

CERTIFICATE

P3 communications GmbH

Am Kraftversorgungsturm 3, D-52070 Aachen, Germany

hereby certifies that



one.Vip DOO Skopje

Filip Vtori Makedonski No.3, DC Soravia, 8th floor, 1000 Skopje, Macedonia

achieved „**Best in Test**“ with a

Total Score of **833 of 1000**

in the **Mobile Benchmark Macedonia 12/2016.**

(Score 345 of 400 in Telephony, Score 487 of 600 in Data Services)



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*Head of Network Testing
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Measurement Setup

	Voice	Data
Device	Samsung Galaxy S5 P3 attenuator	Samsung Galaxy Note4 LTE cat6 P3 attenuator
Test Cases	Mobile-to-Mobile (M2M) Side1 (4G preferred) to Side2 (3G preferred) Side1 (4G preferred) to Side2 (4G preferred) 115 sec call window 70 sec call duration 15 sec call setup timeout Email traffic injection on both sides (100KB) (1 email per call window)	Data 4G preferred CA HTTP DL datastream 10s HTTP UL datastream 10s HTTP 3MB DL fixed file transfer HTTP 1MB UL fixed file transfer Web Browsing - Kepler ETSI Ref. Page 10 Live web pages (50% http, 50% https) YouTube HD/ SD video - 45s
Mobility and Route Types	100% Drivetest 54.96% in Cities, 15.94% in Towns and 28.68% on Roads	
Samples	~ 2775 per Operator	~ 13300 per Operator
Dates	8 measurement days December 13th – December 21th, 2016	

Testing Route



Score Points and Breakdown

The following table indicates the score points achieved by the networks under test in the modules “Voice” and “Data Services” as well as the breakdown of achieved points in the geographical category “Cities”.

Module	Infrastructure	Max.	One.Vip	Operator 2
Voice	Total	400	345	305
	Cities	400	86%	76%
Data	Total	600	487	434
	Cities	600	81%	72%
TOTAL		1.000	833	739

Shown voice, data and total scores are rounded

The following table indicates the achieved percentage of the maximum score in each of the different data services.

Data	Service Group	Max.	One.Vip	Operator 2
Cities	Web Browsing	210	73%	65%
	File Download	120	82%	75%
	File Upload	120	83%	67%
	YouTube	150	91%	84%

Voice KPI Overview

The following table indicates the achieved values of all networks under test in each of the relevant Voice Key Performance Indicators (KPIs) for the geographical category "Cities".

Voice M2M	KPI Name	Unit	One.Vip	Operator 2
Cities	Qualifier	[%]	98,8	97,2
	Call Setup Time	[s]	6,0	6,3
	AVG Speech Quality	[MOS-LQO]	3,8	3,6

Data KPI Overview

The following table indicates the achieved values of all networks under test in each of the relevant Data Key Performance Indicators (KPIs) for the geographical category “Cities”.

Data Cities	KPI Name	Unit	One.Vip	Operator 2
HTTP Live Page DL	Qualifier	[%]	96,1	95,0
	AVG Session Time	[s]	4,0	4,4
HTTP Static Page DL	Qualifier	[%]	98,9	97,6
	AVG Session Time	[s]	2,2	2,5
HTTP file DL 3MB	Qualifier	[%]	99,4	98,9
	AVG Session Time	[s]	2,0	3,0
	90% faster than	[kbit/s]	9648	4336
	10% faster than	[kbit/s]	32446	31455
HTTP file UL 1MB	Qualifier	[%]	98,8	95,9
	AVG Session Time	[s]	2,1	2,8
	90% faster than	[kbit/s]	3556	1733
	10% faster than	[kbit/s]	7421	5988
HTTP DL FDTT 10s	Qualifier	[%]	98,8	99,1
	AVG throughput	[kbit/s]	47431	28070
	90% faster than	[kbit/s]	11224	4589
	10% faster than	[kbit/s]	89561	58126
HTTP UL FDTT 10s	Qualifier	[%]	98,8	98,1
	AVG throughput	[kbit/s]	22302	18480
	90% faster than	[kbit/s]	6708	1396
	10% faster than	[kbit/s]	38600	36732
YouTube	Qualifier	[%]	99,5	98,7
	Start Time	[s]	1,8	1,9
	Playouts w/o interruptions	[%]	100,0	99,9
	AVG Resolution	[p]	615,2	566,3