

best in test

For adding something on top in Albania and reaching an overall score of 893 dots in mobile network benchmarking survey we proudly award this certificate to

Vodafone Albania

Score 893 out of 1000 in Total
Score 291 out of 320 in Voice Services
Score 432 out of 480 in Data Services
Score 170 out of 200 in Crowdsourced Quality



Hakan Ekmen
Chief Executive Officer Telecommunication





Measurement Overview

umlaut tested and measured the performance of its voice and data services on smartphones in comparison to other LTE/UMTS/GSM mobile radio networks in metropolitan and rural areas of Albania.

The audit was done as a performance benchmark performed by umlaut between 23.06.2020 and 06.07.2020 in cities and towns as well as on connection roads.

Dedicated measurements have been executed as drive tests outdoors using a Samsung Galaxy S9 Smartphone 1000 Mbit/s Download / 105 Mbit/s Upload.

All data measurements have been performed in 4G preferred mode. Voice measurements have been done in 4G/4G preferred mode on both sides, while call origin has been alternated.

In addition crowdsourced performance data has been collected and evaluated between CW05 and CW28 2020.

The following pages provide a comparative overview about the performance results observed for the different tested service types.



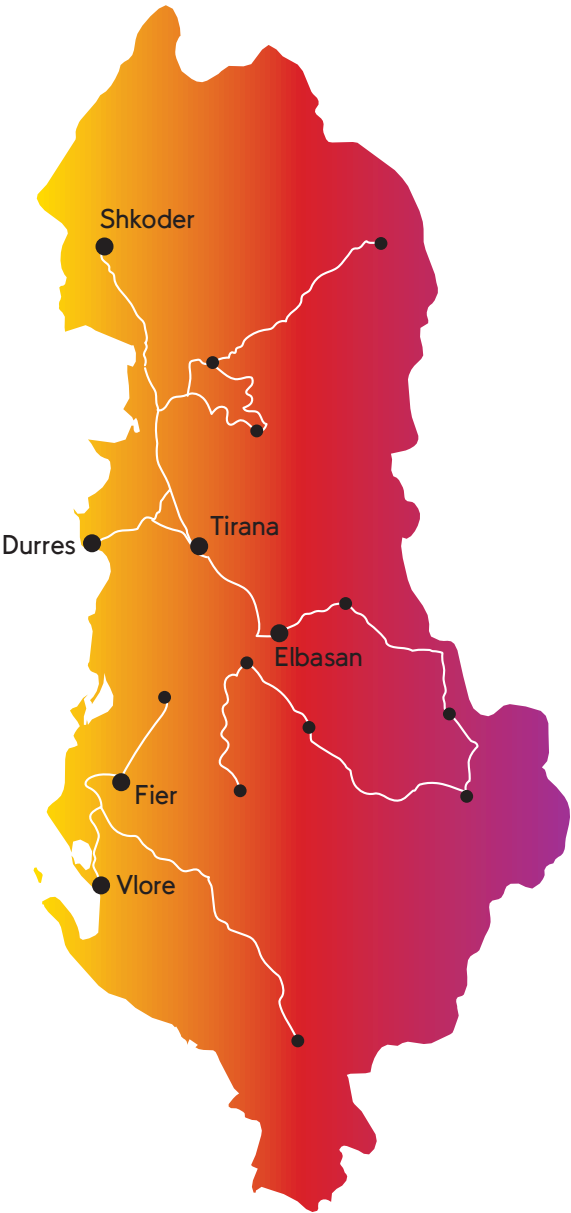
Measurement setup

Drivetest	Voice	Data
Device	Samsung Galaxy S9	
Test Cases	Mobile-to-Mobile (M2M) Side1 (VoLTE) to Side2 (VoLTE) 115 sec call window 70 sec call duration 15 sec call setup timeout Multi-RAB traffic injection on both sides	Data 4G preferred CA HTTP DL datastream 7s HTTP UL datastream 7s HTTP 5MB DL fixed file transfer HTTP 2.5MB UL fixed file transfer Web Browsing – Kepler ETSI Ref. Page 10 Live web pages 3 YouTube HD video ~ 45s
Mobility and Route Types	100% Drivetest 60% in Cities, 13 % in Towns and 26% on Roads	
Samples	~ 12521	~ 59565
Dates	12 measurement days 23.06.2020 – 06.07.2020	
Crowd Data Assessment	24 weeks CW05 2020 – CW28 2020	



Testing areas

Drive route

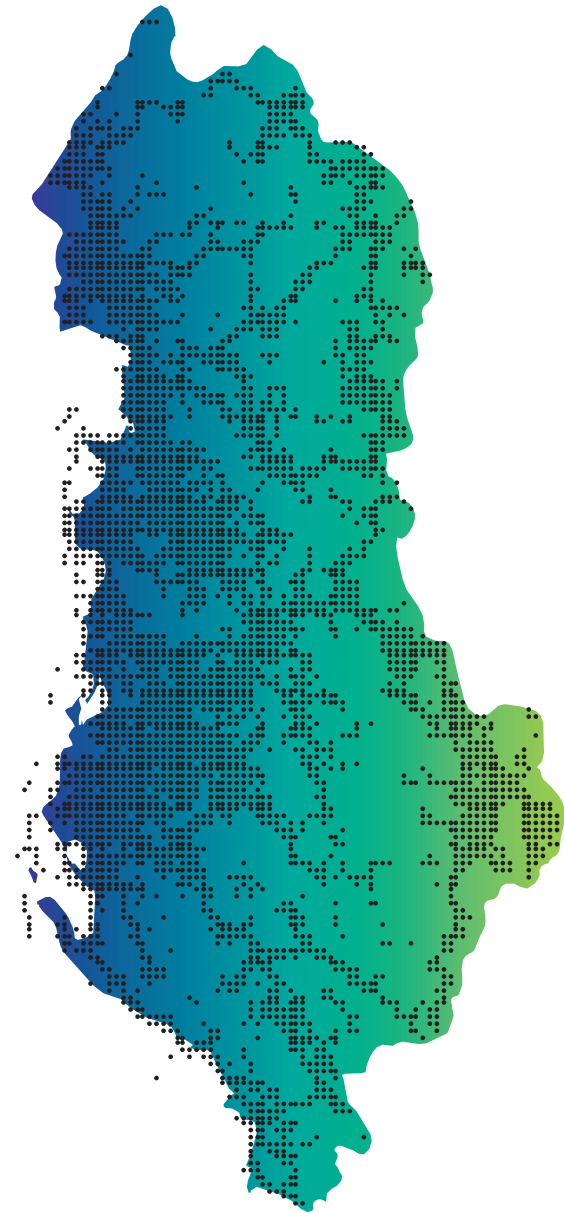


35 %
of population measured



4757 km
measuring distance

Crowdsourcing based test area



86.1 %
of Build-up covered



96.4 %
of Population covered



12.780 km²
size of tested area



Claims



Best in test
Vodafone Albania

Best in data
Vodafone Albania

Best in voice
Vodafone Albania

Best in crowd-sourced quality
Vodafone Albania



Methodology

The leader in mobile benchmarking, umlaut, has analyzed the mobile networks of Albania with regards to mobile network performance. We measure smartphone voice and data performance based on extensive drivetests – from major metropolitan areas to smaller cities and connection roads.

We objectively define the routes and test methodology and publish the results through certificates or public benchmark reports.

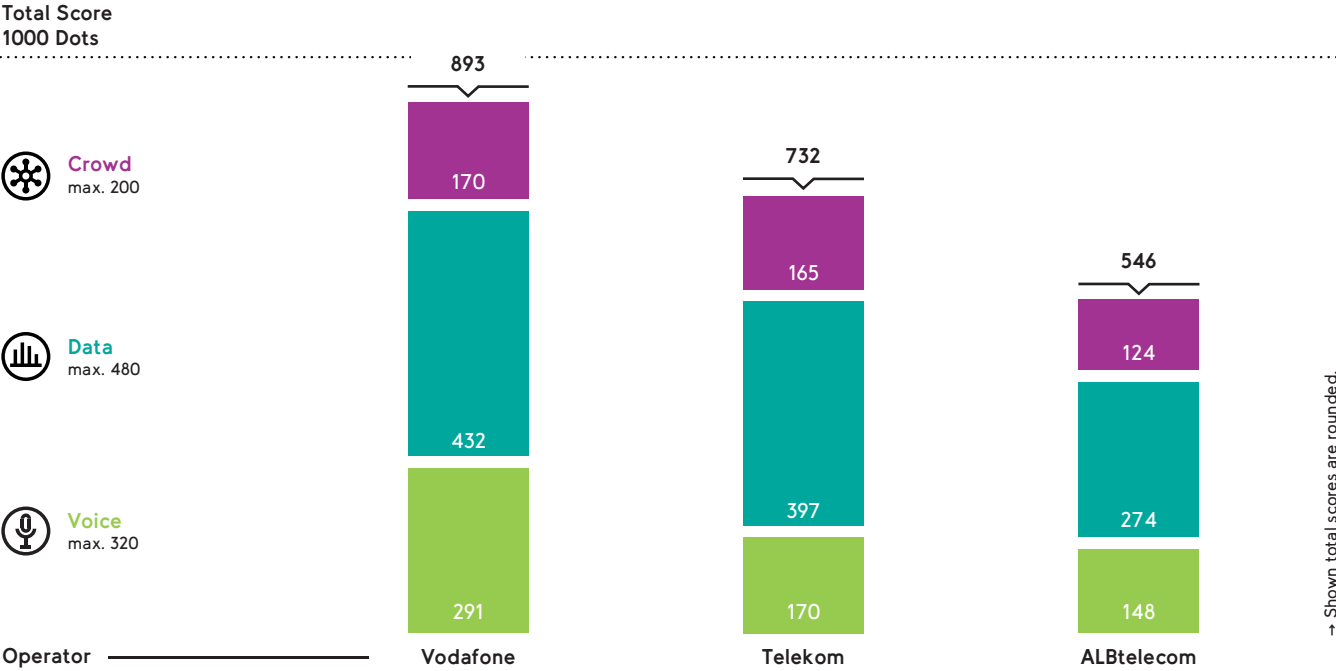
As the de-facto industry standard, our benchmarking methodology focuses on customer-perceived network quality and covers a wide range of mobile services. Today, more than 200 mobile networks in more than 120 countries are being evaluated by our unique scoring methodology. It allows a technical analysis that is unre-

cedented in its level of detail and enables comparisons between the network performance and capability of each mobile network. Our public benchmarks as well as the certificate benchmarks help network operators to demonstrate how well they are delivering wireless connections to consumers, business users and enterprises and reveals the areas of improvement.



Score and breakdown

Vodafone achieved the highest overall score among competitors with 893 dots out of 1000.



Overall score considering Voice, Data and Crowdsourcing.

Total score

		Vodafone	Telekom	ALBtelecom
Voice	max. 320	291	170	148
Cities Drivetest	192	97%	66%	49%
Towns Drivetest	64	97%	52%	61%
Roads Drivetest	64	66%	15%	23%
Data	max. 480	432	397	274
Cities Drivetest	288	95%	91%	72%
Towns Drivetest	96	91%	89%	43%
Roads Drivetest	96	74%	51%	27%
Crowdsourced Quality	max. 200	170	165	124
Crowd	200	85%	82%	62%
Total	1000	893	732	546

Shown scores are rounded.



Achieved percentage of the maximum score in each of the different data services.

Data	Service Group	max	Vodafone	Telekom	ALBtelecom
Cities	Web Browsing	72	98%	96%	87%
	File Download	72	96%	92%	66%
	File Upload	72	91%	85%	54%
	YouTube	72	95%	92%	79%
Towns	Web Browsing	24	97%	94%	63%
	File Download	24	88%	87%	37%
	File Upload	24	85%	85%	25%
	YouTube	24	96%	92%	48%
Roads	Web Browsing	24	82%	60%	37%
	File Download	24	76%	49%	19%
	File Upload	24	62%	40%	19%
	YouTube	24	77%	55%	35%



Achieved percentage of the maximum score in each of the different crowdsourcing services.

	Service Group	max	Vodafone	Telekom	ALBtelecom
Crowd	Broadband Coverage	100	93%	91%	68%
	DL Speed	60	68%	67%	47%
	Latency	40	91%	85%	71%



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