



The Dutch Accreditation Council RvA, by law appointed as the national accreditation body for The Netherlands, hereby declares that accreditation has been granted to:

Trescal B.V. Technical Operations Zoetermeer

The organisation has demonstrated to be able to generate technical valid results in a competent way and work according to a management system.

This accreditation is based on an assessment against the requirements as laid down in EN ISO/IEC 17025:2005.

The accreditation covers the activities as specified in the authorized annex bearing the registration number.

The accreditation is valid provided that the organisation continues to meet the requirements.

The accreditation with registration number:

K 052

is granted on 12 September 1989

This declaration is valid until
30 November 2020

The Chief Executive

Ir. J.C. van der Poel

of **Trescal B.V.**
Technical Operations

This annex is valid from: **16-01-2019** to **30-11-2020**

Replaces annex dated: **20-06-2018**

HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
----------	--------------------------	-----------	------------------	---------	----------

TF 0 0	Time and Frequency				
TF 2 1	Frequency				ZTM
	100 kHz		$1 \cdot 10^{-11} \cdot f$	Measurement measuring time $\tau \geq 1,000$ s	
	1 MHz		$1 \cdot 10^{-11} \cdot f$		
	5 MHz		$1 \cdot 10^{-11} \cdot f$		
	10 MHz		$1 \cdot 10^{-11} \cdot f$		
	0.1 Hz – 1 Hz		12 μ Hz	Measurement. Generation measuring time $\tau \geq 20$ s	
	1 Hz – 10 Hz		12 μ Hz		
	10 Hz – 100 Hz		12 μ Hz – 1.2 μ Hz		
	100 Hz – 1 kHz		1.2 μ Hz		
	1 kHz – 10 kHz		1.2 μ Hz		
	10 kHz – 100 kHz		1.2 μ Hz		
	100 kHz – 1 MHz		1.2 μ Hz – 12 μ Hz		
	1 MHz – 10 MHz		12 μ Hz – 0.12 mHz		
	10 MHz – 100 MHz		0.12 mHz – 1.2 mHz		

of **Trescal B.V.**
Technical Operations

This annex is valid from: **16-01-2019** to **30-11-2020**

Replaces annex dated: **20-06-2018**

HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
	100 MHz – 1 GHz		1.2 mHz – 12 mHz		
	1 GHz – 3 GHz		12 mHz – 14 mHz		
	3 GHz – 27.5 GHz		1.2 Hz		
TF 2 2	Time interval			Measurement	ZTM
	100 ps – 1 ns		$1.2 \cdot 10^{-9} \cdot T$		
	1 ns – 10 ns		$1.2 \cdot 10^{-9} \cdot T$		
	10 ns – 100 ns		$1.2 \cdot 10^{-9} \cdot T$		
	100 ns – 1 μs		$1.2 \cdot 10^{-9} \cdot T$		
	1 μs – 10 μs		$1.2 \cdot 10^{-9} \cdot T$		
	10 μs – 100 μs		$1.2 \cdot 10^{-9} \cdot T$		
	100 μs – 1 ms		$1.2 \cdot 10^{-9} \cdot T$		
	1 ms – 10 ms		$1.2 \cdot 10^{-9} \cdot T$		
	10 ms – 100 ms		$1.2 \cdot 10^{-8} \cdot T - 1.2 \cdot 10^{-6} \cdot T$		
	100 ms – 1 s		$1.2 \cdot 10^{-6} \cdot T - 1.2 \cdot 10^{-5} \cdot T$		
	1 s – 10 s		$1.2 \cdot 10^{-5} \cdot T - 1.2 \cdot 10^{-4} \cdot T$		
				Measurement	
	0.1 μs – 100 ms		$1 \cdot 10^{-6} \cdot T + 10 \text{ ns}$	Equipment with separated electrical start and stop inputs.	
	100 ms – 1 s		$1 \cdot 10^{-5} \cdot T + 10 \text{ ns}$		
	1 s – 10 s		$1 \cdot 10^{-4} \cdot T + 10 \text{ ns}$		

Annex to declaration of accreditation (scope of accreditation)
Normative document: EN ISO/IEC 17025:2005
Registration number: **K 052**

of **Trescal B.V.**
Technical Operations

This annex is valid from: **16-01-2019** to **30-11-2020**

Replaces annex dated: **20-06-2018**

HCS code	Measured quantity, Range	Frequency	CMC¹	Remarks	Location
-----------------	---------------------------------	------------------	------------------------	----------------	-----------------

Electrical and optical calibrations are performed at nominal 23 °C.

The CMC in RF and Microwave measurements are applicable to instruments with a characteristic impedance of nominal 50 Ohm

- 1) Measurements are performed at a fixed set of measurement frequencies;
- 2) Calibration factor is applicable to measurements relative to 50 MHz;
- 3) CMC is calculated for a test object VSWR of 1.01 and the maximal VSWR for the uncertainty calculation is 1.35;
- 4) CMC is calculated for a test object with a typical VSWR of 1 to 1.27;

The measurements are carried out inside Trescal BV 's laboratory or in another location (on site).