

	EMATOLOGIA 8 PARAMETRI MENSILE 2026 - FEBRUARY 2026 <small>lbl_codice_schema : MSQUALITYE8/MSQSE812/MSEQSE8/MSEQUALITYE8/MSEQUALITYE12</small>	RdP: Final Revision ZMD001_18_2026_2_1.pdf	 01430 Membro degli Accordi di Mutuo Riconoscimento EA e ILAC Signatory of EA and ILAC Mutual Recognition Agreements
	Participant : ZMD001 Sample Lot : HE-2602	Issued on 24/02/2026 Authorized by RQS Sonia Zanghini	

Bio-Group Medical System s.r.l.

QS Division

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+39 0541920686 int 3

Cycle: EMATOLOGIA 8 PARAMETRI MENSILE 2026; FEBRUARY 2026

Enroled participants : 179

Subcontract Activities: Homogeneity and stability test and sera production. The PTP declares the assumption of responsibility towards the participants for the subcontracted work

Authorized by: RQS Sonia Zanghini

Coordinator: COP Luigi Polidoro

Contacts: email: COP@biogms.it

Telephone: +390541920686 **Fax:** +390541920180

Proficiency test object: Blood

Lot: HE-2602

Lot expiration: 2026-03-09

Homogeneity: Data available on request

Confidentiality: All communications relating to the QS programs take place in a confidential manner between the QS Division and each individual laboratory. Participants are assigned a specific confidential identification code. These reserved codes are known to the QS Division, to the single laboratory and to the appointed officers.



**EMATOLOGIA 8 PARAMETRI MENSILE 2026 -
FEBRUARY 2026**

lbl_codice_schema : MSQUALITYE8/MSQSE812/MSEQSE8/MSEQUALITYE8/MSEQUALITYE12

**Participant : ZMD001
Sample Lot : HE-2602**

RdP: Final Revision
ZMD001_18_2026_2_1.pdf

Issued on 24/02/2026
Authorized by RQS
Sonia Zanghini



01430
Membro degli Accordi di Mutuo Riconoscimento
EA e ILAC
Signatory of EA and ILAC Mutual Recognition
Agreements

Analyte	RDS
RDW/IDR-SD	0,0700
MCHC	0,0600
MPV	0,1000
WBC/GB	0,0500
RBC/GR	0,0200
HB	0,1000
* MCV/VMG*	0,0600
MCH/TCMH	0,0300
RDW/IDR	0,0800
PLT/PLQ	0,0900
HCT	0,0600

* Analyted not accredited

	EMATOLOGIA 8 PARAMETRI MENSILE 2026 - FEBRUARY 2026 <small>lbl_codice_schema : MSQUALITYE8/MSQSE812/MSEQSE8/MSEQUALITYE8/MSEQUALITYE12</small>	RdP: Final Revision ZMD001_18_2026_2_1.pdf	 01430 Membro degli Accordi di Mutuo Riconoscimento EA e ILAC Signatory of EA and ILAC Mutual Recognition Agreements
	Participant : ZMD001 Sample Lot : HE-2602	Issued on 24/02/2026 Authorized by RQS Sonia Zanghini	

PT target value assignment procedure

For each measurement of this evaluation test, the assigned value is determined using the robust average calculated according to Algorithm A ISO 13528:2015.

Standard uncertainty is determined according to formula:

$$U_{x_{pt}} = 1,25 \left(\frac{s^*}{\sqrt{p}} \right)$$

where s^* is the robust standard deviation and p is participants number

Assigned Relative Deviation Standard is determined according to reported formula: where RDS is relative standard deviation calculated on the historical basis

$$\sigma_{pt} = RDS * x_{pt}$$

Performance index is evaluated according to equation B.3 ISO 17043:2023

$$Z \text{ Score} = \frac{x_i - x_{pt}}{\sigma_{pt}}$$

If standard uncertainty is more than 30% of Assigned Relative Deviation Standard the performance index will determined according to the following equation

$$\frac{x_i - x_{pt}}{\sqrt{\sigma_{pt}^2 + U_{x_{pt}}^2}}$$

Where:

x_i = Participant measure

x_{pt} = Assigned value

σ_{pt} = Assigned standard deviation

$U_{x_{pt}}$ = Standard uncertainty

The exposed procedure is used for all the parameters of this PT

In this report are showed also these two error indexes

$D = x_i - x_{pt}$: Participant absolute error

$D_{\%} = \frac{(100 * D)}{x_{pt}}$: Absolute error in percentage

The participant's performance is evaluated using a peer-to-peer comparison approach. For each measurand and every test cycle, the performance indicators (Z-score or Z'-score, where applicable) of each participant are calculated and assessed against the following comparison levels:

- a homogeneous group of participants using the same analytical method and instrument;
- a group consisting of all participants using the same analytical method, regardless of the instrument used;
- The overall set of participants in the proficiency test for the measurand under consideration.

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **RDW/IDR-SD**

Unit of measure elaborated **fL**

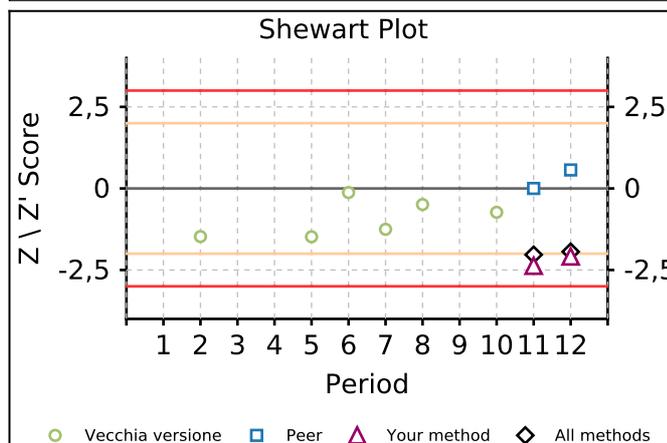
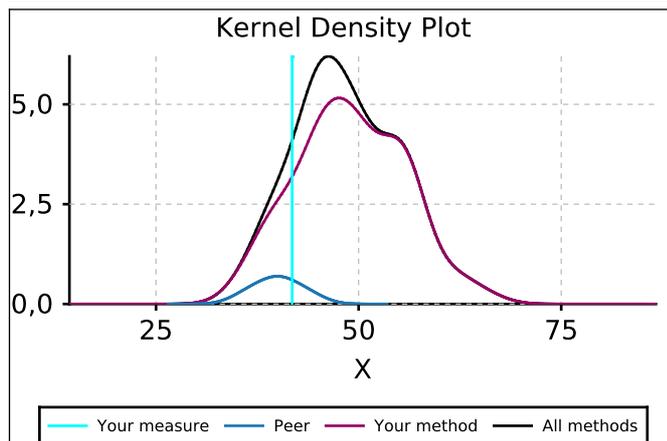
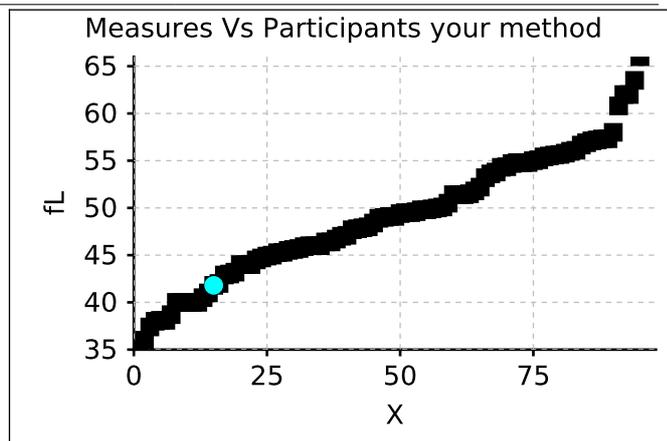
RDS **0,0700**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **107**

	Peer	Your method	All methods
Measures	6	96	107
Measure	41,80		
Consensus Value	39,97	48,95	48,37
Z \ Z' Score	0,57	-2,09	-1,94
Standard Deviation	3,18	6,89	6,46
Assigned DS	2,80	3,43	3,39
Standard Uncertainty	1,62	0,88	0,78
CV	7,95	14,08	13,36
Difference	1,83	-7,15	-6,57
D%	4,59	-14,60	-13,58



75.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **WBC/GB**

Unit of measure elaborated **10³μL/10⁹L**

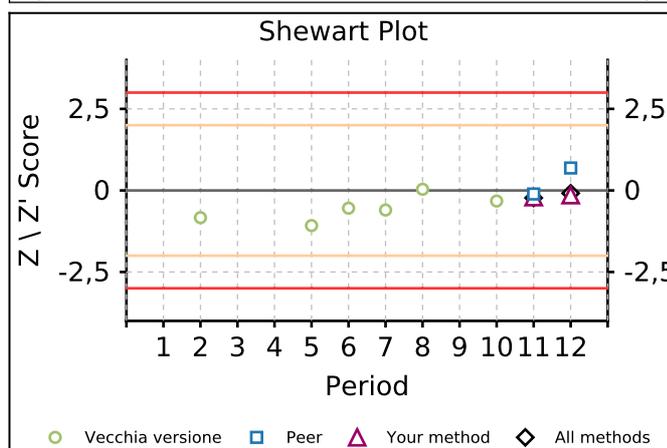
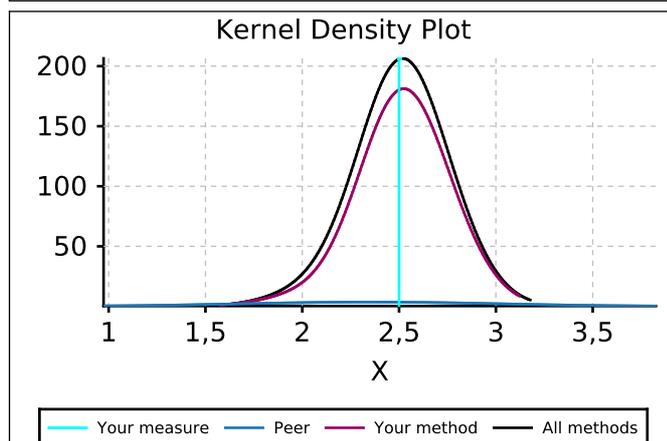
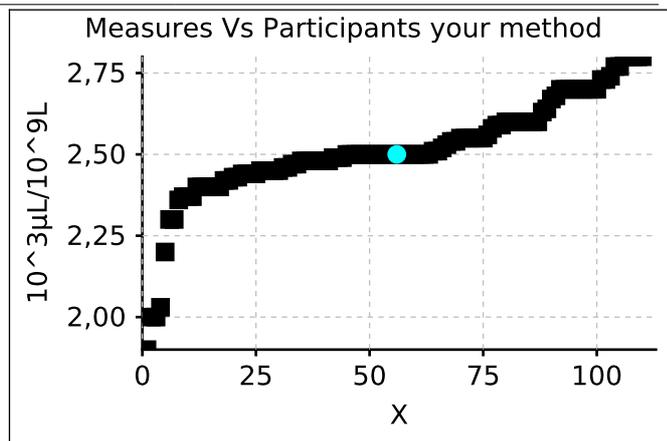
RDS **0,0500**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **131**

	Peer	Your method	All methods
Measures	6	111	131
Measure	2,50		
Consensus Value	2,36	2,52	2,51
Z \ Z' Score	0,69	-0,15	-0,09
Standard Deviation	0,34	0,11	0,13
Assigned DS	0,12	0,13	0,13
Standard Uncertainty	0,17	0,01	0,01
CV	14,53	4,27	5,01
Difference	0,14	-0,02	-0,01
D%	6,16	-0,73	-0,43



100.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **MCV/VMG***

Unit of measure elaborated **fL**

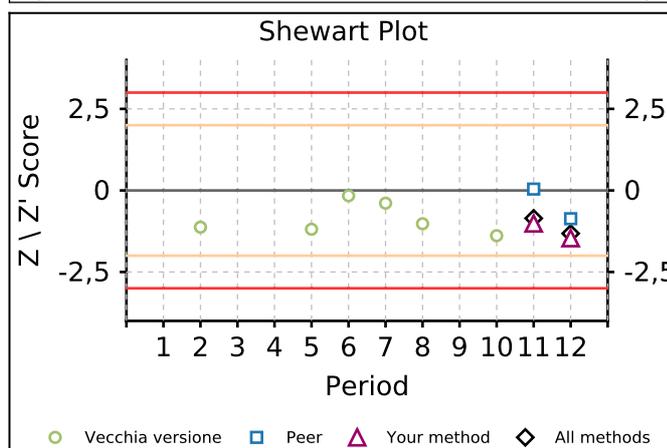
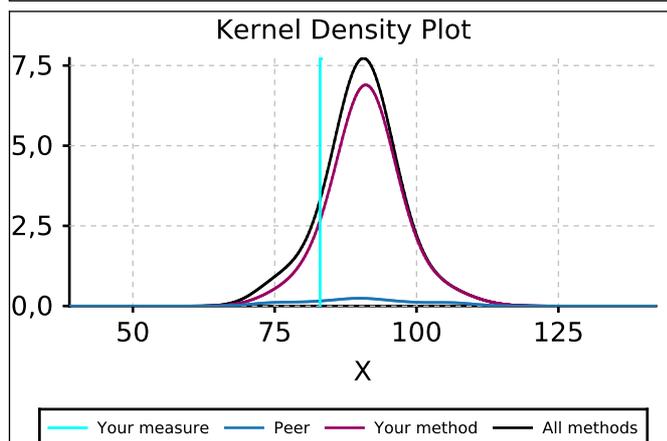
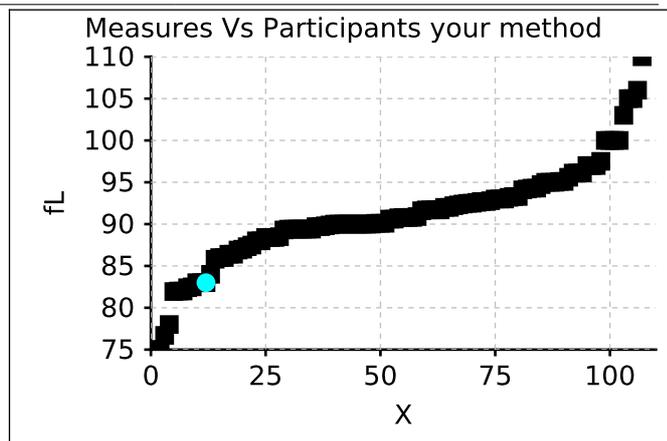
RDS **0,0600**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **130**

	Peer	Your method	All methods
Measures	6	110	130
Measure	83,00		
Consensus Value	90,10	90,99	90,14
Z \ Z' Score	-0,87	-1,46	-1,32
Standard Deviation	12,06	4,11	4,84
Assigned DS	5,41	5,46	5,41
Standard Uncertainty	6,15	0,49	0,53
CV	13,38	4,52	5,37
Difference	-7,10	-7,99	-7,14
D%	-7,88	-8,78	-7,92



100.00% of last 12 ZScore is in standard deviation range -2 +2

Analyzed not accredited

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **MPV**

Unit of measure elaborated **fl**

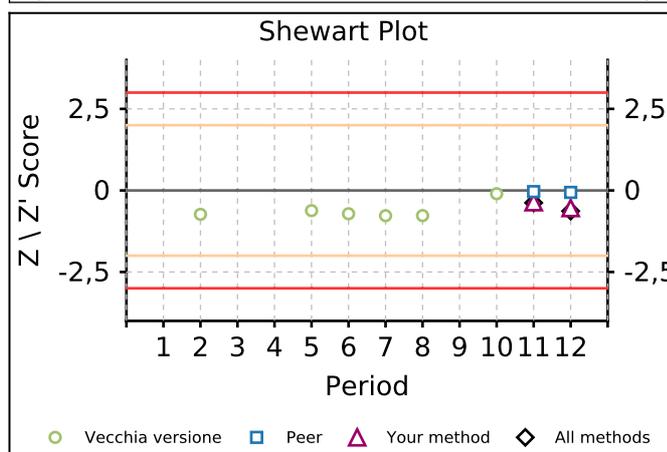
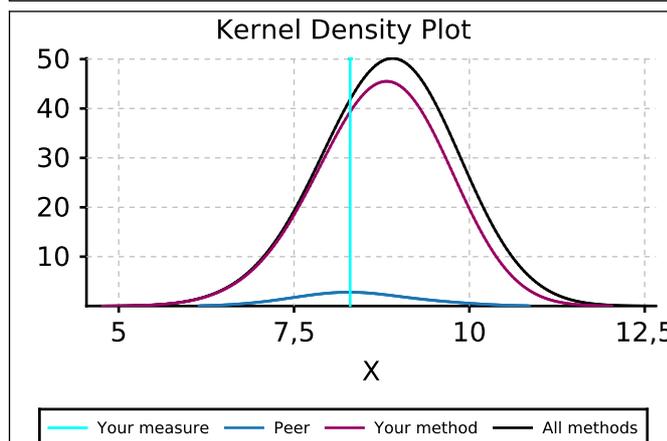
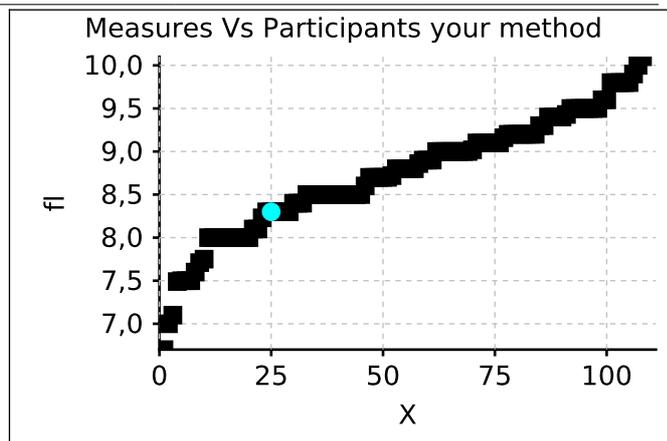
RDS **0,1000**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **129**

	Peer	Your method	All methods
Measures	6	111	129
Measure	8,30		
Consensus Value	8,35	8,77	8,86
Z \ Z' Score	-0,06	-0,54	-0,63
Standard Deviation	0,45	0,64	0,72
Assigned DS	0,84	0,88	0,89
Standard Uncertainty	0,23	0,08	0,08
CV	5,41	7,34	8,12
Difference	-0,05	-0,47	-0,56
D%	-0,60	-5,40	-6,33



100.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **MCHC**

Unit of measure elaborated **g/dL**

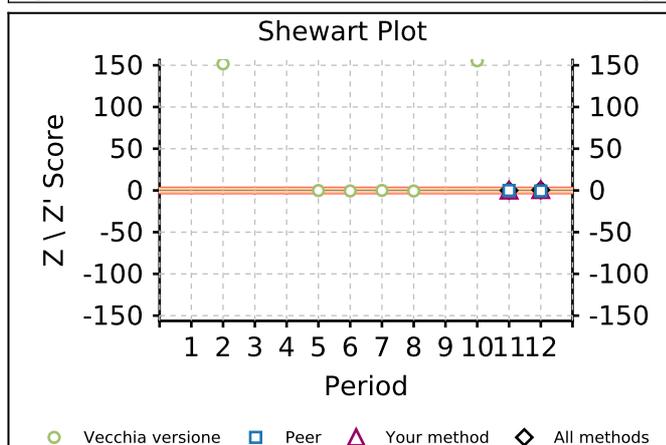
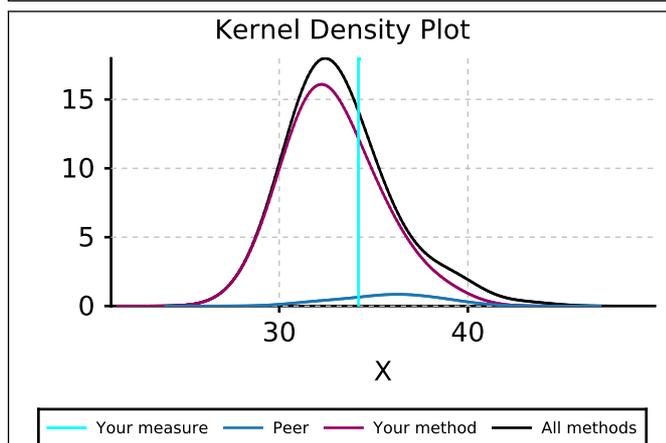
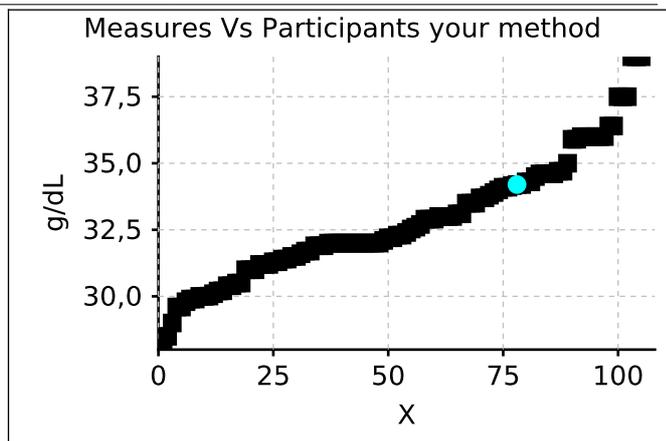
RDS **0,0600**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **127**

	Peer	Your method	All methods
Measures	6	111	127
Measure	34,20		
Consensus Value	35,84	32,80	33,03
Z \ Z' Score	-0,64	0,71	0,59
Standard Deviation	2,67	2,19	2,31
Assigned DS	2,15	1,97	1,98
Standard Uncertainty	1,36	0,26	0,26
CV	7,46	6,68	6,98
Difference	-1,64	1,40	1,17
D%	-4,57	4,27	3,54



83.33% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **RBC/GR**

Unit of measure elaborated **10⁶μL/10¹²L**

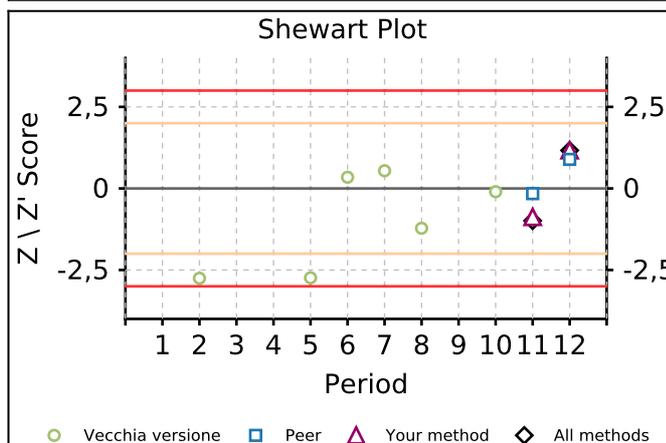
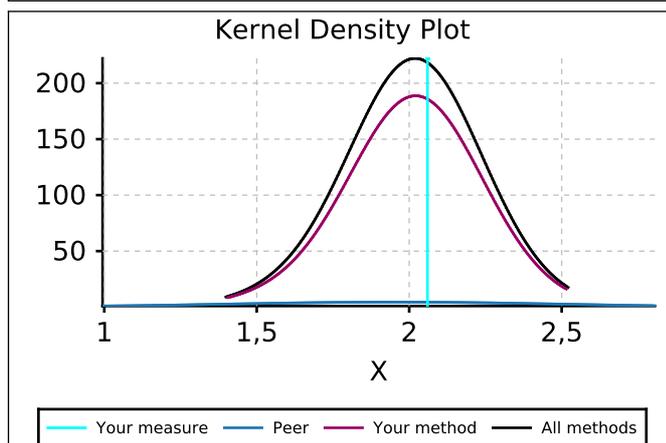
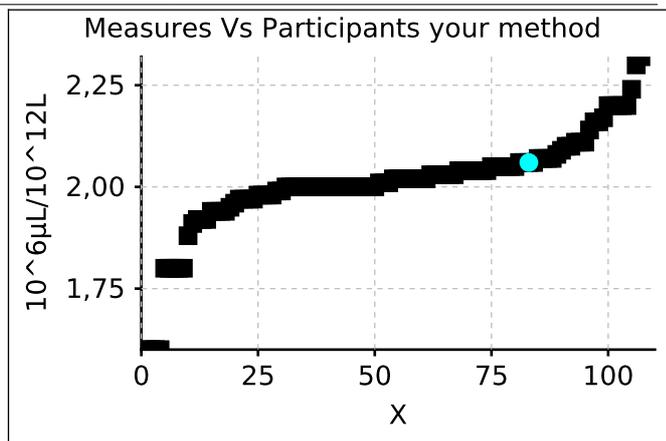
RDS **0,0200**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **131**

	Peer	Your method	All methods
Measures	6	111	131
Measure	2,06		
Consensus Value	1,96	2,01	2,01
Z \ Z' Score	0,89	1,17	1,17
Standard Deviation	0,20	0,07	0,07
Assigned DS	0,04	0,04	0,04
Standard Uncertainty	0,10	0,01	0,01
CV	10,29	3,23	3,33
Difference	0,10	0,05	0,05
D%	5,01	2,34	2,33



83.33% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **HB**

Unit of measure elaborated **g/dL**

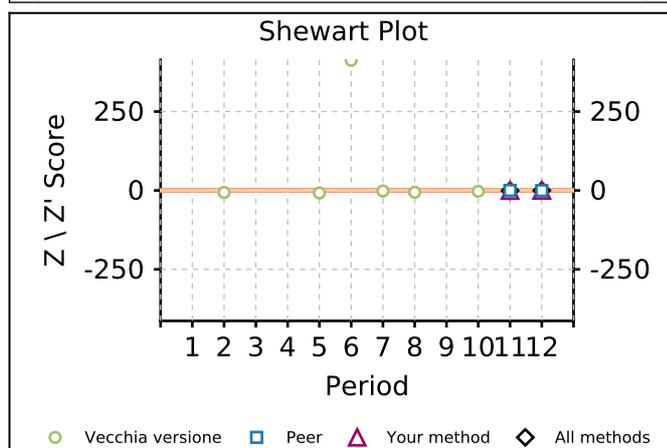
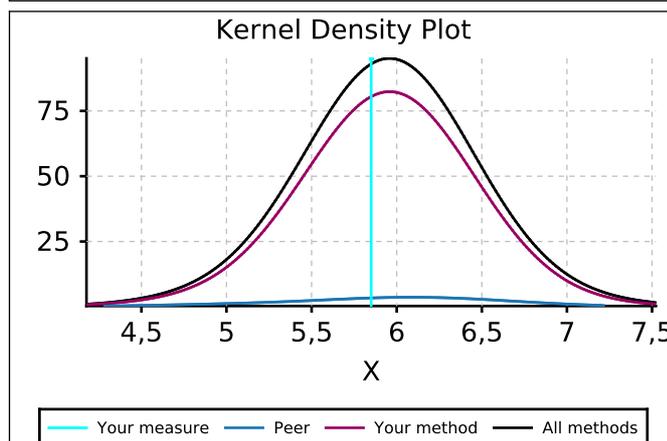
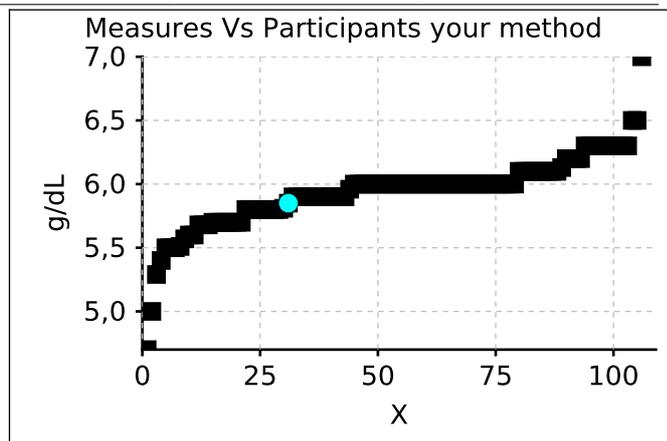
RDS **0,1000**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **131**

	Peer	Your method	All methods
Measures	6	111	131
Measure	5,85		
Consensus Value	6,10	5,97	5,97
Z \ Z' Score	-0,40	-0,20	-0,20
Standard Deviation	0,24	0,17	0,17
Assigned DS	0,61	0,60	0,60
Standard Uncertainty	0,12	0,02	0,02
CV	3,92	2,88	2,92
Difference	-0,25	-0,12	-0,12
D%	-4,05	-2,03	-2,04



58.33% of last 12 ZScore is in standard deviation range -2 +2

Analyte **HCT**

Unit of measure elaborated %

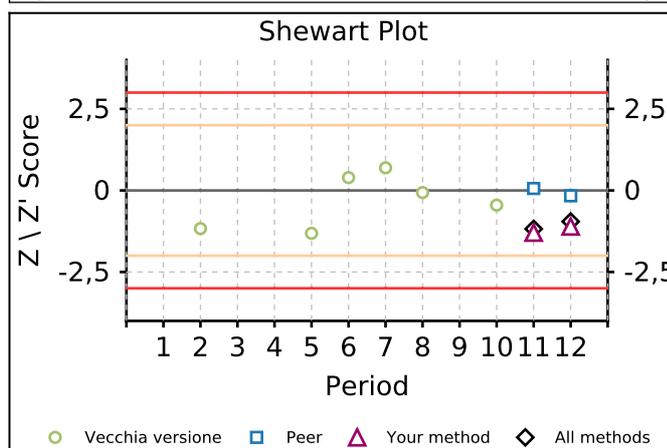
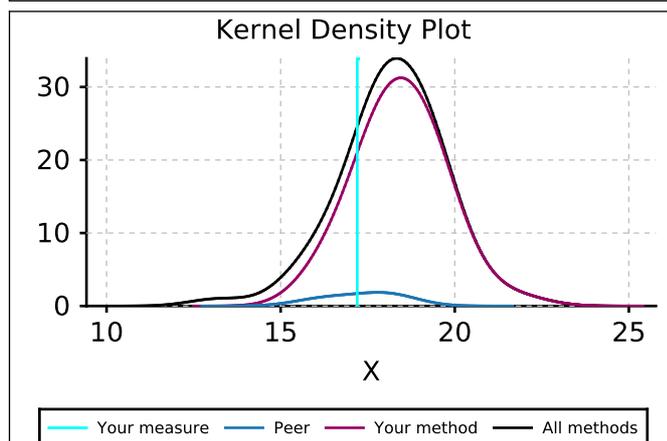
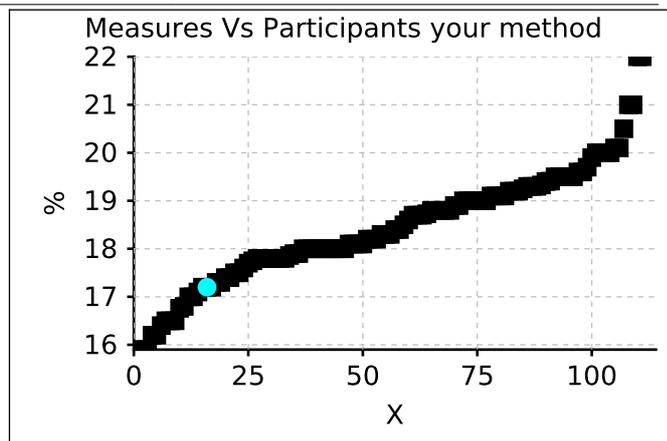
RDS **0,0600**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **127**

	Peer	Your method	All methods
Measures	6	111	127
Measure	17,20		
Consensus Value	17,39	18,42	18,24
Z \ Z' Score	-0,16	-1,11	-0,95
Standard Deviation	1,06	1,13	1,26
Assigned DS	1,04	1,11	1,09
Standard Uncertainty	0,54	0,13	0,14
CV	6,07	6,16	6,90
Difference	-0,19	-1,22	-1,04
D%	-1,11	-6,64	-5,72



100.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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 Sonia Zanghini

Analyte **MCH/TCMH**

Unit of measure elaborated **pg**

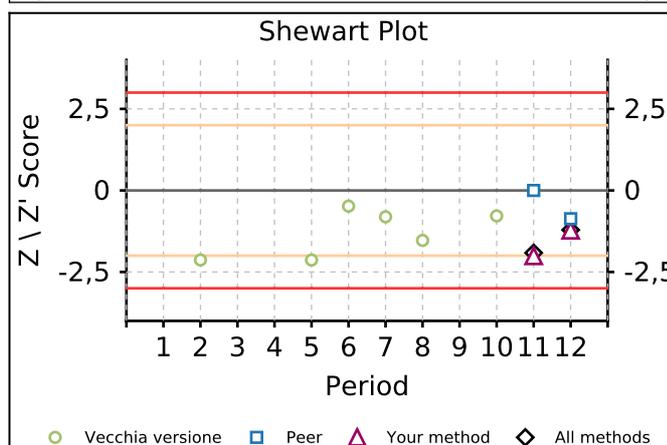
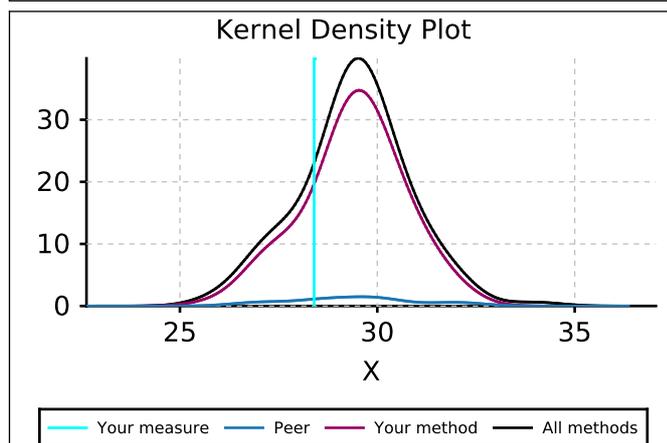
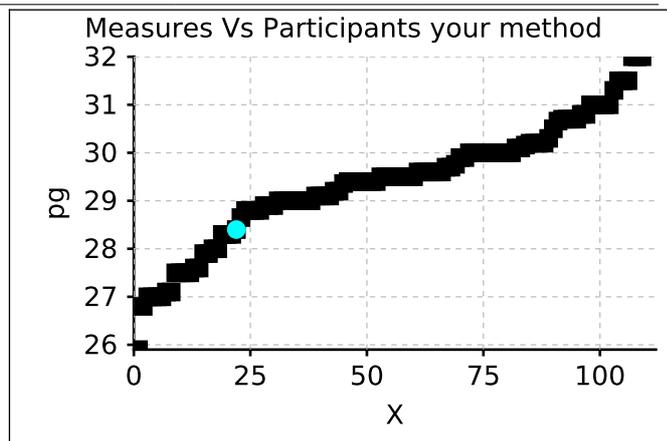
RDS **0,0300**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **129**

	Peer	Your method	All methods
Measures	6	110	129
Measure	28,40		
Consensus Value	29,40	29,48	29,47
Z \ Z' Score	-0,87	-1,23	-1,21
Standard Deviation	1,46	1,01	1,02
Assigned DS	0,88	0,88	0,88
Standard Uncertainty	0,74	0,12	0,11
CV	4,95	3,41	3,46
Difference	-1,00	-1,08	-1,07
D%	-3,40	-3,68	-3,63



75.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **PLT/PLQ**

Unit of measure elaborated **10³μL/10⁹L**

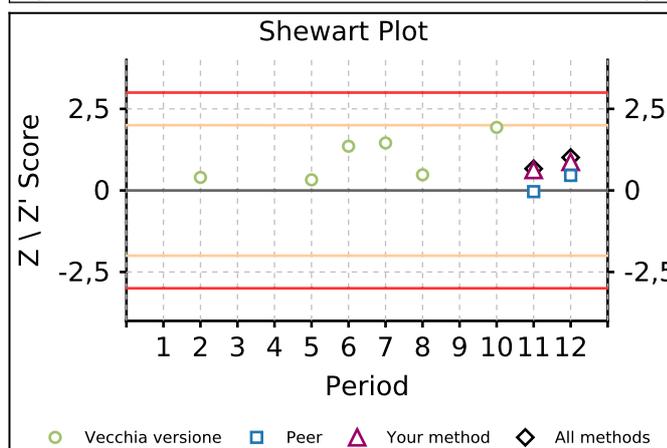
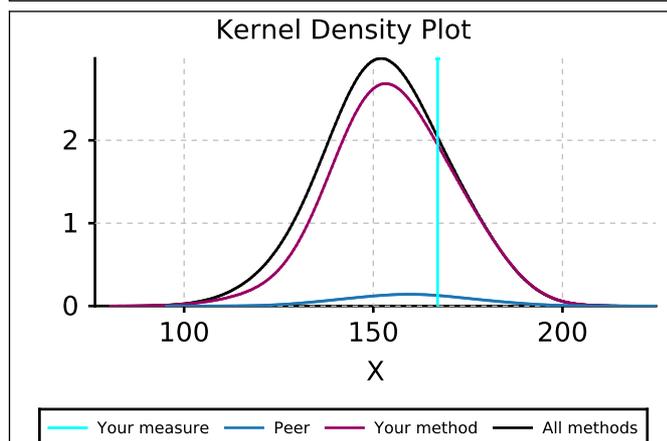
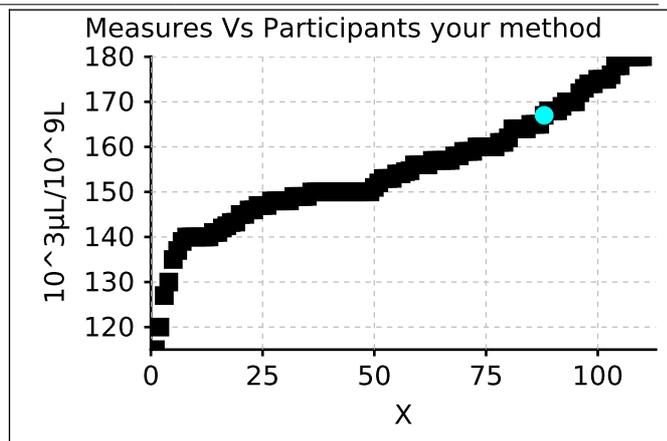
RDS **0,0900**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **127**

	Peer	Your method	All methods
Measures	6	111	127
Measure	167,00		
Consensus Value	159,50	154,82	153,08
Z \ Z' Score	0,46	0,87	1,01
Standard Deviation	14,89	11,50	12,85
Assigned DS	14,36	13,93	13,78
Standard Uncertainty	7,60	1,36	1,43
CV	9,34	7,43	8,39
Difference	7,50	12,18	13,92
D%	4,70	7,87	9,10



100.00% of last 12 ZScore is in standard deviation range -2 +2

Participant : ZMD001
Sample Lot : HE-2602

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Analyte **RDW>IDR**

Unit of measure elaborated %

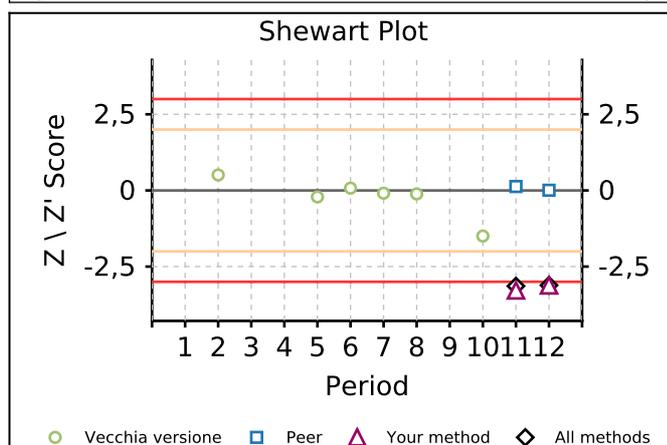
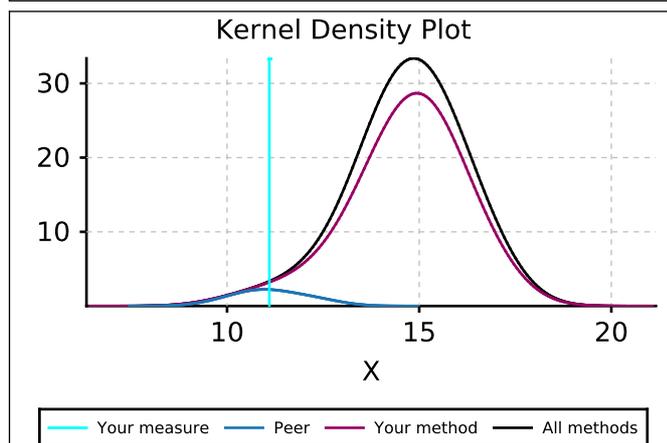
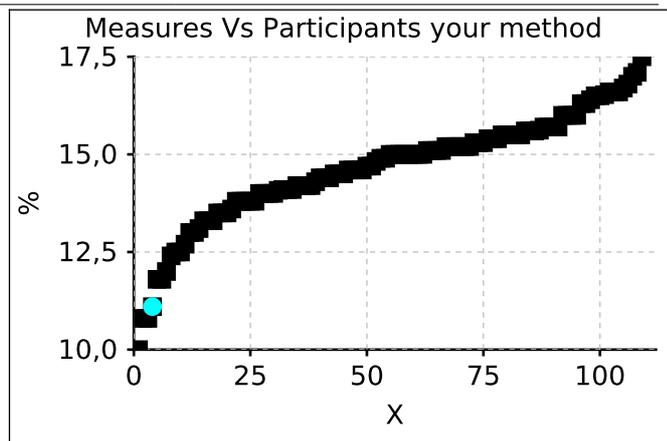
RDS **0,0800**

your analyzer **Orphee - Orphée MYTHIC 60**

Your method **Electrical Impedance**

Total participants number **128**

	Peer	Your method	All methods
Measures	6	109	128
Measure	11,10		
Consensus Value	11,09	14,79	14,78
Z \ Z' Score	0,01	-3,12	-3,11
Standard Deviation	0,85	1,19	1,22
Assigned DS	0,89	1,18	1,18
Standard Uncertainty	0,43	0,14	0,13
CV	7,66	8,05	8,25
Difference	0,01	-3,69	-3,68
D%	0,06	-24,96	-24,92



66.67% of last 12 ZScore is in standard deviation range -2 +2

	EMATOLOGIA 8 PARAMETRI MENSILE 2026 - FEBRUARY 2026 lbl_codice_schema : MSQUALITYE8/MSQSE812/MSEQSE8/MSEQUALITYE8/MSEQUALITYE12	RdP: Final Revision ZMD001_18_2026_2_1.pdf	 01430 Membro degli Accordi di Mutuo Riconoscimento EA e ILAC Signatory of EA and ILAC Mutual Recognition Agreements
	Participant : ZMD001 Sample Lot : HE-2602	Issued on 24/02/2026 Authorized by RQS Sonia Zanghini	

Peer

Analyte	Consensus Value	Measure	Standard Deviation	CV	Z\ Z'	Z\ Z' Score	D%	REMARK
RDW/IDR-SD	39,97 fL	41,80 fL	3,18	7,95	Z'	0,57	4,59	OK
WBC/GB	2,36 10 ³ μL/	2,50 10 ³ μL/	0,34	14,53	Z'	0,69	6,16	OK
MCV/VMG*	90,10 fL	83,00 fL	12,06	13,38	Z'	-0,87	-7,88	OK
MPV	8,35 fl	8,30 fl	0,45	5,41	Z	-0,06	-0,60	OK
MCHC	35,84 g/dL	34,20 g/dL	2,67	7,46	Z'	-0,64	-4,57	OK
RBC/GR	1,96 10 ⁶ μL/	2,06 10 ⁶ μL/	0,20	10,29	Z'	0,89	5,01	OK
HB	6,10 g/dL	5,85 g/dL	0,24	3,92	Z	-0,40	-4,05	OK
HCT	17,39 %	17,20 %	1,06	6,07	Z'	-0,16	-1,11	OK
MCH/TCMH	29,40 pg	28,40 pg	1,46	4,95	Z'	-0,87	-3,40	OK
PLT/PLQ	159,50 10 ³ μL/	167,00 10 ³ μL/	14,89	9,34	Z'	0,46	4,70	OK
RDW/IDR	11,09 %	11,10 %	0,85	7,66	Z'	0,01	0,06	OK

Z indicates participant's performance score. Typically, the absolute value of Z obtained by the participant gives indications summarized in the following scheme:

- When |Z| is lower or equal to 2,0 "indicates ""satisfactory"" performance and does not generate any signal"
- When |Z| is between 2,0 and 3,0 "indicates ""questionable"" performances and generates a warning signal"
- When |Z| is higher or equal to 3,0 "indicates ""unsatisfactory"" performance and generates an Action signal"

For each parameter, the graphic representation of Shewart is also provided, which allows the evaluation of performance over time in accordance with point B4.2 ISO 17043: 2023 for the purposes of self-improvement.

The Z-scores (or Z'-scores) reported in this document are determined using a peer-to-peer comparison criterion: for each measurand, the laboratory's performance is evaluated with respect to the method-instrument group, the overall group of laboratories using the same analytical method, and the overall set of participants in the proficiency test. Interpreting the performance indicators relative to these comparison levels makes it possible to identify whether any deviations are attributable to the individual laboratory, to the behaviour of the method/instrument used, or to the general trend of the round.

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	EMATOLOGIA 8 PARAMETRI MENSILE 2026 - FEBRUARY 2026 lbl_codice_schema : MSQUALITYE8/MSQSE812/MSEQSE8/MSEQUALITYE8/MSEQUALITYE12	RdP: Final Revision ZMD001_18_2026_2_1.pdf	 01430 Membro degli Accordi di Mutuo Riconoscimento EA e ILAC Signatory of EA and ILAC Mutual Recognition Agreements
	Participant : ZMD001 Sample Lot : HE-2602	Issued on 24/02/2026 Authorized by RQS Sonia Zanghini	

Your method

Analyte	Consensus Value	Measure	Standard Deviation	CV	Z\ Z'	Z\ Z' Score	D%	REMARK
RDW/IDR-SD	48,95 fL	41,80 fL	6,89	14,08	Z	-2,09	-14,60	WARNING
WBC/GB	2,52 10 ³ μL/	2,50 10 ³ μL/	0,11	4,27	Z	-0,15	-0,73	OK
MCV/VMG*	90,99 fL	83,00 fL	4,11	4,52	Z	-1,46	-8,78	OK
MPV	8,77 fl	8,30 fl	0,64	7,34	Z	-0,54	-5,40	OK
MCHC	32,80 g/dL	34,20 g/dL	2,19	6,68	Z	0,71	4,27	OK
RBC/GR	2,01 10 ⁶ μL/	2,06 10 ⁶ μL/	0,07	3,23	Z	1,17	2,34	OK
HB	5,97 g/dL	5,85 g/dL	0,17	2,88	Z	-0,20	-2,03	OK
HCT	18,42 %	17,20 %	1,13	6,16	Z	-1,11	-6,64	OK
MCH/TCMH	29,48 pg	28,40 pg	1,01	3,41	Z	-1,23	-3,68	OK
PLT/PLQ	154,82 10 ³ μL/	167,00 10 ³ μL/	11,50	7,43	Z	0,87	7,87	OK
RDW/IDR	14,79 %	11,10 %	1,19	8,05	Z	-3,12	-24,96	ACTION

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All methods

Analyte	Consensus Value	Measure	Standard Deviation	CV	Z\ Z'	Z\ Z' Score	D%	REMARK
RDW/IDR-SD	48,37 fL	41,80 fL	6,46	13,36	Z	-1,94	-13,58	OK
WBC/GB	2,51 10 ³ μL/	2,50 10 ³ μL/	0,13	5,01	Z	-0,09	-0,43	OK
MCV/VMG*	90,14 fL	83,00 fL	4,84	5,37	Z	-1,32	-7,92	OK
MPV	8,86 fl	8,30 fl	0,72	8,12	Z	-0,63	-6,33	OK
MCHC	33,03 g/dL	34,20 g/dL	2,31	6,98	Z	0,59	3,54	OK
RBC/GR	2,01 10 ⁶ μL/	2,06 10 ⁶ μL/	0,07	3,33	Z	1,17	2,33	OK
HB	5,97 g/dL	5,85 g/dL	0,17	2,92	Z	-0,20	-2,04	OK
HCT	18,24 %	17,20 %	1,26	6,90	Z	-0,95	-5,72	OK
MCH/TCMH	29,47 pg	28,40 pg	1,02	3,46	Z	-1,21	-3,63	OK
PLT/PLQ	153,08 10 ³ μL/	167,00 10 ³ μL/	12,85	8,39	Z	1,01	9,10	OK
RDW/IDR	14,78 %	11,10 %	1,22	8,25	Z	-3,11	-24,92	ACTION

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