

Reliable low-oxygen performance

OPM maintains reliable signal quality in the most physiologically challenging low oxygen conditions during controlled hypoxia.

Performance at low oxygenation

The table summarises signal quality results from 12 participants during the hypoxia test, with a specific focus on the low desaturation range. Results are presented for blood oxygen saturation levels ranging from approximately 79% down to 70%, representing the most physiologically challenging phase of the desaturation process.

Data includes measurements from three participants within the light skin tone cohort, three from the medium skin tone cohort, and six from the dark skin tone cohort.

Across all participants and all skin tone groups, signal-to-noise ratio (SNR) values remain consistently high at low oxygen levels. This consistency is also maintained across all illumination wavelengths of the OPM device.

Average SNR values range from approximately 19.19 to 25.00, with low variability between participants, as reflected in the standard deviation values.

SNR for twelve healthy subjects participating in the hypoxia study during the desaturation of SaO₂ (79.1 to 70.2 %)

Subject Information		Skin Tone Scale*			Signal to Noise Ratio (SNR)					Physiological State
No.	Gender	Group	ITA ^a	MST		515 nm	605 nm	635 nm	940 nm	SaO ₂ (%)
1	F	I	41	3		25.99	20.63	17.44	19.99	74.9-76.3
2	M		50	2		23.32	22.99	22.78	22.56	78.5-79.1
3	F		45	2		25.69	19.94	17.36	19.72	72.7-74.9
					Mean	25	21.19	19.19	20.76	
					SD	1.46	1.6	3.11	1.57	
4	F	II	23	4		22.45	23.02	23.66	22.74	70.2-71.0
5	M		17	5		20.88	21.81	21.14	22.34	71.6-72.0
6	M		1	5		25.21	25.39	26.2	24.97	70.9-72.1
					Mean	22.85	23.41	23.67	23.35	
					SD	2.19	1.82	2.53	1.42	
7	M	III	-66	10		17.95	22.09	23.24	20.78	75.8-76.0
8	M		-53	9		27.35	26.15	27.95	28.33	72.5-74.0
9	F		-31	8		24.64	22.34	20.1	18.25	77.2-78.4
10	M		-47	9		20.49	19.8	14.36	16.57	74.9-75.4
11	M		-61	10		20.61	24.2	20.87	23.42	72.0-72.4
12	M		-43	9		11.19	15.98	14.61	15.85	74.9-75.8
					Mean	20.37	21.76	20.19	20.53	
					SD	5.6	3.55	5.19	4.73	