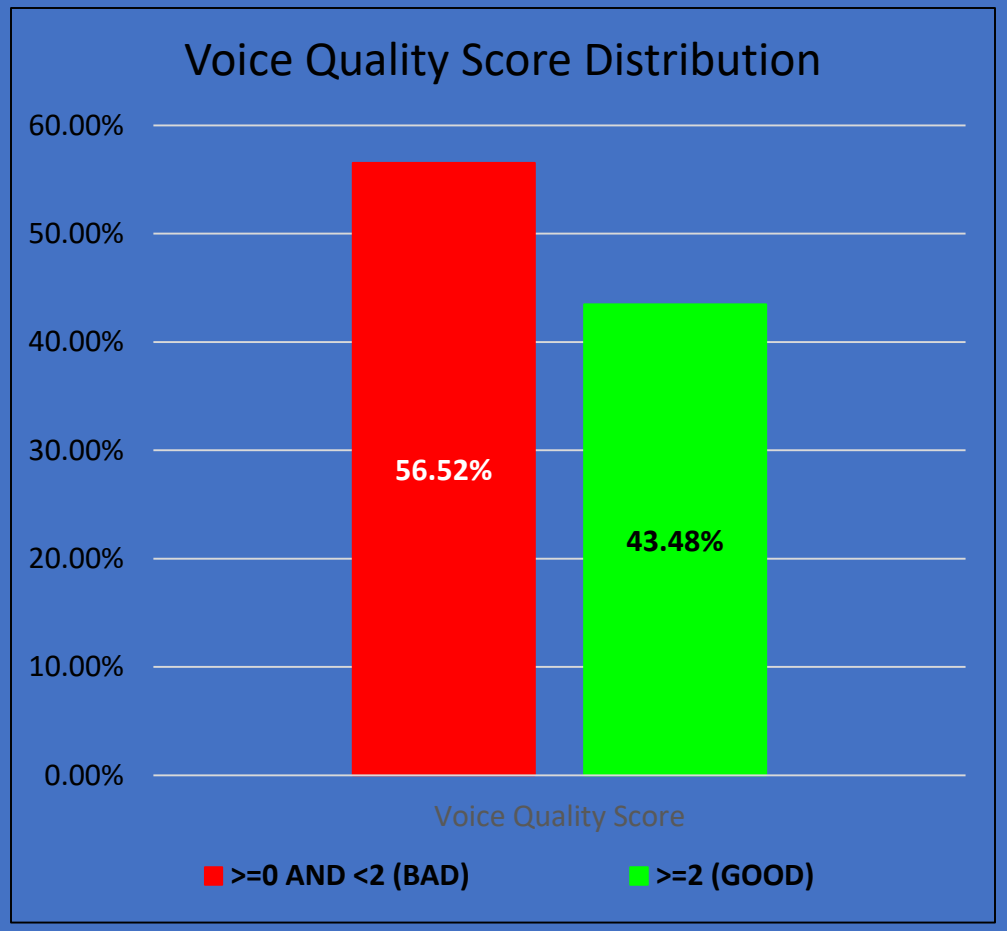
2 Calls dropped due to poor coverage.

DRIVE TEST (DT)

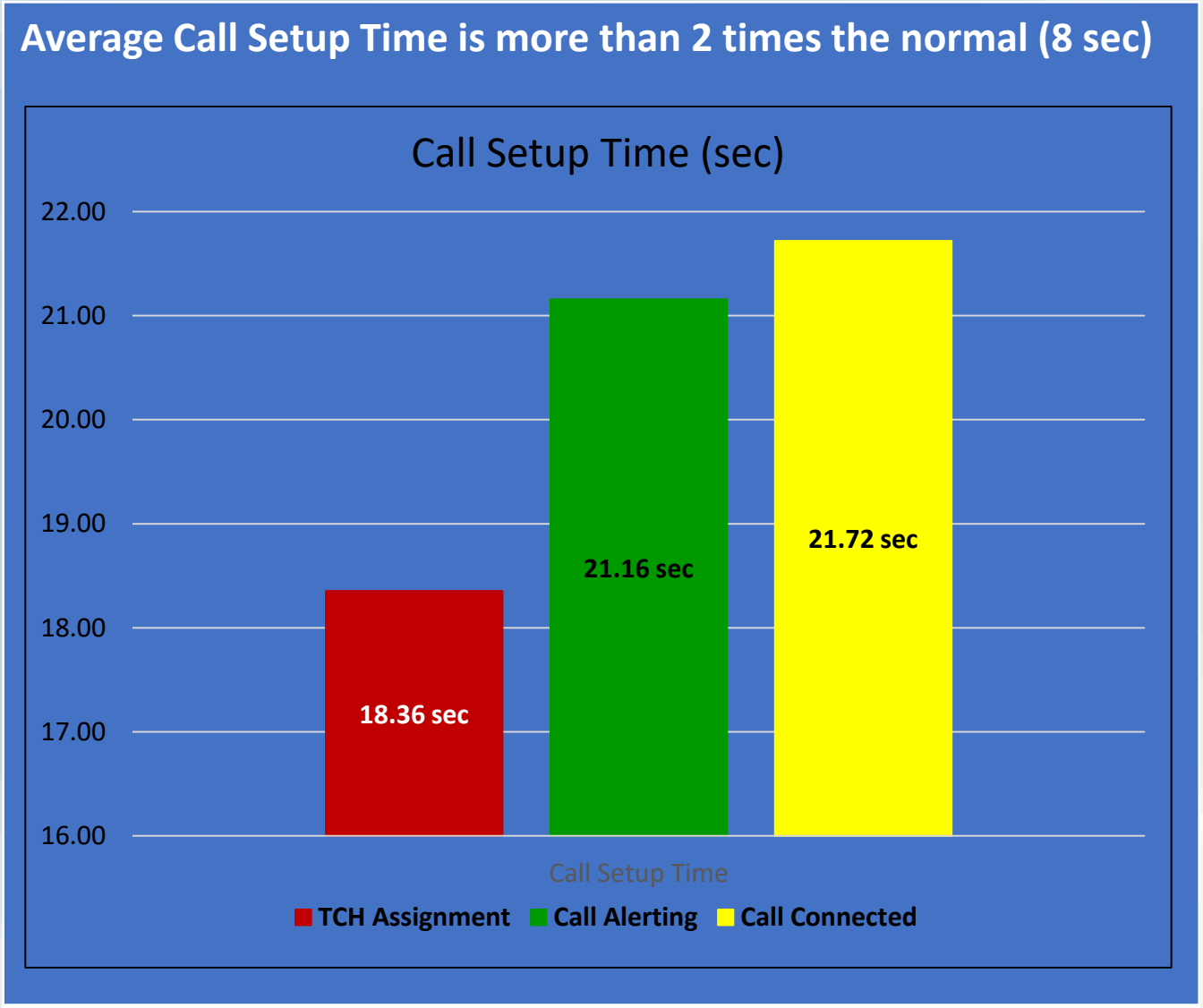
Voice Quality Score is below acceptable standards for most part of the test.



Almost 60% of the voice calls had poor voice quality



DRIVE TEST (DT)



ACCEPTANCE TEST PROCEDURE

CIVIL WORKS

Gravel in the fence does not meet the 10cm standard.

The Fabricated arm which hosts the antenna is rusty at joint.

BTS CABINET

Cables in the cabinet are scattered and not properly laid.

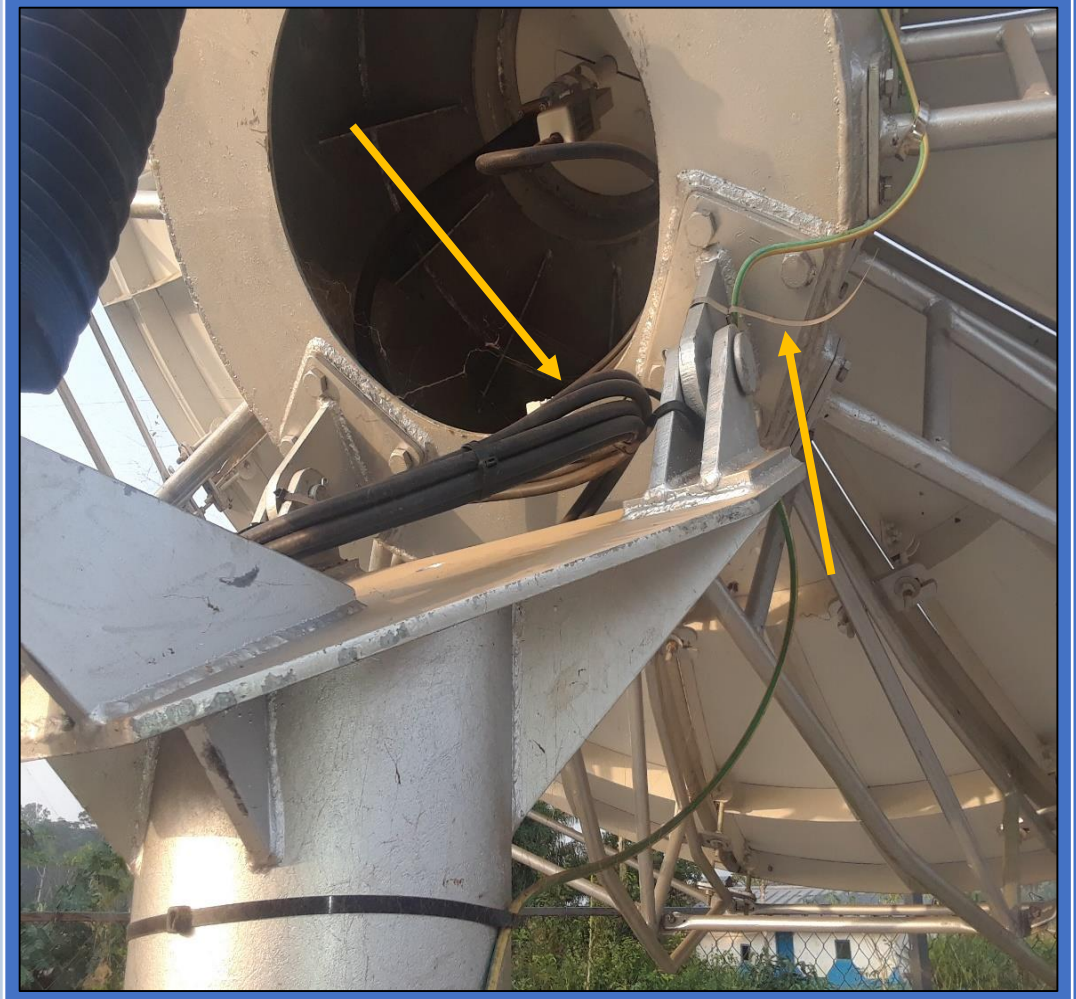
CABLING

The jumper cables are scattered on the tower from the RRUs.

Improper taping of jumper cable from the antenna.

CABLING

The IF cable loop is more than one and tie wraps are not cut.



The waveguide is not protected with putty and tape.

CABLING

The IF cable connected to the MODEM on tower is not protected with putty and tape.

The GPS cable loop is more than one.

CABLING

The IF cable loop on the tower is more than one; The tie wraps used are not of telecommunications standard.

The jumper cables from RRUs to antennas are run improperly.

CABLING

The IF cables on the tower are freely hanging.

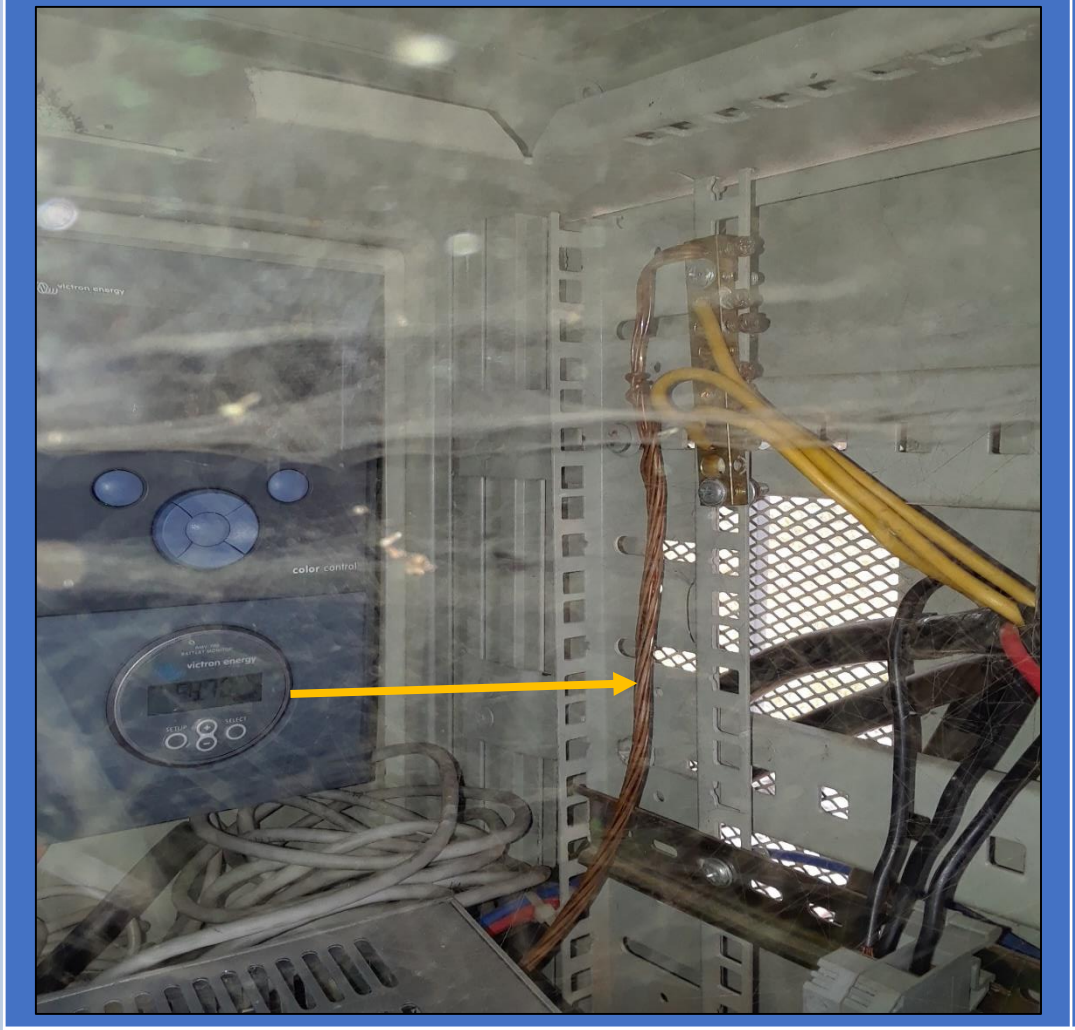
GROUNDING

Grounding on tower leg has no cable lug.

Only two of the four tower legs are grounded.

GROUNDING

Grounding cable in the cabinet is bare.



Grounding cable for the fence is 16mm², not the standard for outdoor.

GROUNDING

Grounding cable on the tower is bare.

The Grounding cable is not terminated to a bus-bar. The tower has no bus-bar.

GROUNDING

The plastic should not be visible.

RECOMMENDATION

- Enable or check 2G EDGE parameter settings for internet connectivity.
- Check parameter settings to reduce call setup time to <15 sec.
- Check parameter settings to improve voice quality score.
- The site needs bi-annual maintenance.
- All metal tie wraps must to be replaced with rubber tie wraps, to meet telecommunications installation standard.
- All four legs of the tower need grounding.
- Bare grounding cables on the tower and in the cabinet must be changed to 72mm^2 coated grounding cable.
- Waveguide and jumper cables on RRUs need proper putty and tape for protection.
- Fabricated arm on the tower needs to be replace soon, else it will break, and the antenna will fall.
- Free hanging cables on the tower need cable holder.
- Grounding cables on fence should be 25mm^2 or 35mm^2 coated.
- Grounding test needs to be conducted for grounding system at the site.

Thank You!

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