

CERTIFICATE OF ACCREDITATION

This is to certify that:

CONCILIUM TECHNOLOGIES (PTY) LTD

Facility Accreditation Number: **506**

is a South African National Accreditation System accredited Calibration laboratory provided that all SANAS conditions and requirements are complied with.

This certificate is valid as per the scope on the accompanying schedule of accreditation bearing the above accreditation number for

TIME AND FREQUENCY METROLOGY

The facility complies with the general requirements of

ISO/IEC 17025:2005

A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements

The management system requirements in ISO/IEC 17025 (Section 4) meet the principles of ISO 9001:2000 and are aligned with its pertinent requirements

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS logo to issue facility reports and/or certificates

Chief Executive Officer

Initial Accreditation: 1980

Certificate Commences: February 2007

Certificate Expires: February 2012

"Recognised as the official national accreditation body by the Department of Trade and Industry of the Republic of South Africa"

This certificate is only valid when accompanied by its schedule of accreditation.

Accredited Laboratory Measuring Capabilities

SCHEDULE OF ACCREDITATION

TIME AND FREQUENCY METROLOGY

Laboratory Accreditation Number 506

<p>Permanent Address of Laboratory: Concilium Technologies (Pty) Ltd Building No 3 Highgrove Office Park 50 Tegel Avenue Highveld Technopark Centurion 0157</p> <p>Postal address: PO Box 67611 Highveld 0169</p> <p>Tel : (012) 678-9211 / 9215 Fax : (012) 665-4160 Email : bart_bremmer@concilium.co.za</p>		<p>Technical Signatories : Mr B J H Bremmer : Mr G D Schuster : Mr P Hugo</p> <p>Nominated Representative : Mr B J H Bremmer</p> <p>Issue No. : 06 Date of issue : February 2007 Expiry date : February 2012</p>		
ITEM	FUNCTION	NOMINAL RANGE	MEASUREMENT CAPABILITIES EXPRESSED AS AN UNCERTAINTY (\pm)	NOTES
1	Frequency	Specific values 1 MHz; 5 MHz; 10 MHz 100 kHz Other values 2 mHz to 10 GHz 10 GHz to 40 GHz 40 GHz to 50 GHz	$1 \cdot 10^{-12} \cdot f$ $1 \cdot 10^{-10} \cdot f$ $1 \cdot 10^{-9} \cdot f + 100 \mu\text{Hz}$ $1 \cdot 10^{-10} \cdot f$ $\pm 1 \cdot 10^{-9} \cdot f$	1
2	Time Interval Average	0 to 10 s	$1 \cdot 10^{-7} \cdot t + 2 \text{ ns}$	
3	Rotational Speed: (Non-contact) Optical Inductive	10 RPM to 1000 RPM 1000 RPM to 100000 RPM 50 RPM to 20000 RPM	1,0 % + 0,5 RPM + 1 digit 0,1 % + 1 digit 1 digit	2

Original date of accreditation: 1980

Page 1 of 2

Note 1: For a continuous observation time of 10^5 seconds

Note 2: Generate only

The MC, expressed as an expanded uncertainty of measurement, is stated as the standard uncertainty of measurement multiplied by a coverage factor $k = 2$, corresponding to a confidence level of approximately 95%

Programme Manager

Laboratory Accreditation Number: 506
 Date of Issue: February 2007
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ITEM	FUNCTION	NOMINAL RANGE	MEASUREMENT CAPABILITIES EXPRESSED AS AN UNCERTAINTY (\pm)	NOTES
4	Rotational Speed: Contact	10 RPM to 1000 RPM 1000 RPM to 5000 RPM	0,2 % + 0,5 RPM + 1 digit 0,2 % + 1 digit	2
	Surface Speed	0,1 m/min to 500 m/min	1 % + 1 digit	
5	Rotational Speed: Sound	100 RPM to 12000 RPM	2,0 %	2

Original date of accreditation: 1980

Page 2 of 2

The MC, expressed as an expanded uncertainty of measurement, is stated as the standard uncertainty of measurement multiplied by a coverage factor $k = 2$, corresponding to a confidence level of approximately 95%

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

Programme Manager