Proximus Mobile Network Benchmark
July 2020
KPI Validated Results

Campaign description

» Drive tests, simulating indoor coverage conditions

» 3 networks: Proximus, Orange, Telenet

» 5/Jun – 26/Jun/2020

» 270h of measurements

» ~10,700km driven

» 7,900 calls per mode and operator
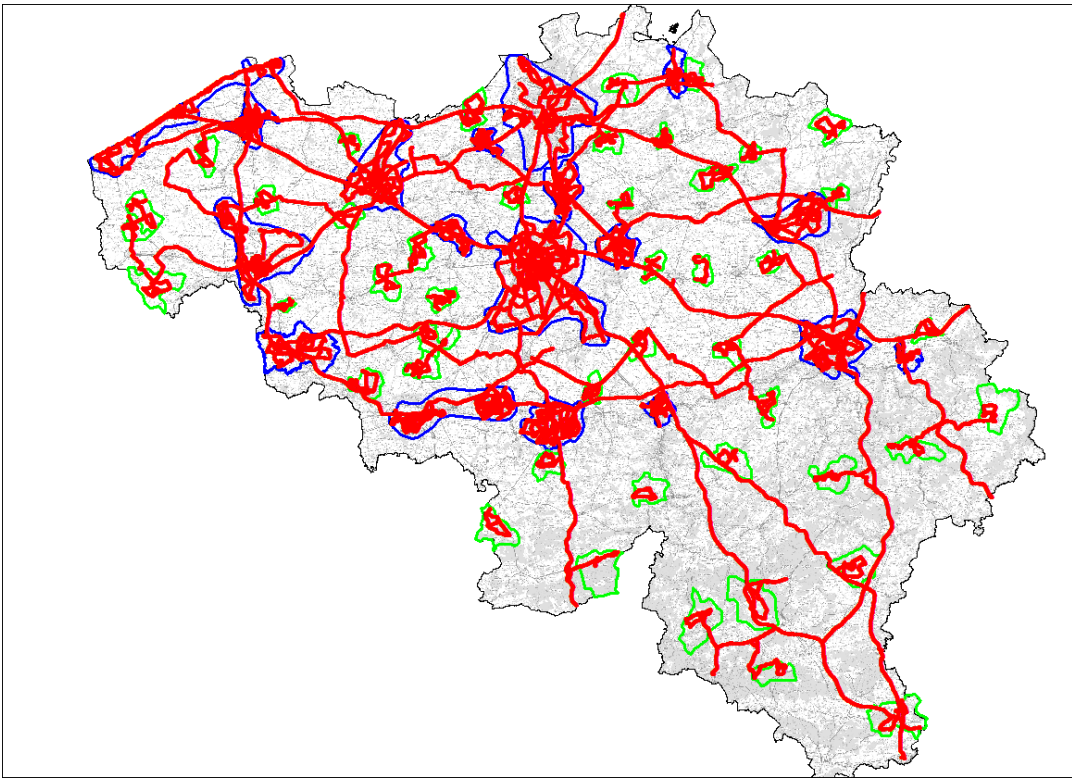
» 4,600 data tests per mode and operator

Golden Cities
Antwerp
Brussels
Charleroi
Gent
Liege

46 Communes

Silver Cities

Aalst	Mons-La Louvière
Brugge	Namur
Coast	Sint-Niklaas
Hasselt-Genk	Tournai
Kortrijk	Turnhout
Leuven	Verviers
Mechelen	

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LTE preferred modes

LTE voice - VoLTE
Summary

Voice free mode (VoLTE)		Proximus	Orange	Telenet
Success Rates				
Call setup success rate	%	99.4%	99.5%	99.5%
Call completion rate	%	99.7%	99.8%	99.8%
Voice Quality				
Voice Quality Score	Average	4.31	4.41	4.38
Voice Quality Score low samples	10% lowest	3.53	3.85	3.78
Call Setup Time				
Call Setup Time (s)	Average	3.1	2.7	3.3
Call Setup Time (s) long samples	10% longest	5.4	3.0	4.1

Test setup: Samsung S10, VoLTE preferred to VoLTE preferred, 90S call duration

Call setup success rate: successfully established calls / total call attempts
Call completion rate: successfully completed calls / successfully established calls
Re-established call (2G/3G): call which was successfully re-established and was finally completed; LTE re-establishments are considered successful calls
Voice quality based on SWB POLQA algorithm
Call setup time "to Alerting"

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LTE voice - CSFB
Summary

Voice free mode (CSFB)		Proximus	Orange	Telenet
Success Rates				
Call setup success rate	%	98.8%	99.2%	99.4%
Call completion rate	%	99.7%	99.7%	99.8%
Voice Quality				
Voice Quality Score	Average	3.63	3.61	3.93
Voice Quality Score low samples	10% lowest	2.68	2.66	3.59
Call Setup Time				
Call Setup Time (s)	Average	3.8	4.1	4.9
Call Setup Time (s) long samples	10% longest	5.1	5.6	5.7

Test setup: Samsung S8, 4G preferred to 4G preferred, 90s call duration

Call setup success rate: successfully established calls / total call attempts
Call completion rate: successfully completed calls / successfully established calls
Re-established call: call which was successfully re-established and was finally completed
Voice quality based on SWB POLQA algorithm
Call setup time "to Alerting"

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LTE data
Summary

Data 2G/3G/LTE Summary			Proximus	Orange	Telenet
Throughput					
HTTP DL fixed duration	DL throughput (Mbps)	Average	71.3	55.6	75.9
		Slowest 10%	9.7	8.2	11.5
HTTP UL fixed duration	UL throughput (Mbps)	Average	22.7	24.7	22.8
		Slowest 10%	4.1	4.4	4.0
File Transfer					
HTTPS DL fixed size 10MB	DL time (s)	Median	1.7	1.9	1.8
	Success rate	%	98.5%	97.7%	97.8%
HTTPS UL fixed size 5MB	UL time (s)	Median	2.3	2.2	2.4
	Success rate	%	98.2%	97.8%	97.3%
Web Browsing					
All pages (blended KPI)	Web browsing time (s)	Median	2.0	2.1	2.1
	Success rate	%	98.4%	98.1%	98.0%
Video					
YouTube – buffered streaming	Success Rate	%	99.2%	99.1%	98.7%
	Success rate without interruption & min 720p	%	96.7%	95.2%	96.1%
	Time to 1st picture (s)	Average	1.6	1.5	1.7
	Video Quality	Average	4.40	4.39	4.40

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Test setup: LG V50 for transfer tests, Sony XZ2 for browsing tests and video; LTE preferred

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Disclaimer

» Results & conclusions reflect the performance of the mobile networks during the measurement period 5-26/June/2020

» Results are considered statistically relevant at the level of Belgium
→ Results are not relevant per commune or 100x100m bin

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