

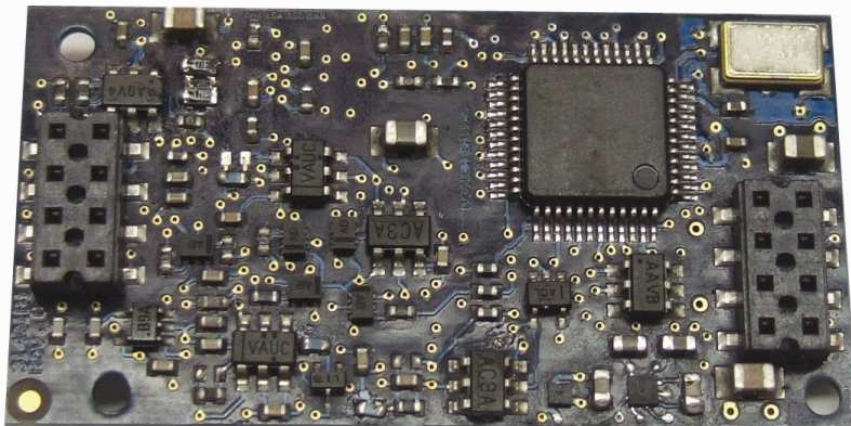
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BCI[®] OEM Technologies

**Digital Micro Power Board
Low Perfusion Performance Comparison**

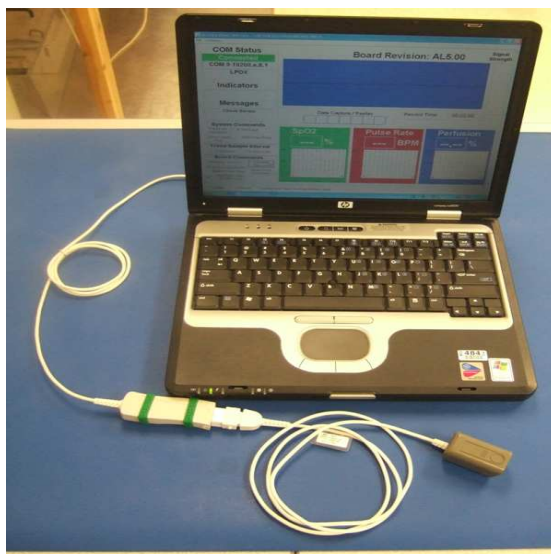


Low Perfusion Validation Protocol

BCI[®] Digital Micro Power Board's capability to obtain accurate readings during low perfusion conditions have been validated and compared to competitors within the same conditions. This validation and comparison was conducted using the industry standard Fluke Biotek Index 2 over a wide range of SpO₂, HR and perfusion Index 2 values. The SpO₂ and HR's displayed from the pulse oximeter were recorded (if the oximeter showed a reading) and the data was compared to the pre-set SpO₂ & HR values of the Fluke Biotek Index 2.



Fluke Biotek Index 2 Test Setup



OxiLink™ III with Digital Micro Power Board connected to PC

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The Biotek's Perfusion Index 2 is set to one of the predetermined levels and then the SpO₂ and HR is changed over a range of values. The oximeter undergoing the test is given time to stabilize after each setting change and then the displayed reading is recorded as the measured number.

Example of the SpO₂ and HR testing at a specific Perfusion Index 2 Level

Perfusion Index 2: 0.1		Measured	
Simulator			
SPO2	HR	SPO2	HR
100	30	100	30
100	60	100	60
100	120	99	119
100	240	100	240
90	30	90	30
90	60	90	59
90	120	89	120
90	240	89	239
80	30	82	30
80	60	81	60
80	120	79	119
80	240	79	239
70	30	72	30
70	60	70	60
70	120	68	119
70	240	69	239
60	30	64	30
60	60	61	60
60	120	60	120
60	240	60	239

xx = out of tolerance, +/- 3 digits for SpO₂, +/- 1 digit for HR

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The above SpO2 and HR ranges are tested at a number of different Perfusion Index 2 levels. All that data is summarized and entered as *In Tolerance* or *Out of Tolerance* or *Invalid* (No reading was displayed).

Example of the summary of an oximeter at the full range of Perfusion Index 2 levels tested

Perfusion Index 2	In Tolerance*	Out of Tolerance	Invalid
0.5	20	0	0
0.4	20	0	0
0.3	20	0	0
0.2	20	0	0
0.1	19	1	0
0.05	14	2	4
0.025	8	5	7

* In Tolerance = +/- 3 digits for SpO2, +/- 1 digit for HR

What Was Validated

The following pulse oximeters were tested using this low perfusion validation protocol and a full comparison was made.

- 3710 BCI[®] Digital Micro Power Board
- 71802B1 BCI[®] Digital Business Card Board
- Masimo Radical (In regular and MAX sensitivity mode)
- Nonin OEM 2 Module
- Nonin OEM 3 Module
- Nellcor NP-506
- Dolphin OEM 701
- Nonin IPOD 3212

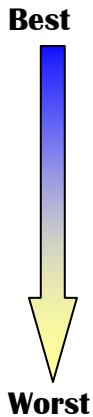
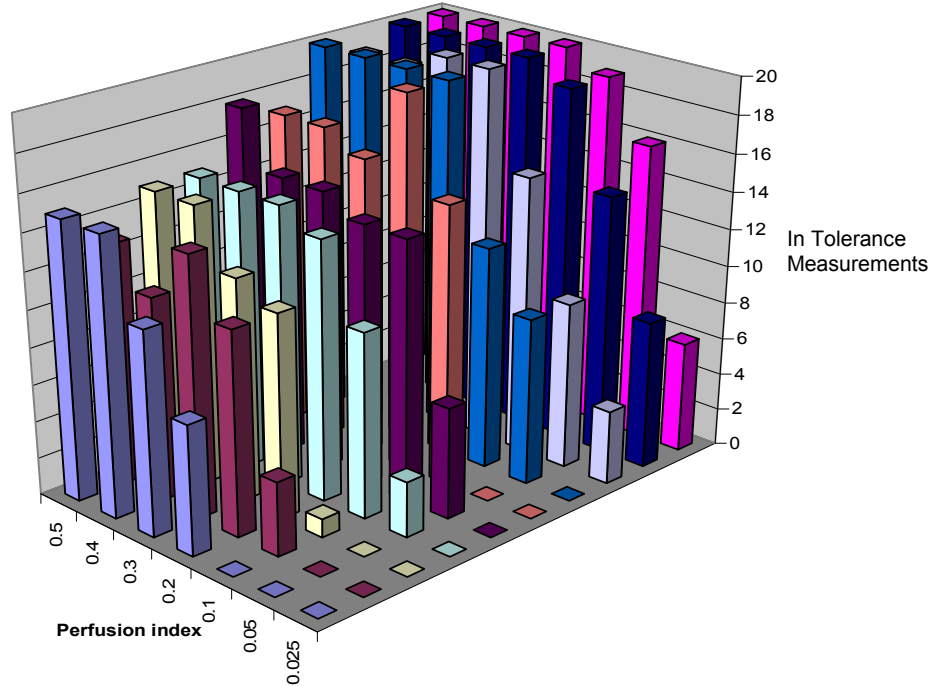
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Results Summary

Perfusion Index Testing Total Within Tolerance

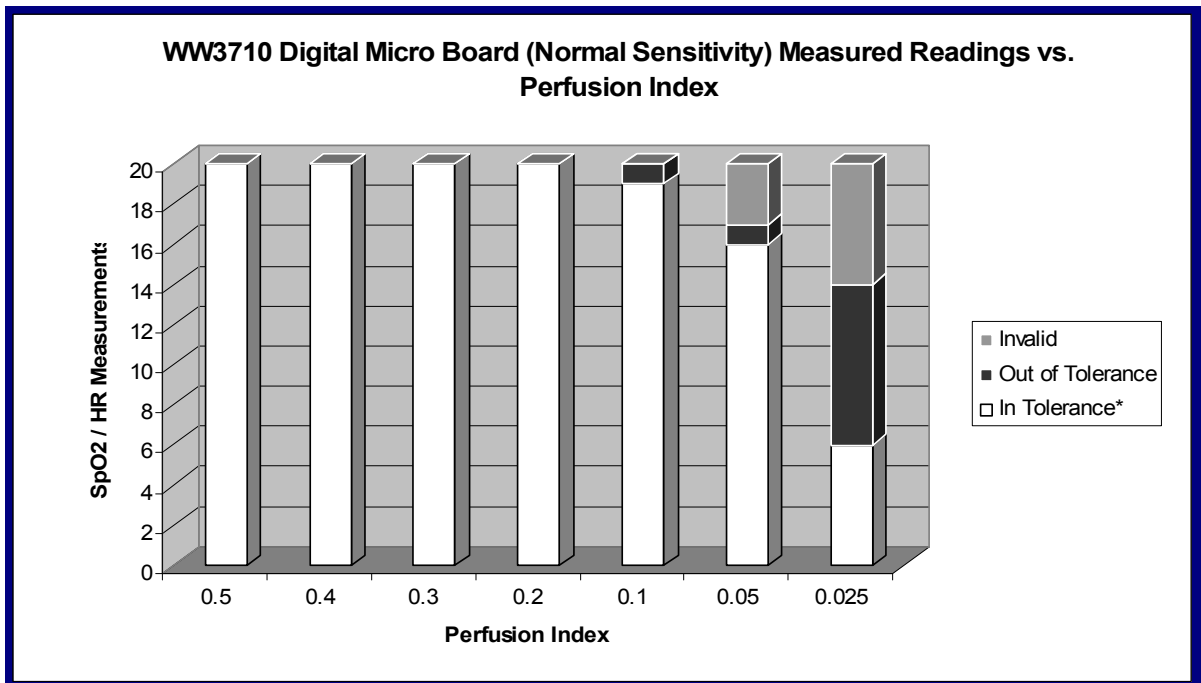
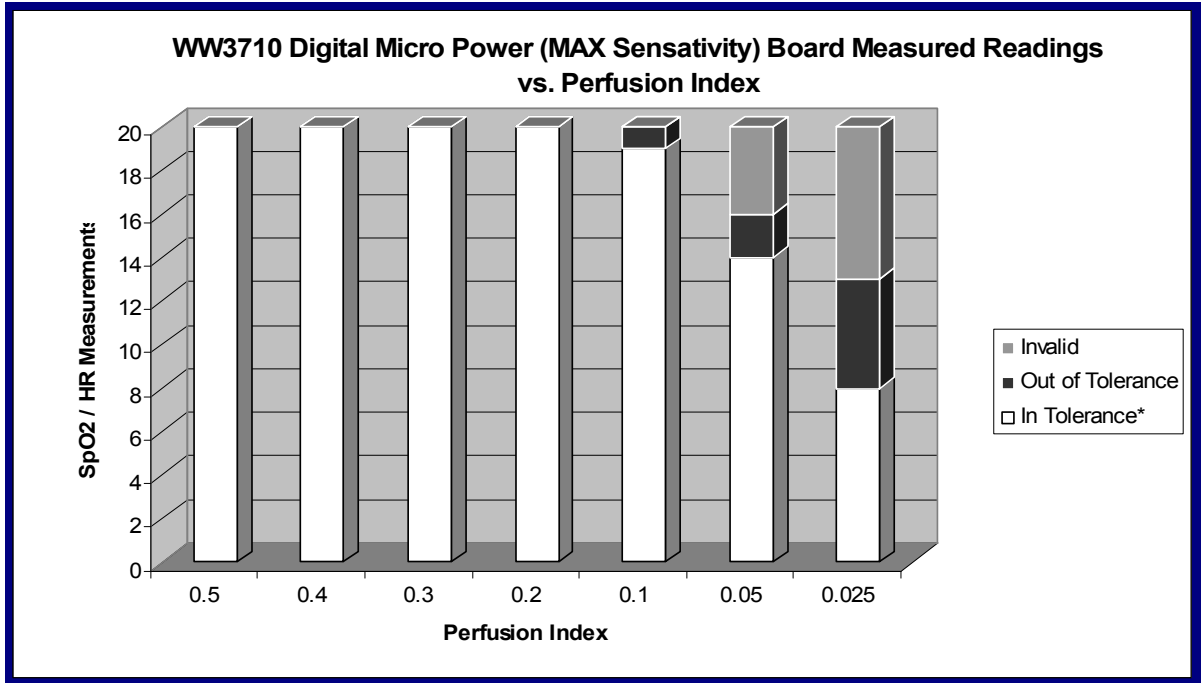


		Perfusion Index 2 In Tolerance* Measurements							
Tested Oximeter		0.5	0.4	0.3	0.2	0.1	0.05	0.025	Total
3710 BCI® Digital Micro Power Board (Max Sensitivity Mode)		20	20	20	20	19	14	8	121
3710 BCI® Digital Micro Power Board (Normal Sensitivity Mode)		20	20	20	20	19	16	6	121
Masimo Radical (Max sensitivity mode)		19	19	20	20	15	9	4	106
BCI® 71802B1 Digital Business Card Board		20	20	20	20	12	9	0	101
Masimo Radical (Normal sensitivity mode)		17	17	16	20	15	0	0	85
Dolphin OEM 701		18	15	15	14	14	6	0	82
Nellcor NP-506		15	15	15	14	10	3	0	72
Nonin IPOD 3212		15	15	12	11	1	0	0	54
Nonin OEM 3 Module		13	11	14	11	4	0	0	53
Nonin OEM 2 Module		15	15	11	7	0	0	0	48
* In Tolerance = +/- 3 digits for SpO2, +/- 1 digit for HR									

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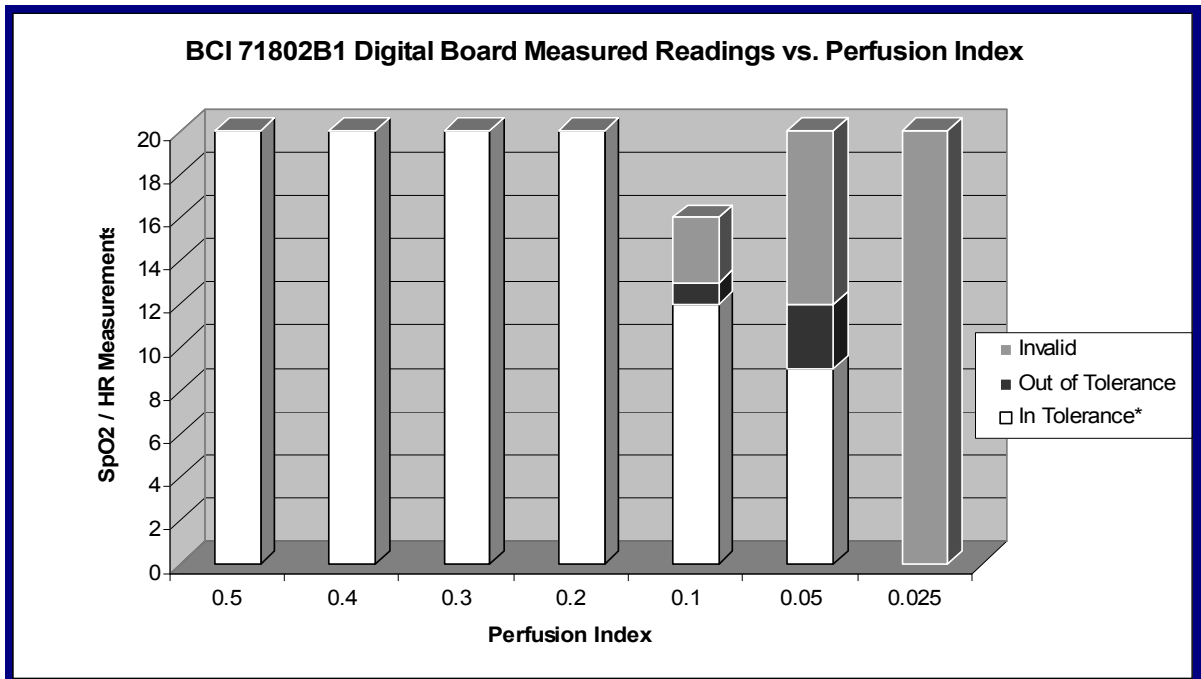
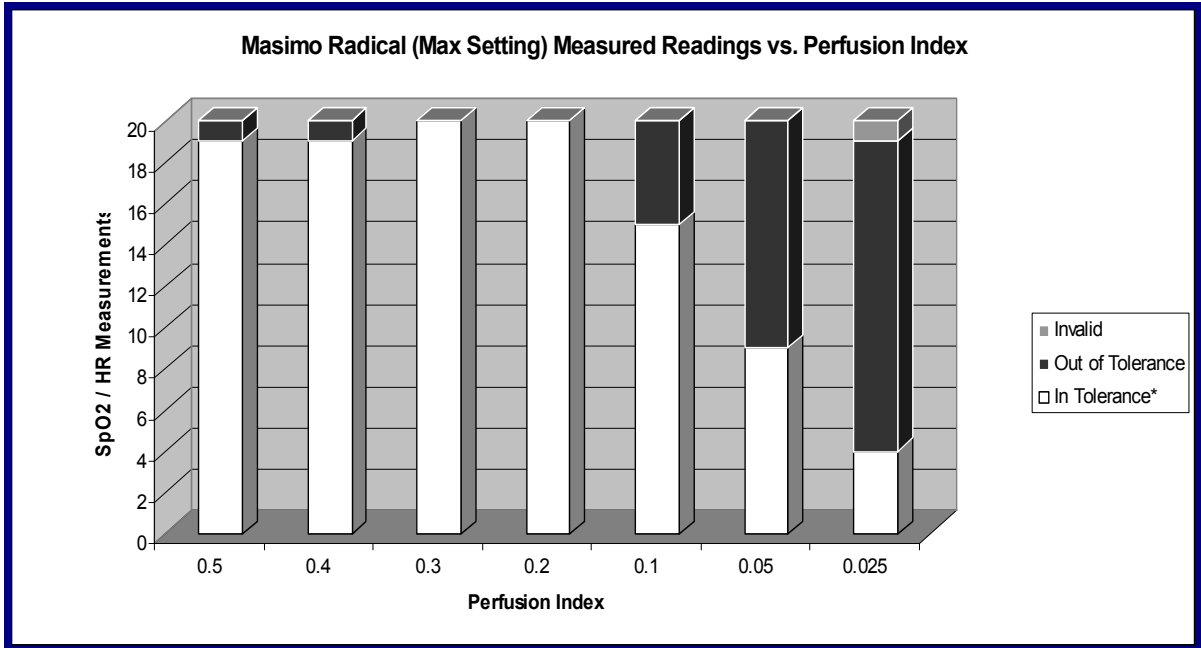
Appendix A – Individual Summary



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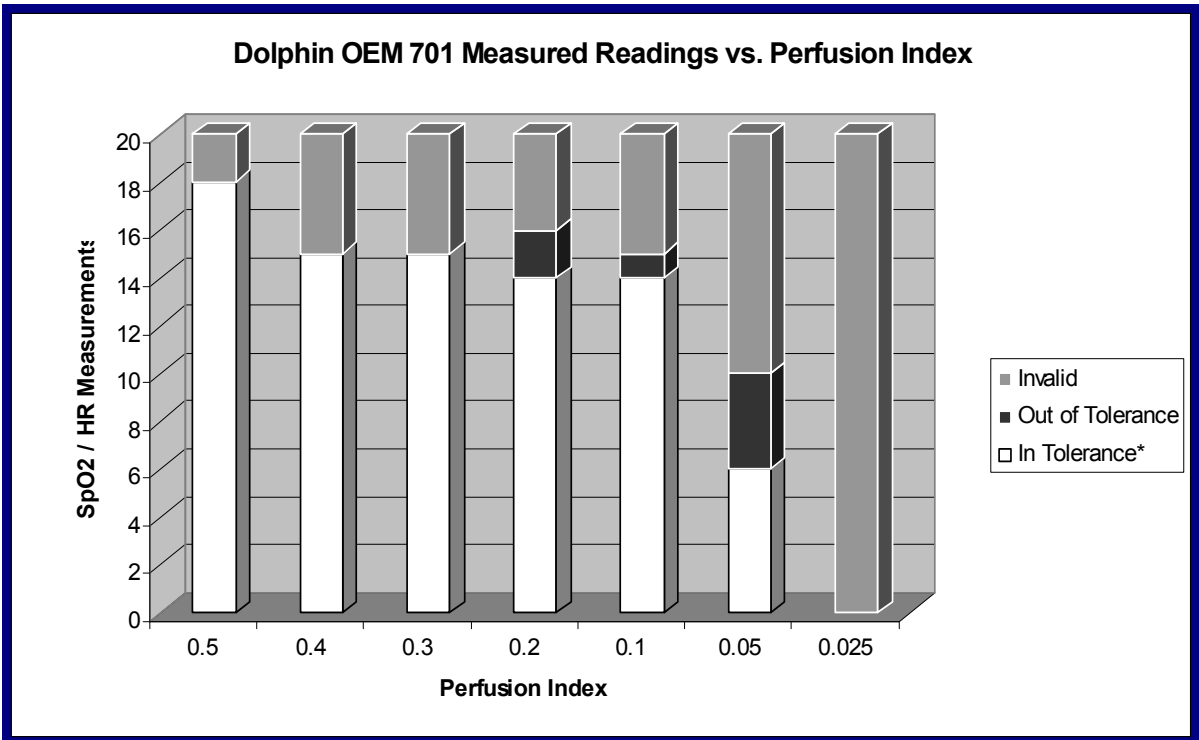
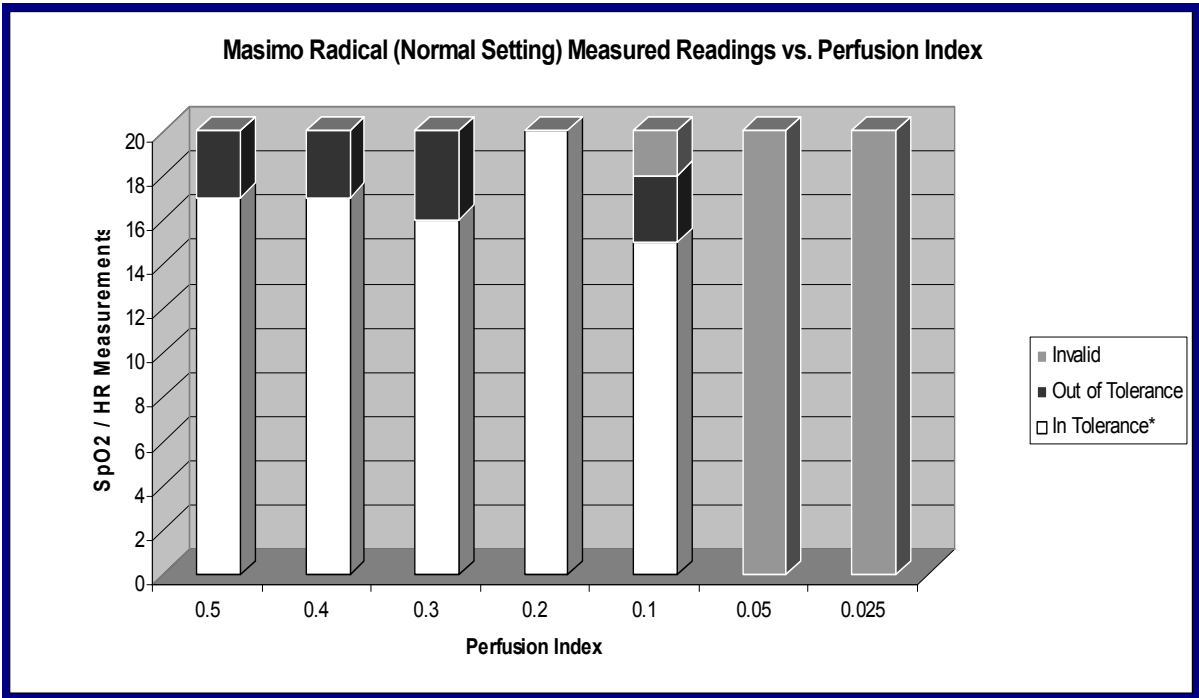
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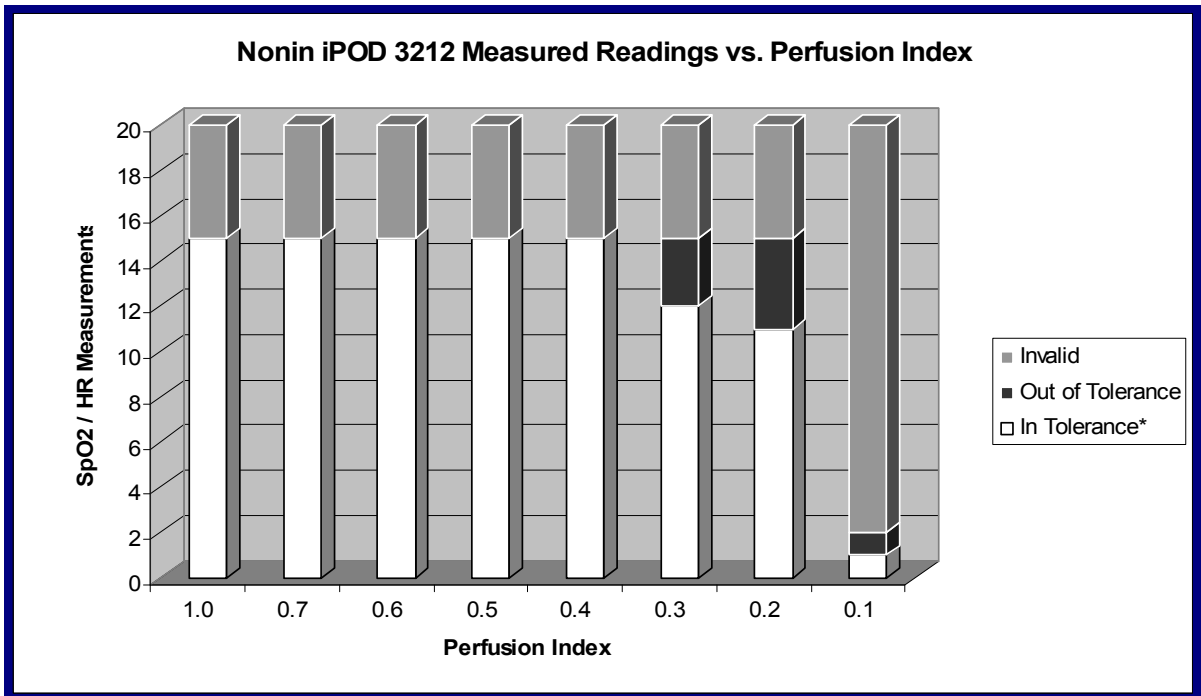
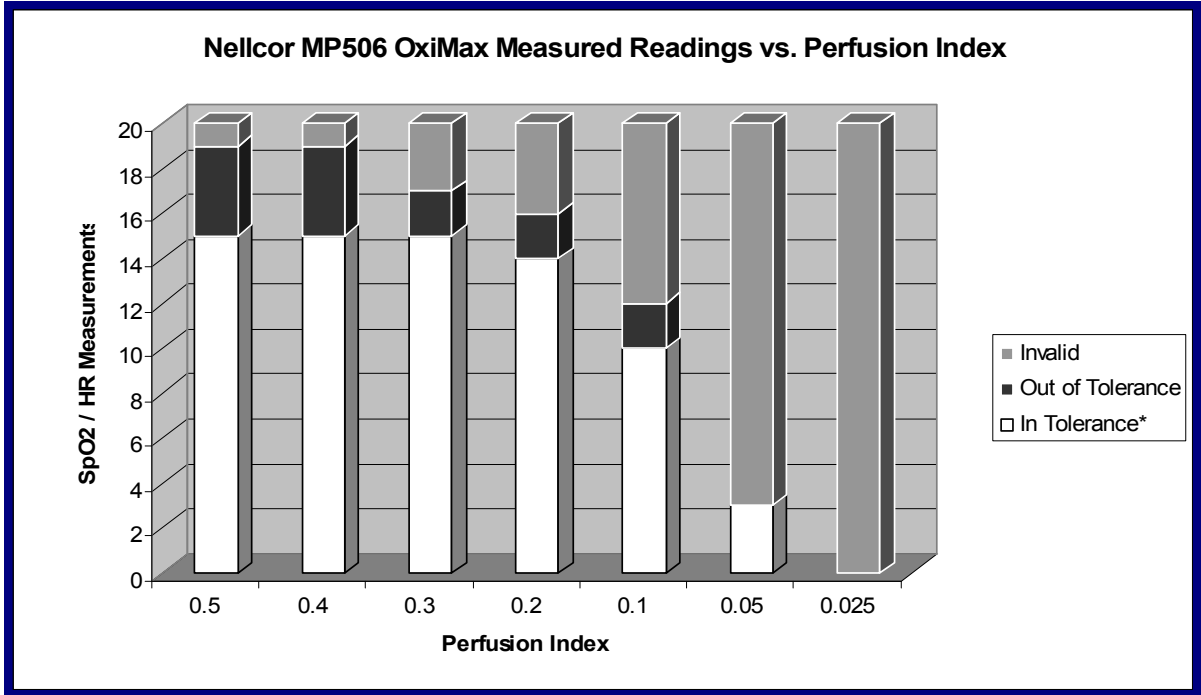
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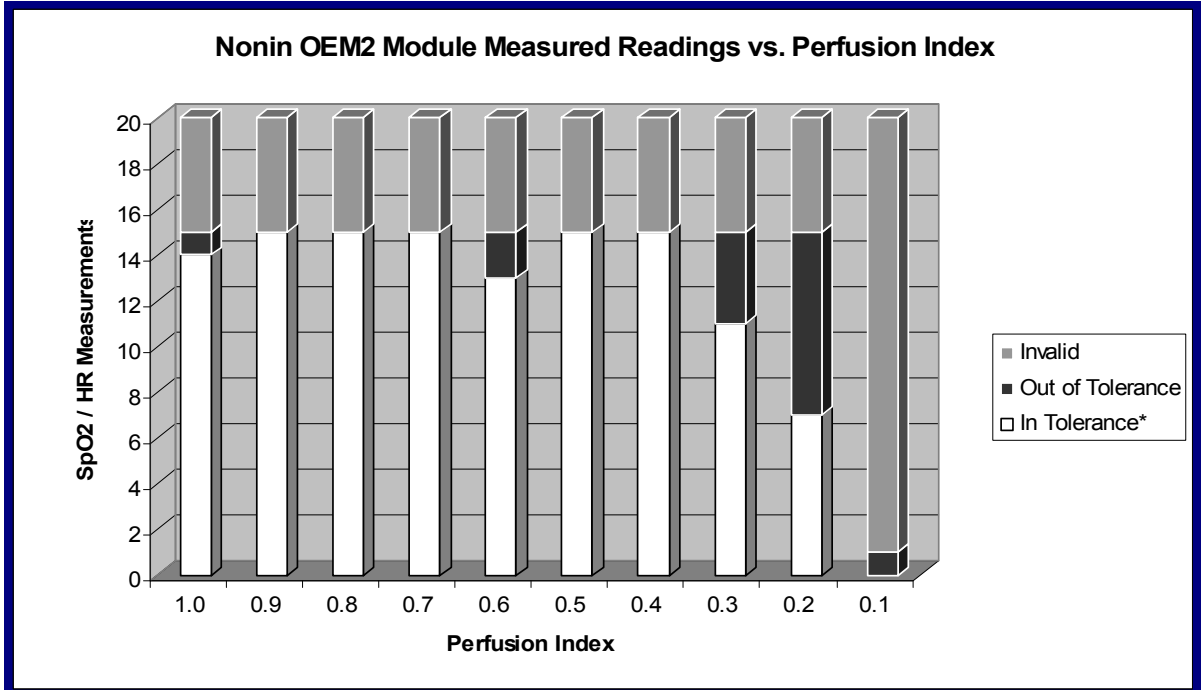
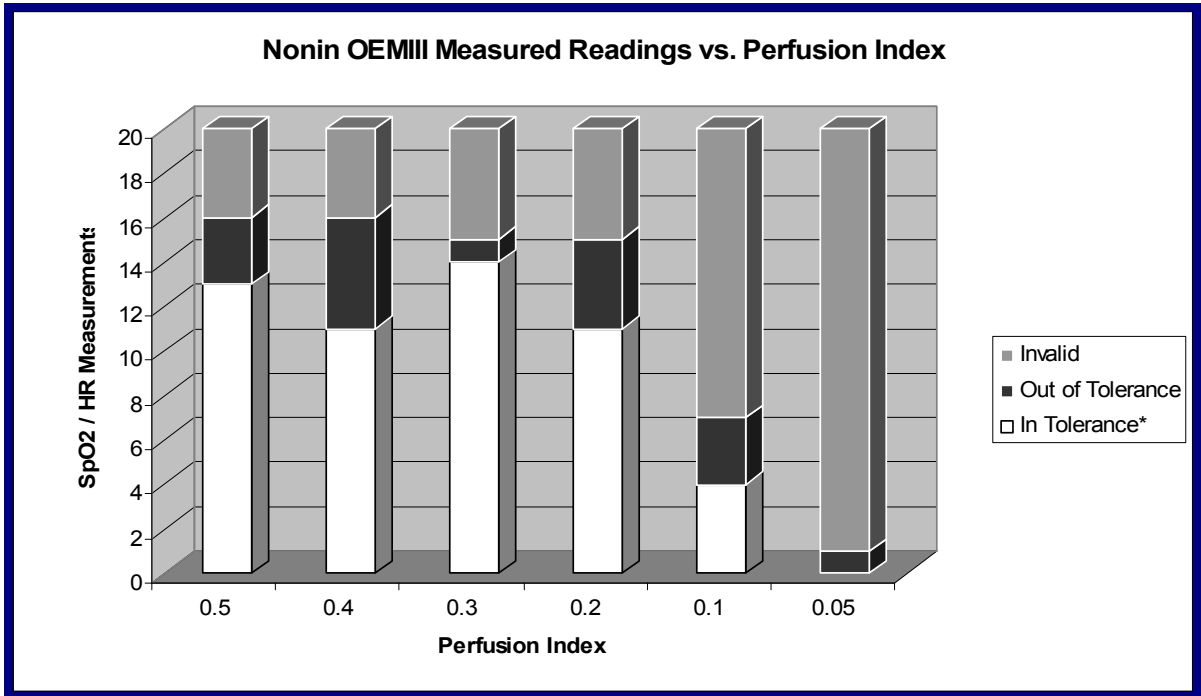
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